NPS Form 10-900
(Oct.1990)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

1347

National Register of Historic Places

Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Kennedy Mine Historic District

other names/site number Kennedy Mining and Milling Company; Kennedy Mining Company; See Cont. Sheet

2. Location

street & number 12594 Kennedy Mine Road N/A ☐ not for publication

city or town Jackson ☒ vicinity

state California code CA county Amador code 005 zip code 95642

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this ☒ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☒ meets ☐ does not meet the National Register Criteria. I recommend that this property be considered significant ☐ nationally ☒ statewide ☐ locally. (☐ See continuation sheet for additional comments.)

milford wayne donaldson 8 DEC 2008
Signature of certifying official/Title Date

California Office of Historic Preservation
State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional comments.)

Signature of commenting or other official Date

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that this property is:

☑ entered in the National Register
☐ See continuation sheet.
☐ determined eligible for the National Register
☐ See continuation sheet.
☐ determined not eligible for the National Register
☐ removed from the National Register
☐ other (explain): _____

for Edson A. Beall 1.22.09
Signature of the Keeper Date of Action

5. Classification

Ownership of Property
(Check as many boxes as apply)

- X private
- X public-local
- ☐ public-State
- ☐ public-Federal

Category of Property
(Check only one box)

- ☐ building(s)
- X district
- ☐ site
- ☐ structure
- ☐ object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
17	5	buildings
10	1	sites
~~6~~ 2	7	structures
0	0	objects
33 ~~31~~	13	Total

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing.)

N/A

Number of contributing resources previously listed in the National Register

~~4~~ 6

6. Function or Use

Historic Functions
(Enter categories from instructions)

INDUSTRY/PROCESS/EXTRACTION
Subcategories: Extractive facility
Processing site

Current Functions
(Enter categories from instructions)

RECREATION AND CULTURE
Subcategories: museum
theater
outdoor recreation

7. Description

Architectural Classification
(Enter categories from instructions)

OTHER: No Style

Materials
(Enter categories from instructions)

foundation CONCRETE
roof METAL
walls WOOD, BRICK, STONE, METAL, CONCRETE
other

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

X A Property is associated with events that have made a significant contribution to the broad patterns of our history.

☐ B Property is associated with the lives of persons significant in our past.

X C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

☐ D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations
(Mark "X" in all the boxes that apply.)

Property is:

☐ A owned by a religious institution or used for religious purposes.

☐ B removed from its original location.

☐ C a birthplace or a grave.

☐ D a cemetery.

☐ E a reconstructed building, object, or structure.

☐ F a commemorative property.

☐ G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance
(Enter categories from instructions)

Commerce
Exploration/Settlement
Industry
Labor
Law
Architecture
Engineering

Period of Significance
1849 to 1942

Significant Dates
1898
1928
1912

Significant Person
(Complete if Criterion B is marked above)

Cultural Affiliation

Architect/Builder
Dewel, Henry D.
Spears, James

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):
- ☐ preliminary determination of individual listing (36 CFR 67) has been requested.
- ☒ previously listed in the National Register - **The Kennedy Tailing Wheels were listed in 1981. The previous nomination boundary is fully contained within the boundaries of this nomination**
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary Location of Additional Data
- ☐ State Historic Preservation Office
- ☐ Other State agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- X Other

Name of repository:

Kennedy Mine Archives

10. Geographical Data

Acreage of Property 152 acres

UTM References
(Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing		Zone	Easting	Northing
1	10	693300	4248960	4	10	695240	4247560
2	10	694000	4249160	5	10	694560	4247340
3	10	695320	4247980	6	10	693300	4248480

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Katherine Lynn Allen

organization Kennedy Mine Foundation date June 8, 2007

street & number 14595 Surrey Junction Lane telephone (209) 296-7176

city or town Sutter Creek state CA zip code 95685

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items
(Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of the SHPO or FPO.)

Name Bill Braun, President, Kennedy Mine Foundation; See Continuation Sheet for Additional Owner

street & number PO Box 684 telephone

city or town Jackson state CA zip code 95642

other names/site number Humbug Hill; Kennedy Quartz Mining Claim; The Gate

Significant Dates Continued

1903
1856
1920
1922

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Additional Property Owner Information:

Mike Daly
City Manager
City of Jackson
33 Broadway
Jackson, CA 95642

The Kennedy Mine is located in the Sierra foothills about a mile north of the city center of Jackson, California and abuts the Jackson City limit line. Most of the proposed Kennedy Mine Historic District property is owned by the Kennedy Mine Foundation and is under the general plan for the County of Amador, but some of the resources are located within the planning area of interest (sphere of influence) or city limits of Jackson. To facilitate the descriptions of the Kennedy Mine Historic District, the overall property is divided into 7 Areas. Areas 1-5 are under the control of the Kennedy Mine Foundation. The Kennedy Tailing Wheels (Area 6), are owned by the city of Jackson, and are located adjacent to the Kennedy Mine Foundation property. Oro de Amador (Area 7), which contains the impoundment dam and site of what was once the cyanide plant, has recently been purchased by the city of Jackson and is adjacent to the Kennedy Tailing Wheels Park. The overall site, as measured by the East Shaft, is situated at 38° 22' 01" north latitude and 120° 46' 49"- west longitude. Elevation, as measured at the Kennedy Reservoir, ranges from 1290 to 1670 feet above mean sea level. Access to the site is gained by traveling north from the City of Jackson on U.S. Highway 49/88 for about a mile to the Kennedy Mine turnoff on the right (marked). Kennedy Mine Tailing Wheels were listed in the National Register in 1981 (NPS-81000146-0000) Both the Kennedy Mine and Tailing Wheels are designated California Points of Historical Interest. On September 18, 1963 the Argonaut and Kennedy Mines were designated a California Historical Landmark and No. 786. On May 9, The Kennedy Tailing Wheels were designated a California Point of Historical Interest, No. Ama-003. Jackson Gate has been assigned No. 118 as a California Historical Landmark.

Present and Historical Appearance

The Kennedy Mine Historic District is comprised of seven (7) distinct areas. It is located in a semi-rural neighborhood locally known as Jackson Gate. The Kennedy Mine property (Areas 1-5) is approximately 152 acres. The area is comprised of a combination of Gray Pine (Pinus sabiana), also called Digger Pine or Bull Pine, and Chaparral Belt and native trees included with those associated with pine-oak woodland and brush lands, such as the Interior Live Oak (Quercus Wislizeni), Blue Oak (Quercus Douglasii), and Black Oak (Quercus Kelloggii). Areas 4 and 2 include a designated "Wildlife Preserve Area" that has very dense coverage. In depressions and low spots along drainages throughout the district, older rocks are overlain by mill tailings generated at the stamp mill of the Kennedy Mine. In addition, there are mine dump materials generated from numerous prospects such as the Massa Tunnel. There are also cut and fill deposits remaining from when the footings of the Kennedy Tailing Wheels were excavated.

The Kennedy Mine was bordered to the north by the Oneida Quartz Mine across Jackson Gate Road. Founded in 1851, the Oneida was one of the first quartz mining claims in the area. Although not as successful as the Kennedy Mine, it remained in operation for over 60 years, closing in 1914. The Kennedy and Oneida Mines are representative of how adjoining quartz claims were staked along the Mother Lode to cover the gold-bearing vein system. The Mother Lode extends for over 120 miles in a north-south direction from Georgetown to Mariposa. Centrally located, Amador County became known as the "Heart of the Mother Lode."

Some of the resources now located on the Kennedy Mine property, although historic, do not relate to the mining activities. An example of this is the St. Peter and Paul Church. These "non-mining" resources are included in this application as they are now part of the Kennedy Mine property.

Area 1, The area around the East Shaft is located centrally in the Kennedy Mine property and is where most of the administrative activity occurred historically and is where the current above-ground Mine Tours are managed. Also located in Area 1 are Sybil Arata's house and the storage shed. The East Shaft was begun in November 1898 to intercept the dip of the ore body. It is located 1,950 feet east of the North Shaft. The East Shaft remains open to this day. During winter and spring seasons, water has been known to flow up and over its collar. The East Shaft sits under the 135 foot steel head frame, which is the tallest head frame on the Mother Lode. This area has a mix of plant species typical of the Foothill-Chaparral Belt, as well as gray pines, locust, cottonwoods (Populus fremontii), and an olive tree around the area of the Mine House, Change House, and the massive East Shaft Head frame. Historically the landscaping and gardens around the Kennedy Mine Office, located on a hill northwest of the Change House, was renowned as a showplace in Amador County. Historical photos depict trees, vegetation, walls, fences, and other exterior structures. Bricks from the Mine Office garden have been moved to the Change House area to demarcate the Handicapped Parking spaces. Resources 1 through 22 are located in Area 1.

Area 2, The Oak Woodlands is located east of the East Shaft Area and includes the forested area lying along the eastern boundary of the Kennedy Mine Historic District between its northern fence line and the North Fork of Jackson Creek. This area is completely undeveloped and is comprised of pine-oak woodland and brush lands, including Interior Live Oak, Blue Oak, and Black Oak. There are no buildings or proposed resources in Area 2, however, it is an important part of the setting for the Kennedy Mine district.

Area 3, The Gate is east of the East Shaft area. Part of this area sits on the Melones Fault zone which is located on a north-south direction. It is comprised of both wooded and pasture or cleared land. The North Fork of Jackson Creek flows through this area, through rocks of both the Melones Fault Zone and the Mariposa Formation. A portion of Area 3 is underlain with rocks associated with the Melones Fault Zone, a major geologic boundary between rocks of the Jurassic aged Mariposa Formation on the west, and rocks of the much older Calaveras Complex east of the fault. The Melones fault is a major regional feature that can be traced both north and south along the western edge of the Sierra Nevada. This fault zone is often gold bearing in Amador County, particularly at the Zeile Mine to the south. Other mines within the Melones Fault Zone are the Bellweather (located in Area 7), and Jackson Gate (Massa Tunnel). The Massa Tunnel is described below. The style of gold mineralization observed in the Melones Fault mines differs from that which occurs within the mines of the Mother Lode proper, such as the Kennedy, Argonaut, Oneida, etc. and is more typical of mines located south in Tuolumne and Mariposa Counties. Rocks exposed within the Melones Fault Zone are black and white laminated slate, chert, and tectonized (deformed) quartzite and muscovite schist. The bold outcrop known as "the Gate," is actually an exposed portion of a mineralized vein system that is characterized by quartz, ankerite, and mariposite. Gold is usually associated with quartz stringer zones and mineralized or altered country rock. Historically, these large outcrops attracted the attention of the earliest gold miners, who were beginning to search for the source of the placer gold that was found in the creeks. Several prospect pits, shafts, and at least one adit occur along the trace of the mineralized fault zone. Area 3's most pronounced structure is the rock formation known as "The Gate," which is formed by a quartz-ankerite-mariposite alteration zone within the Melones Fault. Alluvial gravel deposits in this creek bed have been mined numerous times since the Gold Rush. A major portion of Area 3 is underlain by rocks that occur within the Melones Fault Zone. Recent work suggests that these rocks are of uncertain stratigraphic position and may not actually belong to the Mariposa Formation. This portion of the property is dominated by the presence of mafic tuff, chert-bearing tuffaceous sandstone, and slate. There are also minor amounts of volcanic conglomerate and augite porphyry. This rock unit can be followed to the north, and is the same unit exposed in the vicinity of the East Shaft (Area 1). This is also the same rock unit that forms the hanging wall to the gold bearing veins encountered in the workings of the Kennedy Mine. In general, these rocks are unmineralized, and contain gold only when in close proximity to the Mother Lode vein system. The natural gradient of the hillsides and gulches in the Gate area have been changed due to mining, construction, and agricultural activities over the last 150 years. This area has been

mostly cleared and used as pastureland in the past few decades. Lot 1, Block 13, Town site of Jackson, located in the western section of The Gate area contains 46.74 acres and was cleared by early settlers for agricultural uses as evidenced by the terraced hillside, apparent in early photographs. Photographs also indicate that The Kennedy Mining & Milling Company used the area to graze mules, horses, and cattle. Today the pastureland has been inundated by noxious weeds, particularly star thistle which was introduced to California from Chile during the Gold Rush period. Over-grazing may have left the pasture land in poor condition, with exposed soil that the thistle prefers. Once established it is difficult to eradicate. Since star thistle seed remains viable for 3 to 10 years, current attempts to remove the sharply spiked weeds have not so far been successful. The city lot located at the southeastern end of The Gate area and adjacent to Stark Lane is currently pastureland and is seasonally marshy depending on rainfall. This area includes one of the first claims that would eventually be owned by the Kennedy Mining and Milling Company. However, the Kennedy Mine did not sink a shaft in this area. It contains a gulch running in a southwesterly direction from the northern fence line. This gulch was referred to in the Jackson Gate Mining Register as "Schwartz Gulch" and in later legal documents as "Slow Gulch." Resources 23 through 30 are found in Area 3.

Area 4, Humbug Hill, northwest of the East Shaft Area, is a volcanic cap over the gravels of an ancient river channel. It is capped by the Mehrten Formation, a sequence of Tertiary andesitic mudflows and congloveratic river deposits. The Mehrten Formation, which is up to 75 feet thick, unconformably overlies the much older Mariposa Formation. The Mehrten also obscures the trace of the Mother Lode vein system which passes in a NW-SE direction through the western portion of Humbug Hill. The "hill" is actually a well-defined ridge that lies east of Highway 49 and south of Jackson Gate Road. Where most of the gold-producing rock of the Mother Lode is quartz gold located in hardrock veins, Humbug Hill is primarily ancient Tertiary gravels that were explored for placer gold with tunnels and shafts as early as 1854-1856. Evidence of early mining is seen by the numerous prospect pit explorations located in this area, as well as hydraulic mining sites. Several ditches are also found along the hillside which was used to transport water to these early sites. Open cuts and disturbed ground that expose river gravels are evidence of hydraulic mining methods. Underground mining in this area by the Kennedy Mining operations was very limited. This area is considered environmentally sensitive and has remained untouched for several decades. The forested area supports numerous wildlife and plant species. Resources 31 through 32 are located in Area 4.

Area 5, The North and South Shaft area is located west of the East Shaft area and is the largest of the areas within the property owned by the Kennedy Mine Foundation. Area 5 includes the original 480-foot long, south-to-north, mining claim filed on January 4, 1860 by Andrew Kennedy, John Fullen, James Fleming, and James Berrigan. Various claims on this portion of the Mother Lode fault were consolidated and sold to 11 area businessmen on November 22, 1869 and incorporated as the Kennedy Mining Company. Mine assets were conveyed to the company on April 18, 1870. The Kennedy Mining Company sunk two shafts approximately 500 feet apart in 1870-1871, one of which would eventually be known as the South Shaft. Due to the diagonal dip or slant of the fissure which contains the quartz rock with the gold, both the South and North Shafts extend to the East from Area 5 into Area 1. Area 5 is also considered an important cultural area because it was once the location of various historic resources, most of which have now been removed. Historically the area consisted of several Boarding Houses, privately managed, along with a cookhouse. This area also housed the Superintendent's home. Two buildings still remain on the site and historical integrity is sought for these. It has been reported that historically the area located directly south of the Superintendent's house was planted in fruit trees. Resources 33 through 39 are found in Area 5.

Area 6, Kennedy Tailing Wheels is located within and owned by the City of Jackson. It is adjacent to the Kennedy Mine Foundation property. The Kennedy Tailing Wheels are accessible at Jackson Gate road. The site is in a semi-rural, mixed-use neighborhood. It is sparse in housing density and primarily residential, however, there are two small motels, three restaurants, and an historic general store. Buildings are limited to a narrow band alongside Jackson Gate Road; several buildings have historical significance related to the Gold Rush period. The character of the neighborhood has long since been stabilized but is under threat of both commercial and residential development. However, these buildings are not within the boundary of the property and are not counted as resources. Resources 40 through 43 are located in Area 6.

Area 7, Oro de Amador is located within the Jackson city limits adjacent to the Kennedy Tailing Wheels. Site elevation ranges between 1,270 and 1,410 feet above mean sea level. Most of this 155 acre property between North Main Street and New York Ranch Road is associated with the gold mining history of Jackson. Resource 44 is found in Area 7.

Description of Resources

On September 18, 1963, the Kennedy Mine was designated a California Historical Landmark and No. 786 was assigned to it and the Argonaut Mine. The Kennedy Mine Tailing Wheels, property of the City of Jackson, are currently listed on the National Register of Historic Places Inventory. Jackson Gate, Area 3, has been assigned No. 118 as a California Historical Landmark. The Kennedy Mine property is under the control and ownership of the Kennedy Mine Foundation, a non-profit foundation formed under the guidelines of Section 501C3 of the Internal Revenue Code.

The geologic features of the Kennedy Mine are comprised of a quartz vein which fills a reverse-fault fissure, cuts at an acute angle, both in strike and in dip, with a series of more steeply dipping Mariposa slate and greenstones of Mariposa age. The inclosing rocks may be divided into six belts, three of which consist predominately of slate and three of greenstone. The main Kennedy vein strikes N.20° W. and dips 70° E. Most of the ore is free gold in quartz with auriferous pyrite and minor amounts of galena; however, a minor portion of the gold is also in the form of metal-sulfides. The ore bodies of this mine are not continuous either longitudinally or in depth. The thickness of ore mined usually ranged from 8 to 15 feet. Generally, the best ore was in ribbon rock of hard white quartz containing numerous ribbons of finely ground slate or fine-grained pyrite and galena. To a depth of 4,800 feet the ore was of a fairly constant gold value, however, at greater depths the ore occurred as irregular masses. Little specimen ore was recovered.

While in operation, the Kennedy Mine was worked through several shafts. These are depicted in Figure 1.

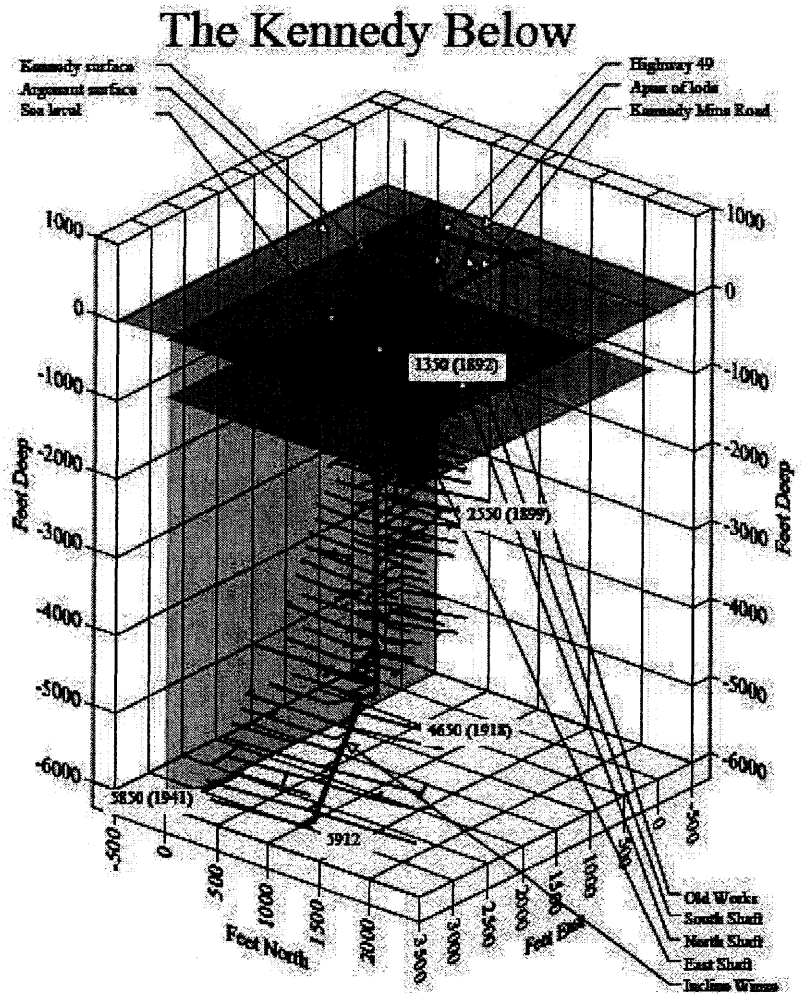
- The original whim shaft, located several yards west of the current south entry to the Kennedy Mine, was dug in the 1860s to 140 feet on the dip of the ledge (equivalent to 125 feet vertically). The Whim Shaft was not used after 1869.
- In 1870-71 a second shaft was sunk by hoist 100 feet south and 50 feet easterly (lower on the hill slope). This shaft, called the Old Works Shaft, was dug 125 feet vertically in rock neighboring the ledge. The ledge was intercepted and followed down on the dip for another 275 feet. The ledge consists primarily of quartz rock in the fault zone. Some of this quartz contained a small amount of gold. The Old Works Shaft was also called the Upper Shaft and had 3 levels extending from it. The first level extended north and connected to the Whim Shaft. The other two levels extended south. The horizontal distance from south to north extended 230 linear feet. Mining operations in the Old Works Shaft was discontinued in 1873.

- The Lower Shaft (also called the Main Shaft) was dug in 1871. It is located 125 feet south and 340 feet east of the Old Works Shaft (275 feet north of the Pioneer boundary line). The Lower Shaft was dug 380 feet vertically where it cut into the ledge. The shaft was down to 800 feet (750 feet vertically) by June 1878. The ore body from this shaft was explored on different levels for about 350 feet horizontally south to north. Mining operations discontinued in June 1878. The Kennedy Mine was reopened in 1886 and the Lower Shaft became known as the South Shaft and was worked down to 2,276 feet diagonally.
- In early 1878 a shaft was dug to 200 feet in depth on caved ground over a prior shaft that was 100 feet deep. This shaft was named the Smith and Gavin Shaft after the two men who had dug the first shaft (prior to Kennedy Mine ownership). It is located 576 feet northwest of the Lower Shaft. A level was run at 100 feet extending south 300 feet and north 80 feet. After the mine reopened in 1886, the Smith and Gavin Shaft became known as the North Shaft and was worked down to 2,300 feet diagonally.
- The East Shaft was begun November 1898 1,950 feet east of the North Shaft. This shaft goes straight down 4,764 feet. At 4,650 feet, a level extended to the east for about 100 feet. Here a second shaft (winze) was dug at a 65° angle. This second shaft extended to 5,912 vertical feet from the surface. Alignment maintenance was not a problem except where the East Shaft passed through the vein. In July 1924 mining was in progress at the 3,900, 4,050, and 4,200 foot levels. The rest of the mine was inaccessible, except for the long crosscuts at the 1,950 and 2,400 foot levels.

The maximum air temperature in the 3,900-foot level at the time of operation was 86.5°F. At the 4,200-foot level, the average temperature was 1.5°F lower. The humidity, as in other deep Mother Lode mines, was nearly 100%.

An average of 72,000 gallons of water had to be pumped daily in July 1924. Most of this water was obtained above the 500-foot level according to the superintendent, James Spiers.

Figure 1



The mining operation continued during World War II until October 8, 1942 when the War Production Board issued Limitation Order L-208. All gold and silver mining in the United States was halted by the Board because it was considered non-essential to the war effort. On November 7, 1942 all electrical power was shut down at the Kennedy Mine. The War Production Board representative visited the Kennedy Mine several times

during the early 1940s but found nothing that they wanted for the war effort. After the war ended there was no feasible reason to reopen the mine. On December 26, 1950, President Joseph Knowland of the Kennedy Mining and Milling Corporation signed the certificate acknowledging the "dissolution" of the corporation.

The current Entry Road from Highway 49 leads down through Area 5, past Area 4, and into Area 1 where there is a cluster of buildings and available picnic tables and parking. This road was historically used for passage between the North Shaft and the East Shaft. It was established when the property that was to become the East Shaft was purchased in 1898. Access to the East Shaft was also available from the Jackson Gate area with a road originating near the tailing wheels. That road still exists, but is now closed to vehicle traffic.

The Handicapped Parking spaces are located near the original Outhouse and are demarcated using bricks from the original Mine Office garden.

Area 1: The East Shaft

The East Shaft area contains many of the Kennedy Mine's prime historic resources. It demonstrates the industrial history of gold mining in California, as well as the social and cultural aspects of the mine as they related to Amador County. The property is east of the Kennedy Mine's original principal location (known as the North and South Shafts and which are described later in Area 5). A vertical shaft was dug 1,950 feet east of the North Shaft and was thereafter known as the East Shaft of the Kennedy Mine.

The dismantling of the Kennedy East Shaft area took place from the 1940s through the 1960s. Below are described the resources that still remain in Area 1.

1. Change House (1 Contributing Building and 2 Non-Contributing Structures)
The original building on this site was destroyed by the 1928 fire. A new, rectangular, brick building, measuring 45'4" x 65'3", was built in 1929 (Contributing Building). The showers and other fixtures were located close to the entrance end of the building. The lockers, 160 of them, were Berloy open steel measuring 2' x 2' x 4 ½'. Lighting was provided on all four sides by creating the window line above the top of the lockers. Entry is currently through a painted wooden door off the unmortared, brick walkway shared with the First Aid Building (Resource No. 5). The building has been reinforced with brick and mortar, and metal stabilizing bars have been placed over the glass windows with steel

window frames. The concrete slab foundation was reinforced in 2004 and drainage at the rear of the building has been improved. The metal, steel-trussed roof is a very shallow pitched style and painted purple. A wooden water tower with a concrete slab foundation (Non-Contributing Structure) was constructed in 2004 on the eastern side of the Change House to demonstrate water storage for the showers. It is a reproduction of the one that was originally in this location. The wooden shed adjacent to the eastern side of the Change House (non-contributing structure) was moved to the Kennedy Mine property; it now houses blacksmith equipment and folding chairs used for on-site events. It had been used as a smithy display and was constructed by County Inmates using old wood from a 100-year old structure that was torn down by the county. On the eastern side of the Change House building, in between the wooden water tower and wooden shed, are large metal double doors painted white. There is also a small wooden stage. The Change House is currently used as the start of Kennedy Mine tours and houses a museum, gift shop, and a small theater. Displays of the large wood pattern molds constructed by Sutter Creek's Knight Foundry (NPS-75000423) are on the walls, as well as underground break beams and various rocks and mining apparatus. Adjacent to the Change House are concrete and wood picnic tables that take advantage of the shade generated by a locust and coffee berry tree.

2. Bathroom/Kitchen Facilities (1 non-contributing building)
The rectangular building that houses the new bathroom and kitchen facilities was constructed in 2000 to blend in with the historic buildings. It is constructed of corrugated steel and wood on a concrete slab foundation and has a pitched roof that has a shallow extension over a brick slab deck. The building measures 36 feet by 18 feet. A 5' covered porch surrounds the buildings on 3 sides.

3. Outhouse (1 contributing building)
The original "pit toilet" outhouse sits sunken into a depression of approximately 8 feet. It is of a simple stick construction with a pitched roof and it is made of corrugated steel and wood materials. Unlike the buildings rebuilt after the 1928 fire, the corrugated steel on the outhouse is very rusty. Remains of wooden bathroom stalls with pit toilets can be seen through the doors.

4. Oil House (1 contributing building)
This building was used to store lubricating oil for machinery. Its dimensions are 15'6" x 20' and is constructed of concrete walls and arched roof on a concrete slab foundation. Double doors made of thick and impenetrable steel are the only entry. There are no windows. A three-foot overhang made of corrugated steel over wood beams shades these double doors. Its architectural style is unknown. Bits of brick and rock are scattered around the Oil House. It is located at the edge of the clearing and surrounding oak woodland.

5. First Aid Building (1 contributing building)
This is a two-room building that also includes a small bathroom. Minor injuries would be attended to in this building. The original building was destroyed in the 1928 fire. It was rebuilt with dimensions of 14'6" x 16' and used again as a station for medical care in the event of an accident at the Kennedy Mine. The building is constructed of corrugated steel with a concrete foundation and pitched roof also made of corrugated steel. The door is wood which has been painted and has a window on the upper half. There is a walkway (not included in the dimensions) covered with corrugated steel supported by wood posts that connects this building to the brick Change House. The front of the building has a wood-framed window and the rear of the building has a well-preserved window frame. The front room is currently used to store signs.

6. Boiler Building (1 contributing building and 1 non-contributing structure)
The Boiler Building is situated 4'10" to the south of, and in line with the First Aid Station. This building measures approximately 34'8" x 21.' It is made of corrugated steel. Steel girders hold up the corrugated steel roof with 15" trusses. The building has no windows. Double steel doors approximately 8' high on the front side open apart to reveal a brick, furnace, boiler and holding tank on top, which was manufactured by Fulton Ironworks in San Francisco in 1903. These double doors have been repaired and the building electrified. This particular boiler was probably used to heat water for the showers in the nearby Change House (Resource No 1). At one time there were six other boilers that provided the power for the hoist and compressor. The Boiler Building contains a firebox to burn wood, which heated the water in the boiler tank and created the steam. The Boiler Building is currently used for storage; however, all non-historic materials have been removed.

A wood-framed corrugated steel covered trough (non-contributing structure) is

situated along the southern side of the Boiler Building. It was built about 2002 to demonstrate placer mining with the use of a gold pan.

7. Compressor Building Foundation (1 contributing site)
The original building was destroyed by the 1928 fire. The new building, measuring 30' x 50' x 15', was constructed and used for housing three large Ingersoll Rand duplex, Class PRE-2 air compressors, direct-driven by 225 hp Westinghouse, 440-volt, and synchronous motors at 257 r.p.m. Cylinder dimensions were 12 ½" x 14" and 20" x 14". A three-panel switchboard contained the starting and control units. These compressors provided power to the drills within the mine for blasting holes and pumped fresh air for the miners. The concrete slab foundation, structures, and equipment are being maintained to prevent further deterioration. Remains associated with the Compressor Building Foundation include metal air intake iron pipes, boiler remnants, buses, bolts for compressors, and piping. The slab for the boiler room still protrudes from beneath the foundation for the three electric compressors. At one time there had been a steam plant that was composed of six 80 horsepower boilers and was oil fired located on this site. The Kennedy Mine burned oil and had its own pipe line for oil from Martell. Steam generated was used to operate compressor and an 80 horsepower double drum hoist. The Compressor Building is surrounded by gray pines, locust, and live oak trees.

Prior to the 1928 fire, a Murry compound Corliss compressor and Fulton Engineering Company Compressor were used to fill air bottles for the miners. These compressors may have been used to perform specific functions, such as digging down the East Shaft and building the steel head frame. They were most likely located in the immediate vicinity of operations and removed when the jobs were completed.

8. Blacksmith/Machine Shop Foundation (1 contributing site)
The original building on this site, which is east of the Head Frame (Resource No. 10), was destroyed by the 1928 fire. A second building was constructed to house the blacksmith shop, machine shop, and storage area. It was a steel-frame galvanized corrugated steel building measuring 42' x 80' x 16' high. Like most of the other buildings, it had steel sash and a ventilating louver that extended the length of the roof. A partition divided the machine shop from the blacksmithing and sharpening room. Equipment was manufactured or repaired in this building. The building was dismantled in 1942 and the machinery sold at auction in 1952.

The concrete foundation is prominent within Area 1 and the forge base can still be seen in the back center of the foundation. Two lathes and other equipment on loan from the Sacramento Railroad museum are located within the boundaries of the Blacksmith/Machine shop foundation. The Kennedy Mine Foundation plans to eventually restore this building to the 1928 specifications under Historically Correct Reconstruction Modified (HCRM) guidelines and using available exterior and interior pictures, building plans, and an insurance map. The interior may be modified. Concrete picnic tables have been erected adjacent to the foundation to take advantage of shade provided by cottonwood and live oak trees. To the east of the Blacksmith/Machine shop foundation and picnic tables are remnants of stamp mill camshafts and cams from the 100-stamp Stamp Mill (Resource No. 12).

9. Hoist House Foundation (1 site)
The hoist house foundation is located adjacent to the Foreman's offices (Resources Nos. 14 and 15) and Head Frame (Resource No. 10). The original hoist house was destroyed in the 1928 fire. The new hoist house, which measured 45' x 40' x 16', was constructed to house two 8-foot Allis Chalmers drum hoists which were used to wind and unwind the cable. Placement of the permanent hoist, which was designed locally, was under the supervision of V.S. Garbarini. The materials were prepared by the Knight Foundry of Sutter Creek. Over 5,500 feet of steel cable was required to hoist and lower the ore skips. A spool of hoisting cable is located on the foundation of the Hoist House. When powered by steam, the hoist could drop the skips at a speed of 2,200 feet per minute. After conversion to electricity in 1928, the skip traveled at 1,600 feet per minute, similar to the speed of a modern elevator. The hoist house was dismantled after World War II and some of the equipment was auctioned off.

10. Head Frame (1 contributing structure)
The tall steel structure that dominates Area 1 is the heart of the Kennedy Mine Historic District. The East Shaft Head Frame was the structure that provided a route for the men and necessary materials to enter the shaft and the transfer of ore out of the shaft. The sinking of the shaft began in 1898, with the wood framed gallows being erected by V.S. Garbarini in 1903. In June, 1928, a contract was signed with Moore Ship Building Works (Moore Dry Dock Company) of Oakland to replace the wooden structure with a steel gallows frame. The new steel head frame was designed by Henry D. Dewell of San Francisco. One of the special conditions was that the new head frame was to be built around the old

wooden head frame, and this required wider dimensions than would otherwise have been required. This new head frame was designed to withstand dead loads, working loads, cables breaking while skips are in shafts, cables breaking while skips are jammed against guides in the head frame, and wind pressures from any direction. Work to excavate the piers of the foundation for the new structure began in 1928. It was estimated that it would take approximately four months before the new frame would be in a position for use. The September 1928 fire destroyed the wooden gallows, along with the steel frame which was under construction. By early January, 1929 the new steel gallows frame was completed, erected by J. Walsh Construction Company of San Francisco. The structure, built entirely with hot rivets without welding, rose 135 feet above the surface opening. The primary dimensions of the East Shaft Head Frame are 43 feet 9 inches width, 72 feet length traverse to the long dimension of the shaft, 113 feet 6 inches height to sheave centers, 10 feet diameter sheaves, 1 ¼ inch diameter rope, and 138,000 lb strength of rope. To provide clearance on all four sides of the bottom panel, both posts and back legs were trussed to take care of the bending stresses caused by the omission of the diagonals. The "K" system of trussing in the sides of the frame was adopted because it is rigid and economical. This head frame is the only one of its size still in existence in the Mother Lode. The shaft has three compartments. A rectangular steel ore skip can be seen over the middle compartment. It worked in conjunction with a second skip as a counter balance. When one skip was at the top, the other skip was at the working level in the shaft. The third compartment, left of the skip, is the equipment compartment. Air hoses, electric lines, bell wire, and a ladder system were located here. The view of the head frame from the west side shows two triangular hoppers where the skips dumped their loads. The smaller front (bottom) hopper was used to store the waste rock until it could be removed and dumped out of the way. The larger rear (upper) hopper was used to receive the gold-bearing quartz (ore) rock. The smaller rock would fall from a tilted ore skip up high in the head frame through a "grizzly," consisting of metal strips 1 ¾ inches apart in the bottom of a chute located above the larger bin, and drop down into the ore bin. The larger rock would slide down the grizzle into a crushing machine housed on a wooden floor above the larger bin, which was located in the room at the second level of the head frame. When it was crushed to 3 inch diameter, it would fall into the ore bin to be stored until it could be transported to the stamp mill. The East Shaft Head Frame is currently surrounded by a chain link fence to prevent entry to the open East Shaft, and onto a structure that could be very dangerous if climbed.

11. Stamp Mill Trestle (1 contributing structure)
This long structure is a steel frame with wood timbers that supported the rails for ore carts and was used to transport ore from the bins located at the East Shaft Head Frame (Resource No. 10) to the Stamp Mill (Resource No. 12) located in the small basin immediately below the Head Frame. After the ore was crushed, it was released from the ore bin into 4-ton ore carts. A mule or a man would push the cart along this trestle to the stamp mill. It would be dumped into the storage bins above the stamps waiting to drop into the processing mill. The steel frame remains, although there is considerable decay in the wooden components of this structure; three of the original five hoppers are still intact.

12. Stamp Mill (1 contributing building)
All that is left of the East Shaft Stamp Mill is the concrete foundation, walls, and forms which were originally enclosed under a corrugated metal roof tall enough to accommodate the ore-crushing machinery and equipment. Three of five wooden hoppers, which were used to store the ore before being released to the stamps, remain standing upright in a dilapidated state, accelerated by exposure to the sun, wind, and rain.

The remaining stamp mill machinery is primarily three units of a closed circuit differential flotation system. The units are a ball-mill with attached motor mounted on cement piers, a classifier, and eleven flotation cells. These units are no longer connected to each other, but remain positioned on the concrete foundation.

The ore hoppers are set in a row at the end of the metal Stamp Mill Trestle (Resource No. 11), which originates at the East Shaft Head Frame (Resource No. 10). The backside of the hoppers are located on a raised concrete foundation and the front side of the hoppers sits on five wooden pillars, each grounded on concrete forms. The front side of each hopper has four openings which were used during mining operations to release ore via gravity into a trough to a mortar with five stamps. The mortars were mounted on concrete piers. All twenty concrete piers measured 75 inches high, 59 inches wide by 50 inches deep on the top and 59 inches wide by 92 inches deep at the bottom and remained standing in a line 60 inches in front of the row of hoppers. However, the mortars and stamps are no longer on site. The ore was crushed in the mortars by the stamps which were moved vertically up and down by a rotating camshaft mounted on an overhead frame. A camshaft extended across the front of each

hopper with a wheel attached at each end. The camshaft moved in tandem with the rotation of the wheels which were belt-driven from a power source. Thus, the four openings in each hopper supplied ore to four sets of five stamps each (referred to as batteries) for a total of twenty stamps. The stamp mill was operated with one hundred stamps for a number of years prior to functioning with sixty stamps.

At 140 inches from the front of the base of the concrete piers lies the top of a concrete wall. The wall is 211 feet long in a north-south direction and extends 10 feet, 7 ½ inches down from the top to the bottom to a concrete floor on the east side. The concrete floor extends 49 feet out from the wall. This flat floor is surrounded by a 13 inch raised concrete foundation on the remaining three sides. The top of the 10-foot high concrete wall provided support for the camshafts, wheels, and stamps in front of each hopper. Three wooden pillars on top of this wall were connected by wooden crossbeams to the five wooden pillars that held up the two wheels and camshaft with twenty stamps in front of each hopper. Also, amalgamation tables were located between the base of the concrete piers and the top of this concrete wall. The crushed ore was washed through screens located on the front of the mortars onto sloping tables the width of the mortars. These tables were lined with mercury-coated copper plates to capture the free gold. The 10-foot drop from the top of the concrete wall allowed for gravity to move the remaining pulp from the amalgamation tables down to a series of concentrating tables and settling tanks. The 12 flotation units located on the concrete floor were placed on-line in 1934 to assist in separating sulfides (containing gold bonded to other metal). There was a group of 10 flotation cells and a group of 2 flotation cells which received the leftover particles from the group of 10 for a second processing. The separated sulfides were shipped to smelters. The smelters separated the gold from the other metals through a heat process. From 1886 to 1942 the Kennedy Mine obtained 79 percent of the gold by crushing the ore and applying amalgamation. However, 21 percent of the gold was recovered from the separated sulfides which required additional processing to free the gold from the other metals.

13. Mine Office (1 contributing building)

This three-story building was constructed in 1908 to house the administration activities of the mine, along with the retort room and assay office. The walls of the first two floors are made of poured concrete and the third floor is wood frame. The walls were then plastered and painted. The building survived the 1928 fire.

This building has been partially restored and is maintained to its 1942 condition as described in the McCabe Pressey report (see Bibliography). The three floors are referred to as the ground floor, first floor, and second floor. The ground floor porch, which circumvents 3 sides of the building, is made of patterned concrete and is surrounded by columns. The ground floor rooms have concrete floors and the first and second floors are wood trusses with a thin coat of concrete. The first floor has a deck that wraps around the entire floor which also has columns and a wooden railing painted white. The roofs that cover the ground floor porch and first floor deck are sofited. The first floor deck is bordered by a wooden balustrade painted white. The gently-sloped roof is made of tarpaper with hot asphalt covering. External wood doors with windows on the upper half provide entry into each of the rooms with access to either the ground floor porch or first floor deck. Internal doors are wood with wood molding. Windows in this building are wood-framed and double-hung. The front of the Mine Office is landscaped with a lawn and pink oleander. The concrete portion of the external stairs that travel from the ground floor to the first floor is inscribed "K.M. &M.Co" (most of this staircase is wooden). The internal stairs from the ground floor to second floor are entirely concrete. A concrete bunker is located in the hill on the ground level immediately north of the stairs. This is where a boiler was located to heat the building with hot water retained in several radiators placed along the walls in the building. The pressure vessels are still located in this bunker. The panoramic view from the upper floor deck includes the head frame with the Butte Mountain behind it. The Argonaut Mine and the town of Jackson can be seen from this vantage point.

- The west room on the ground floor is the retort room. This room includes a large blast furnace and a large brick and metal furnace used to distill and recover mercury from the gold-mercury amalgam.
- The east room on the ground floor is the assay room where the assayer determined the richness of the ore samples by adding chemicals and heat to the ore. This room includes an oven and balances used to weigh the gold.
- The west rooms on the first floor were offices. .
- The east room on the first floor was the main office and contains a large walk-in vault and safe.
- The First Floor also has a communal bathroom.

- The upper (second) floor has four small guest bedrooms, three of which have been restored by the local Mother Lode Chapter of The Questers. They have been decorated to represent typical rooms during the mines operation.
- The only remnants of the once-beautiful Mine Office Gardens are the hardy Voodoo Lilies (Sauromatum venosum) that continue to bloom profusely every year under the back stairs to the main office on the first floor and the few olive and fruit trees around the building.

14. Foreman Office—Surface (1 contributing building)
The original building was destroyed by the 1928 fire. The second building, which lies west of the Air Compressor Building foundation (Resource No. 7), was constructed using fire-retardant brick. This brick building, with dimensions of 23'6" x 13', is comprised of two rooms. The walls and ceiling are wood-paneled and the floors carpeted. There is a closet and built-in open shelving used for storage. Windows and doors are framed with painted wood. The pitched roof is made of corrugated metal and extends to cover a 4' brick edge walk on the eastern side. There are 6 wood-framed double-hung windows with iron rods to prevent unauthorized entry. The gray wooden door has a window on the upper half. Kennedy Mine Foundation administration offices are now housed in this building.

15. Foreman Office—Underground (1 contributing building)
The original building was destroyed by the 1928 fire. The second building, just a few feet south of the Surface Foreman's Office (Resource No.14) was constructed using fire-retardant brick. This brick building, with dimensions of 24'6" x 13'4" is comprised of two rooms. The roof is pitched and made of corrugated metal. There is a metal barrel that spans the short distance between the Underground and Surface Forman Offices. A large metal hook hangs from the North side of this building. Like the Surface Forman's office, the windows are wood-framed and double hung. The door is also wooden with a window in the upper half. Historically significant features include the brass collection slot on the exterior wall, evidence of an interior fire, and sweat stains from the miner's hats on the interior wall of the second room.

16. Walk-In Underground Cellar (Powder House #1) (1 contributing building)
It is located in the hill on the left and 18 feet from the dirt entry road, south west of the Mine Office, just as you reach the East Shaft. It is referred to as a walk-in

cellar because it is situated in the hill on 3 sides up to the roofline. The front has a heavy metal door mounted on it like the other 2 powder houses (Resources Nos. 34 and 45). The size, shape, and construction material is similar to the North Shaft powder house (Resource No. 45); however, it is in much better condition. Because it is tightly sealed from the outside environment, this building is currently used to store equipment and supplies.

17. Tank House (1 non-contributing structure)
The Tank House was built in 2007 on the hill behind the Mine Office. It has a wood frame covered with plywood which is then covered with corrugated metal to resemble the historic buildings in Area 1. The door is hollow metal. Dimensions are 10' 2.5" x 14' 2.5". The building is on a 4" concrete slab. The roof is made of corrugated metal over plywood and is pitched. The height of the building is 10' 9" at the ends and 12' 9" at the peak, giving the roof a 3' pitch. There are no windows, but there are 4 skylights in the roof.

18. Sawmill (1 Contributing Site)
The sawmill was built on the west side of the Head Frame (Resource No. 10), across the road from the concrete steps to the Mine Office (Resource No. 13) on the south side of the Entry Road. There are no remains except the concrete foundation that is in the form of an L shape. The east and west section on the north side was 91 feet in length, and the north and south section on the west side was 37 feet long. The sawmill building was enclosed on those two sides, but was open on the south and east sides. A roof extended over the sawmill operation. It was supported on the south side by 2 pillars on top of 2 cement piers. The piers still exist on site. The original building was destroyed in the 1928 fire. A new building was erected soon after. Timber used within the mine was milled at this location. The surrounding flat area contained stacks of cut timber up to twenty five feet. This area was flattened for the storage of timber used in the mining operation. Currently mining machinery and equipment, including the Man Skip and the Equipment and Water Skips are displayed in this location. The container in which the men stood (man skip) measures 33 ½ inches x 43 ½ inches x 67 inches high. The metal attached braces, which held the man-skip suspended in the shaft from the hoisting cable, is 98 inches long. Thus, the total length of the man-skip with the attached metal braces is 13 feet 9 inches long. The large metal water skips have dimensions of 13 feet 10 inches in length. The attached metal braces, which held the water skips suspended in the shaft from the hoisting cable, are 7 feet long. Thus the total length of the water skips with the attached

metal braces is 20 feet 10 inches long. The sides of the water skips measure 3 feet x 4 feet.

19. Transformer Building (1 contributing building)
This building has been reported as built in 1911 as well as shortly after 1928 when the Kennedy Mine obtained sufficient electricity to support equipment. Its dimensions are 18' x 20'3". It was used to house three 150 kilowatt transformers and switches for electric power to the East Shaft mine. There are photos showing that the transformers, built by Westinghouse, were located on the outside of the building. The type SK Single Phase transformers are still in position, patented from 1907-1918. The location of the building appears to have been changed according to historic photos. It is currently located at the western edge of the East Shaft Area, down the hill from the Mine Office building. Both the siding and roof of this building are constructed of corrugated steel over a wood frame. There is a second pitched roof on top of the primary pitched roof. The concrete foundation is raised off the ground.

20. Information Kiosk (1 non-contributing building)
This simple, wood-framed structure has a metal, slanted roof supported by four wooden posts. Its half walls are made of corrugated steel similar to that of the original buildings in this area. It is located adjacent to the Entry Road south of the Mine Office (Resource No. 13).

21. Auxiliary Hoist (1 contributing structure)
A standing metal vertical tube capped with a metal cone was the airway for the compressors in what was the Air Compressor Building (Resource No. 7). This hoist consists of 2 metal drums situated on a cement foundation which is located immediately in front of the much larger Hoist House concrete foundation (Resource No. 9) that held the two 8-feet diameter, 20,000-pound Allis Chalmers drums. These smaller drums were used prior to the larger drums at a time when the East Shaft was less deep. They remained in place after the larger drums came on line for use in case of emergency situations, and when the wire cables had to be repaired or replaced. A spool of wire cable used at the East Shaft sets in front of this hoist foundation.

22. Sybil's House (1 Contributing Building)
This house, originally the residence of the boarding house manager and his family, was built soon after the construction of the East Shaft in Area 1 at the turn

of the century. It had a kitchen attached on the west side and there were about three bunk houses located to the west of it. Miners could get room and board here after work was started in the East Shaft. The rate was $1 per day. The house sits adjacent to a site of a rock building. There is a stone storage shed north of the home. It has been reported that the area located directly south of Sybil's House was planted in fruit trees and a vegetable garden. Several of the fruit trees still remain. This house was not used directly in the mining operation and so reconstruction may one day include conversion to KMF administrative offices.

Area 2: Oak Woodlands

The area known as "The Oak Woodlands" is located on the northeastern section of the Kennedy Mine Historic District and is heavily forested. The public has no access to this Area and it has remained untouched for several decades.

Area 2 has been referred to as "Big Humbug Hill" in the "Jackson Gate Mining Register," and was considered a part of the greater Humbug Hill region. However, it is geologically diverse from the Northwestern section of Humbug Hill Area because of the Melones Fault structure.

Areas that were mined were denuded of nearly all trees. Area 2 is included as part of the overall setting of the Kennedy Mine and as a site where resources were used by the mine and miners.

Area 3: The Gate

The Gate is located in the eastern portion of the Kennedy Mine Historic District. Two historic roadbeds are located in this area. The original Jackson Gate Road parallels the creek passing through the "Gate" formation and on to the Kennedy Mine Tailing Wheels (Resource No. 40 in Area 6). A second road connects the historic Jackson Gate Road to the East Shaft Area (Area 1). A portion of the historic Jackson Gate Road, lying east and parallel to the North Fork of Jackson Creek, is currently maintained by the City of Jackson. A road connecting Jackson Gate to the East Shaft has been established along the historic roadbed and is maintained by the Kennedy Mine Foundation.

The Gate contains one of the more public areas on the Kennedy Mine Foundation land in the Amphitheater area. This area is adjacent to Area 6, the Tailing Wheels, and is

accessible from Jackson Gate Road.

23. St. Peter & Paul Catholic Church/Clinton Church (1 Non-Contributing Building)
This church was built by Giuseppe Garbarini in 1877 in Clinton, California, on property donated by Andrea Arata. It was moved from its original site in Clinton to the Kennedy Mine property, Area 3 in 2001. A cemetery originally surrounded the church, but unfortunately most of the grave sites were lost. In November, 1941, Rose Cuneo, who had attended Mass in Clinton as a child, headed a committee to restore the old church. At that time the structure was "in excellent condition" with a good foundation and a "strong roof." Little maintenance had been done on the church in the following sixty years. Paul Garbarini, descendent of the builder, contacted the Catholic diocese and arranged for the ownership of the church building to be turned over to the Kennedy Mine Foundation in 2001, in the hopes that it will be preserved for posterity. It currently resides near the Amphitheater and is used as a dressing room for the actors. The church measures 30'7" by 20'5" and has 7" channel siding. The pitched roof is made of metal and has a small bell tower on the Northern side. There is $4^3/_4$" lapped siding under the ceiling. Ceiling height is 10'7". The south and north sides each have 3 double-hung windows. The double door, located on the east side and with two double hung windows on either side, has an arched transom with the words "Saint Peter and Paul" inscribed.

24. Kennedy Mine Amphitheater (1 Non-Contributing Structure)
Built in 2003 by the Main Street Theater Works, this open air theater is housed in a cul-de-sac on the south end of the Kennedy Mine Foundation property. The amphitheater is a mound of earth-fill located within the former drainage system of the Kennedy Mine. It is shaped in the form of a half bowl which has been contoured to seat approximately 300 people. The stage is located at the south open end of the bowl. The amphitheater is equipped with lighting and acoustics.

25. Amphitheater Restroom (1 Non-Contributing Building)
Completed in 2008, this restroom was not constructed during the period of significance and is a non-contributing building.

26. Massa Tunnel (1 Contributing Site)
An 1856 Mining Claim by the Massa Brothers was worked for several decades. The resulting adit tunnel accessed gold bearing quartz found within the Melones

Fault. The Massa tunnel entry was covered with large stones and boulders in 2005 to prevent entry, and possible harm, to local youths.

27. The Gate (1 Contributing Site)
This is located on the north fork of Jackson Creek and is California Historical Landmark No. 118. This quartz rock outcropping, which is part of the Melones Fault, was used as a landmark by early settlers. It served as the designated entrance to the Town of Jackson Gate. In 1850 about 500 miners worked here and the water from the creek sold for about $1 per inch. Once perpendicular walls only 20 feet apart, much of the formation was chipped away by early miners in search of gold. The structure was mined away over the years and today only one of the rock walls remains intact while the north wall shows regression as a result of the hand mining.

28. Amalgamating Mill (1 Contributing Site)
The Amalgamating Mill was built by the Kennedy Mining & Milling Company some time in the 1930s when the Stamp Mill was modified to include the floatation circuit. Its purpose was to amalgamate the sulfide floatation concentrates to recover the free gold before the concentrates were shipped and sold to the smelter. The Amalgamating Mill is located on the west side of Slow Gulch about 150 yards below the Stamp Mill. Although the mill and most of the equipment is relatively intact, the building is collapsed and deteriorating around the machinery.

29. Tailings, Flume, and Pond (1 Contributing Site)
Prior to 1914 and the construction of the Tailing Wheels (Resource No. 40), the tailings, or "waste," from the Kennedy Mill were released down Slow Gulch and allowed to flow into the North Fork of Jackson Creek. The release of these tailings permanently modified the contour and complexion of the land. Later a flume was constructed and the process modified to mix the tailings with water in the slime plant and they would then flow down 990 feet in the flume from the East Shaft Stamp Mill to the base of Wheel #1. A holding pond, located below the mill site, was used to store tailings when the tailing wheels system shut down. The Kennedy Mine's East Shaft Stamp Mill, when running at full 100 stamp capacity, produced approximately 850 tons of tailings every 24 hours. Water was used to keep the heavy solids moving along the flumes.

30. Broadway Bridge (1 Non-Contributing Structure)

On February 6, 1907 Virgilio S. Garbarini was awarded the contract to build a bridge across the South Fork of Jackson Creek near the Zeile Mine. At the time, the location was outside the city limits. While the highest bid for the bridge's construction was $4,907, Garbarini's bid came in at $900. Designed by V.S. Garbarini, engineer and the then mayor of Jackson, the bridge was constructed by his brothers, Joseph, John, and Henry in 1908 in the Garbarini Brothers Machine Shop located on Water Street in Jackson. The single lane, simple-riveted truss bridge is twenty yards long (60 feet) by six yards wide (18 feet). In the fall of 2000, the Jackson City Council decided to donate the historic Broadway Bridge to the Kennedy Mine Foundation. It was moved to its current location over the North fork of the Jackson Creek and provides passage for foot traffic from the parking lot along Jackson Gate Road to the St. Peter and Paul Catholic Church (Resource No. 23) and the Kennedy Mine Amphitheater (Resource No. 24) on the north side of Jackson Creek.

Area 4: Humbug Hill

A road traversing the east side of Humbug Hill, running from Martell to behind the Mine Office, was used as a tramway bed that brought supplies to the Kennedy Mine from the Martell Station. A red brick powder house is located alongside the roadbed. Also found is a pipeline believed to have transported water to the Kennedy Mine from its reservoir. A second, smaller pipeline may have been used for the transport of oil.

The Kennedy Mine Reservoir is located in the Northeast corner of the area. This area also contains the privately-owned Argonaut Reservoir site. A power line currently runs in a northwesterly direction across this area.

This area is designated "Limited Access". Only foot traffic and fire prevention activities are allowed. The limited access the public has to this Area allows them to view the unique aspect of early gold mining history found only in this area. Early tunnel claims and ditch systems from 1850 through to the Kennedy Mine's closure in 1942 can be viewed.

31. Powder House #3; (1 Contributing Building)
This red brick building was used to house the dynamite and other blasting materials used for the mining operation. It is located on a tramway grade above the Mine Office (Resource No. 13 in Area 1). The door is located on the eastern side of the building near the former tramway. The building measures 170 inches

along the south and north walls, and 174 inches along the west and east walls. The building has no windows and has a ridged roof covered by corrugated sheet metal. The ceiling is cemented and the floor is made of heavy wood planks which are now rotted.

32. Kennedy Mine Reservoir (1 Contributing Site)
In August, 1880 a small reservoir on top of the hill was built. Within the year the storage reservoir had been increased to about four times its former capacity. Over 1,500 feet of 15 inch pipe was laid from the reservoir to the mill that same year. In December, 1898 the Kennedy reservoir broke "where the water pipe entered the embankment" on the north side of the dam.

Area 5: North and South Shaft

Area 5 includes the original 480 foot long, south to north, mining claim filed January 4, 1860 by Andrew Kennedy, John Fullen, James Fleming, and James Berrigan. The original "Whim Shaft" was dug in the 1860s to 140 feet on the dip of the ledge (equivalent to 125 feet vertically). A level was excavated to the south. This shaft was located several yards west of today's south entry to the Kennedy Mine, near the current Highway 49/88.

Various mining claims were consolidated, extending 2,006 feet in length from the Pioneer Quartz Mine on the South in 1869. In 1870-1871 a shaft was sunk by hoist 100 feet south and 50 feet easterly (lower on the hill slope) from the original whim shaft. This shaft, named the Old Works Shaft and also called the Upper Shaft, was dug 125 feet vertically in rock neighboring the ledge. The ledge was intercepted and followed down on the dip for another 275 feet. The ledge consisted primarily of quartz rock in the fault zone. Some of this quartz contained a small amount of gold. The Old Works Shaft had three levels extending from it. The first level extended north and connected to the Whim Shaft. The other two levels extended south. The horizontal distance from south to north extended 230 linear feet. Mining operations in the Old Works Shaft was discontinued in 1873.

A "Lower" or "Main Shaft" was dug in 1871. It was located 125 feet southerly and 340 feet east of the Old Works Shaft or about 275 feet north of the Pioneer (Argonaut) boundary line. The Main Shaft was dug 380 feet vertically where it cut into the ledge. The shaft was down 800 feet (750 vertically) by June 1878. The ore body from this shaft was explored on different levels for about 350 feet horizontally south to north.

This shaft was eventually renamed the South Shaft and was worked down to 2,276 feet diagonally.

In early 1878 a shaft was dug to 200 feet in depth on caved ground over a prior shaft that was 100 feet deep. This shaft was the Smith and Gavin Shaft and was located 576 feet northwest of the Main Shaft. A level was run at 100 feet in depth extending south 300 feet and north 80 feet. The Smith and Gavin Shaft later became known as the North Shaft (Resource No. 34) and was worked down to 2,300 feet diagonally. An underground view of all these shafts can be seen in Figure 1.

Due to the diagonal dip, or slant, of the fissure, which contained the quartz rock with gold (ore body), both the South and North Shafts extend to the east from Area 5 into Area 1.

The mill operations at the time of the North and South Shaft operations consisted of twenty stamps, amalgamation plates, concentrators, and self-feeders, the mill superstructure, and various equipment and supplies including quicksilver and oil for lubrication. This mill, which no longer exists, was used by the North and South shafts and was situated near what is now Highway 49.

Area 5 has been identified as a primary cultural area because of housing that was located here. Most of the original buildings have been removed; however, the auto garage, Powder House #1, the North Shaft building with attached air-intake fan, and the walls of the Oil House near the former South Shaft still remain.

33. Auto garage (1 contributing building)
The superintendent's garage is a simple, stick-frame building near the current gate of the southeast entrance to the Kennedy Mine. It appears to have been built between 1912 and 1930 near the superintendent's house. In the 1930 Sanborn map, it is located on the east side of Highway 49 and is associated with the last phase of development of the Kennedy Mine after construction of the East Shaft. It is a rectangular building approximately 16' x 22' and made of plywood and corrugated metal. It has a moderately sloped hip roof, poured concrete foundation, composition shingle roof over plywood sheeting, plywood doors on the south façade and plywood siding on the north façade. There is an electric meter box on the exterior northwest corner of the building. It has an opening at both the front and back because the Superintendent's wife was an erratic driver and there was concern that she might drive forward instead of backing out of the

garage in reverse. The foundation of the Auto Garage includes a well that allowed for easy access to work on the underside of the vehicle.

34. North Shaft (1 Contributing Site)
A ventilator shaft and framework still exist at the North shaft, which is located very close to a flat area near highway 49 next to the entry road to the Kennedy Mine property. It was near here that Andrew Kennedy discovered the quartz outcropping.

35. North Shaft Powder House (1 Contributing Building)
This intact stone building, also referred to as Powder House #1, is located on the north side of the Kennedy Mine entry road and is currently held together by cables. Its walls are constructed of native rock cemented together with mud containing lime. It has a heavy metal door but no windows. The roof is slightly slanted with corrugated metal sheets. The wire cables currently fastened tightly around the building keep it from falling apart and into the Moore ditch in front of it (this ditch was recently cleared to carry off rain water from the hill in back of the church adjacent to the Kennedy Mine Foundation property). The dimensions of this building are 11'6" x 14' with walls 1'7" thick.

36. Moore Ditch (1 Non-Contributing Site)
The Moore ditch can be followed on aerial photos of the Jackson area. It starts at the present reservoir, runs in a southerly direction, crosses under State Highway 49 below the Argonaut property, runs along to the west of Jackson, crosses a hill with the use of a siphon, and ends in a pond just east of where Raley's now stands. It serviced the Moore gold mine and was shut down by the city of Jackson in August 1966.

37. Moore Ditch Bridge (1 Contributing Structure)
Hidden from view and covered with vines is a narrow metal structure that currently crosses the Moore Ditch.

38. North Shaft Air Ventilation Building (1 Contributing Building)
This building, located north of the South Shaft and East of Highway 49, was most likely constructed after the 1928 fire when the East Shaft Hoist was reconstructed since it is not depicted in earlier Sanborn maps. It was designed and used to provide air circulation through the North Shaft deep into the East Shaft and lateral stopes and tunnels. It was also used as an escape route. It measures 26'

x 12' and is constructed of a concrete and wood frame with metal corrugated siding and roofing. The building has a concrete extension to house a four-foot diameter metal ventilation fan. The stick-framed building is made of milled lumber on concrete piers. The corrugated metal siding and roofing are still intact. Part of the building has walls made of poured concrete 5 ¾" thick. A poured concrete slab was built on top of these walls. The blower and fan housing are made of welded steel. The concrete building makes an angled turn to the northwest into the slope of the hill. Inside the stick frame portion of the building is a steel shaft extending north beyond the common wall with the concrete building, concrete piers for mounting the motor or engine that powered the blower. Along the north wall of the building is a raised wooden box for housing oil, tools, or parts for the operation of the blower and engine. The building is in poor condition, but retains its integrity. Except for the removal of the motor and electrical equipment, the basic design and function of the building remains intact.

39. South Shaft Oil House (1 Contributing Building)
The South Shaft Oil House is near the southern border of the Kennedy Mine property near the boundary with the Argonaut Mine. This rock-walled building no longer has a roof, which would have slanted from the back to the front. It is located on a grassy hill.

Area 6: Kennedy Tailing Wheel Park

The wheels were completed in early 1914, although the completion date was scheduled for 1913, the delay dependent on the delivery of electric motors. Construction of Kennedy Tailing Wheels Park began in 1976 and completed March 14, 1977.

40. Kennedy Tailing Wheels (4 Contributing Structures)
These structures have been nominated for the National Register of Historic Places Inventory. The southernmost tailings wheel was excluded from the original nomination, however, is included here. The Kennedy Mine's Impoundment Dam (Resource No. 44) was located behind two small hills and about three quarters of a mile away from the mill; the Kennedy Tailing Wheels were built to lift the tailings up over the hills to the dam. The three-story tall wheels, anchored to a concrete foundation, led from the East Shaft across Jackson Gate Road and could move 500 tons daily by lifting the tailings forty four feet in redwood buckets and then emptying them into a flume which flowed to the base of the next wheel. The wood frame-corrugated steel structures that

originally enclosed each of the 4 tailing wheels were removed in 1942 which exposed the wheels to the elements. The first efforts to protect the wheels from additional deterioration occurred between 1955 and 1966. Wheels 1 and 4 have been restored to their original condition, however, Wheels 2 and 3 have collapsed and remain on the ground in ruins. The diameter of each wheel is 58 feet. The distance between Wheels 1 and 2 is 80 feet with the connecting flume given a fall of ½ inch to 1 foot. A distance of 800 feet separated Wheels 2 and 3. The connecting flumes were also given a fall of ½ inch to 1 foot. Power was furnished to each wheel by a laminated, wooden pulley (40 feet diameter) which was a structural part of the wheels. Pulleys were equipped with ¾ inch canvas belts that were 20 inches wide and 125 feet long. Each canvas belt weighed about 800 lbs. Stationary redwood buckets prevented excessive debris spillage.

41. Flumes (1 Contributing Structure)
The existing flume between Wheels 1 and 2 has been rebuilt. The original flume concrete piers remain between Wheel 2 and Jackson Gate road. Additional flume concrete piers also exist between Wheel 3 and the Kennedy Tailing Wheel picnic area.

42. Kennedy Wheel Park Restroom and Storage Building (1 Non-Contributing Structure)
The overall dimensions of this single-story building are 30' x 30'. The exterior walls are stone and large, irregularly-shaped blocks. The pyramidal roof is covered with concrete shingles. A slab floor is supported by 8" x 8" wood posts. The windows consist of ventilator-type openings.

43. Kennedy Wheel Kiosk (1 Non-Contributing Building)
The dimensions of the information display kiosk are 16' x 16' and the display section of the building is 6' x 6'. The exterior walls are stone and large, irregularly-shaped blocks. The pyramidal roof is covered with concrete shingles. Eaves extend 5' in all directions without any vertical support. The display panels are glass and the foundation is concrete slab.

Area 7: Oro de Amador

The predominant vegetation of Area 7 is Blue Oak and Gray Pine. The land contains the tailings impoundment dam on the eastern side of the property where the mine

tailings from the Kennedy Mine were transported through the series of tailing wheels and the western area that is flattened out where the fine waste materials from the final ore (Cyanide) processing were deposited and covered.

44. Impoundment Dam (1 Contributing Structure)
Construction began in 1914 to collect the disposed tailings, this multi-arched; reinforced concrete dam was originally 445 feet long and 44 feet high. However, to increase its capacity, the height was increased to approximately 60 feet and the length was increased to 600 feet. It is located about 2,100 feet southeast of Tailing Wheel 4 and was constructed across an on-site valley to create an impoundment for the tailings in association with the Tailing Wheels (Resource No. 40, Area 6). It is constructed entirely of reinforced, poured concrete and is architecturally an unusual design. After construction, the impoundment area, located in a basin called Indian Gulch, was reported to provide approximately 7.8 acres of storage. During peak operations, the wheels carried up to 854 tons per day of tailings to the impoundment dam. It is estimated that a total of 1.5 million tons of tailings from the Kennedy Mine were deposited in this area. The holding dams are now large depressions covered with vegetation. The dam retains water during winter rains. There are still some tailings remaining in the northern and eastern sections.

Integrity

The Kennedy Mine property retains a high degree of integrity. Much of it has been unaltered since the World War II period. It retains the East Shaft head frame and most of the buildings. It displays evolution in technology and equipment over time. Despite its proximity to a populated area, there has not been a high degree of vandalism. Site clean-up and restoration projects have (and will continue to be) focused on retaining the integrity of this mine. The Kennedy Mine Foundation property comprises over 50 miles of underground tunnels, most of which are currently flooded. The primary Buildings and Structures of significance include the East Shaft riveted steel Head Frame, two of the original four Tailing Wheels, and the Mine Office and the impoundment dam. In addition, hundreds of features including buildings, structures, and artifacts dating from the late 1850s can be found in the buildings and the grounds.

Location
The location of the Kennedy Mine and associated buildings, structures, and sites remain in their original location. Some historic buildings, such as the Clinton

Church, have been moved to the Kennedy Mine property. The hill where the Kennedy Mine Office sits overlooking the city of Jackson has changed in the return of the oak woodlands, and the recent appearance of the noxious weed, star thistle.

Design
Design of the Tailing Wheels, based on a wheel system used in Montana, was created by James Spears, a mechanical engineer. Construction was supervised by Elbridge Post and William Daughtery. The Head Frame is a superb structure and is a source of awe to anyone who sees it. It was designed by Henry D. Dewell to be wide enough to be built around the original head frame, and strong enough to hold the live loads it would occasionally encounter.

Setting
Site cleanup, stabilization, and restoration projects have (and will be) focused on retaining the character of the site. When combined, these factors have left a mine site that is uniquely preserved both inside and out. The mine's integrity is easily appreciated by anyone who visits the site.

Materials
The most common siding is the corrugated metal, although there are a few buildings comprised of poured concrete, rock walls, or brick. Wood frames and steel frames (Boiler Room) are also around.

Workmanship
The mining structures show a high degree of quality workmanship and advanced engineering. With the exception of the Mine Office, most of the buildings were constructed simply of materials that would withstand the rigors of the weather and normal use by miners.

Feeling
Because so many of the buildings and structures are still intact and the surrounding country side still undeveloped, visitors get a very real and immediate sense of the hard rock mining existence. The local town of Jackson, which was built and developed because of the gold rush, is in the valley immediately below the Kennedy Mine and from the Mine Office there is a view that is likely very similar to what it was 100 years ago.

Summary Paragraph

The Kennedy Mine is eligible for listing in the National Register of Historic Places under Criteria A and C at the state level of significance. The district retains an exceptional degree of physical integrity. It is significant as an excellent example of quartz mining operations during California's signature mining era, operating almost continuously from the gold rush until World War II. The property bears testament to the quartz mining on the Mother Lode, and the importance of gold mining to the surrounding communities and history of California. But most importantly, the Kennedy gold mine helped shape the character of cities of Jackson and Martell, both culturally and economically.

The Kennedy gold mine was one of the largest mines in California and is unique in that it produced the most gold of any mine not only along the 20-mile-long belt referred to in "Gold Districts of California," but along the entire 120 mile-long length of the Mother Lode. The amount of gold produced by the Kennedy Mine is approximately $28,600,000. Most of that production occurred while the price of a pure ounce of gold was $20.67 an ounce. Its total production over the years resulted in dividends on an original capitalization of $100,000, making it one of the blue chip investments of the day. Sons and daughters of Jackson miners have often related the story that Jackson and Amador County were economically unaffected by the depression in the late 1920s and early 30s because the gold mines in the area kept operating continuously throughout that time period.

The Kennedy Mine is also unique in that, at 5,912 vertical feet, it was also the deepest mine in North America while in operation.

Kennedy Mine Background

"The history of gold in California is well documented in published books, journals, and photographs. Prior to 1848, gold's presence in California was known to its few settlers and natives, but the extent and quantity of gold in the state was unknown. From James Marshall's 1848 discovery of gold in Coloma until 1954, California yielded over 103,000,000 fine ounces of gold (Clark 1957:215). Gold remained California's most valuable mineral commodity until 1942...(Clark 1957:215). High mining costs and difficult access to deposits also contributed to gold's decline as a commodity (Clark 1957:215).

Gold can be found throughout the state, but is heavily concentrated in a few areas. The

primary area of concentration, the western slope of the Sierra Nevada, is home to the famous Mother Lode (Clark 1957:215). The most productive area of the Mother Lode, a twelve mile stretch between the towns of Plymouth and Jackson in Amador County, encompasses many large deposits including the Kennedy...mine (Clark 1957:215). The Mother Lode contains two main types of gold. The first, gold-quartz veins, are generally found in the Mother Lode's northern region while the second, bodies of mineralized country rock, are found to the south of the region (Knopf 1929:23 cited in Clark:1957:215). Gold Mining methods varied, but there are three basic types of extraction."1

"The history of the Kennedy Mine is traced to January 4, 1860 when Andrew Kennedy, John Fullen, James Fleming, and James Berringan filed four mining claims, each 120 feet long along present-day Highway 49/88. Andrew Kennedy had explored the area up to the Oneida Mine boundary line to the North. He is also credited with digging a prospecting shaft to a depth of 100 feet, using a bucket attached to a winch and a handle. This shaft was sunk approximately 400 feet south of the Oneida Mine at the time the mining claims were filed.

Kennedy sold his one quarter interest in the undeveloped mining claim within a year, on October 4, 1861, for $5,000.00. The four partners operated sporadically along one whim shaft until 1869. The mine was sold to eleven Jackson businessman for $1.00 on November 22, 1869. Nine of these men formed a corporation named the Kennedy Mining Company. Peter Reichling, one of the nine corporate members, operated the mine as superintendent. He operated the min periodically for a total of forty-one months between 1870 and 1878. At least three new shafts, which yielded gold, were sunk during this time period. One of these would later be referred to as the South Shaft.

Kennedy Mine was sold in 1886 to fifteen San Francisco Bay Area investors after prominent mining engineer, J.J. Thomas, had performed extensive ground testing. The lead investor was Francis Reichling, the older brother of Peter. The new investors incorporated under the name of the Kennedy Mining and Milling Company.

The Kennedy Mining and Milling Company succeeded in operating profitably, whereas the prior ownerships were greatly challenged in this area. Some of the major factors that brought about this change in profitability were (1) a larger amount of investment

---

1 California Department of Transportation, *Draft Historical Context and Archaeological Research Design for Mining Properties in California* (Sacramento: Department of Transportation, 2008), 2.29-2.30.

capital by the fifteen investors to purchase up-to-date mining machinery; (2) the implementation of effective mining engineering concepts by J.J. Thomas; (3) the availability of sufficient water from the Sierra to effectively use water power to run the mining machinery; and (4) the discovery of rock at greater depth with a higher quantify of gold.2

Although there is no clear agreement on the actual dollar amount that resulted from the several claims belonging to the Kennedy Mine, there is no disagreement that the Kennedy Mine was one of the most profitable gold producers of California's Mother Lode. In his report of May 1, 1879 to the board of directors of the Kennedy Mining Company, Walter A. Skidmore, M.E. states "During the 41 months of operation from 1871 to 1878, the Mine produced $223,225.50 in gold. Total production to 1878 is $300,000.00. Yield of ore was $10.00 to $20.00 per ton." In the years 1872 and 1873, the Old Whim Shaft (the Kennedy's first recorded shaft) and the Old Hoisting Works (which is connected with the Southerly or Pioneer Chimney) yielded $183,447.40. After being taken over by the Kennedy Mining and Milling Company in 1886, the South Shaft was sunk 200 feet deeper, hitting the vein that would make it one of the richest on the Mother Lode. From 1886 through 1890, the South Shaft produced up to $150 a ton of quartz ore. Later, $5 to $10 a ton was typical along the Mother Lode. During 1890 the Kennedy Mining and Milling Company paid three dividends amounting to $15,000. This was on a total initial investment of $100,000. The accumulated wealth is shown in Table 2 located at the end of Section 8. Total production of the Kennedy mine with the price of gold calculated to fit various price changes has been reported to be approximately $34,280,000, however, $28,600,000 may be a more accurate figure (rounded) due to the fluctuating price of gold. By the time the Kennedy Mine closed in 1942, it was the most productive gold mine on California's Mother Lode and had paid its investor's $5,812,000 in dividends.

On September 7, 1928 a destructive fire swept through the Kennedy Mine's East Shaft area. Believed to have originated in the timber yard located just west of the Head Frame, the fire rapidly consumed most of the buildings located on the site. Destroyed were the sawmill, foreman's office, wooden gallows head frame, warehouse, hoist, engine room, machine shop, carpenter shop, store room, barn, and shed. The buildings and head frame were quickly replaced. According to the Amador Dispatch of February 18, 1929, the procedure to dewater the mine commenced with "the grinding of the big

2 "The Kennedy Mine", Kennedy Mine Foundation, n.d., available online at http://www.kennedygoldmine.com/files/history2s.pdf, accessed May 20, 2008.

hoist machines at the Kennedy." The East Shaft was once again in operation by March, 1929. It was reported in September of that year that over 200 men were employed and that the 60 stamp mill was operating on good ore. The shaft was sunk another 250 feet from the 4,650 level. Eventually the East Shaft would reach 5,912 vertical feet, with over 50 miles of underground workings.

Kennedy Mining and Milling Company operated the Kennedy Mine until the U.S. Government (Order L-208) closed all major gold mines in 1942 due to the war effort. The Kennedy Mine was the deepest gold mine in North America when it closed in 1942 at 5,912 vertical feet. It had well over fifty miles of underground excavations. Order L-208 was lifted in 1945, which allowed the gold mines to resume operations. Management at the Kennedy Mine chose not to reopen the mine because of the extensive water that accumulated in its numerous deep underground excavations after remaining idle for three years. Gold production of the Kennedy by that time had totaled more than $28,000,000.

The property laid idle until Sybil Arata, a ceramics teacher in San Francisco, bought the 152-acre Kennedy Mine at a liquidation sale in 1961. She lived in a house on the mine grounds for many years. When she died in 1994 her will stipulated that the Kennedy Mine property was to remain as open space for wildlife habitat and that the mine was to be maintained for its historical value."3

Criterion A: Labor: The Mining Accident at the Argonaut

California mines, including the Kennedy and Argonaut mines, were at the forefront of the national controversies between labor and management. "The original character of early California mining was of a solitary nature. Lone placer miners or small companies searched California's rugged terrain for precious metals without any official mining laws or regulations...As very little labor was required, these miners had little need for the complex mining techniques that would soon follow, or the organized labor that would be needed to employ them. With the declining availability of surface gold, miners began to implement more labor intensive extraction methods, including hydraulicking, damming and lode mining. These types of operations required large investments of machinery and skilled labor...(Paul 1947:314-315) ...Underground mining and technologies used to support it required skill and experience, dividing the labor force into distinct

3 "The Kennedy Mine", Kennedy Mine Foundation, n.d., available online at http://www.kennedygoldmine.com/files/history2s.pdf, accessed May 20, 2008.

categories...the industrial phase of California mining ushered in an era of organized labor and big business (Paul 1947:310). The complexity of the new relationship between mine owners and the workers was precarious. The new class of miners stood together to protect their rights and wages, spurring an outbreak of disputes and labor strikes by 1869 (Paul 1947:324)."4

In 1871 miners and owners in Amador County "...squared off in what became known as the "Amador War at Sutter Creek. The Amador County Laborers' Association, formed under the precept of protecting white labor at the exclusion of all others, opposed to the wages and hiring practices of the Amador Mining Company, one of the area's richest mines. This dispute, lasting from May to July, marked the first time in western mining's history that the state militia was called upon to end such a strike...(Lingenfelter 1974:90-118).5 However, by the time the troops arrived, the mines had reopened with new employees. The strike of 1871 did not directly involve the Kennedy Mine. The Mine had been purchased by the Kennedy Mining Company from Andrew Kennedy's associates in November, 1869 and was being equipped with new machinery during most of 1870. However, union activity in the area did delay the Mine's reopening. The Kennedy, unlike the established Sutter Creek mines, gradually opened in the winter of 1870, and seemed to encounter little interference from union efforts. The mill was not put into operation until April 25, 1871.

"Besides health and fair labor practices, one of the most consequential issues facing Western miners during both the nineteenth and twentieth centuries was wages. In general between 1860 and 1930, little change occurred in the average wage paid miners, though miners often received a way proportionally higher than others in the workforce. By the 1890s the sentiment of mining unionism gripped the western states. During the twentieth century, the United Mine Workers of America (UMWA) played an important role in all aspects of wages and mine safety. The UMWA was founded in Columbus, Ohio in 1890 by the merger of the Knights of Labor Trade Assembly No. 135 and the National Progressive Union of Miners and Mine Laborers. The constitution adopted by the delegates to the first UMWA convention barred discrimination based on race, religion or national origin...The impact of the UMWA was much less within the West where unions were more fragmented among the various mining districts. Many of the achievements of the UMWA, such as the eight-hour day, collective bargaining rights, health and retirement benefits, and health and safety protections, were also

4 Ibid, 2.94.
5 Ibid, 2.95.

achieved, albeit slowly, by Western miners."6

The labor dispute involving the Kennedy and Argonaut Mines revolved around the stratification between wages and class "and serves as a model for interpreting other Mother Lode quartz gold mines."7 "Between 1860 and 1900, the industrialization and capitalization of Jackson's hardrock mines changed the relationship of labor and class within the mines themselves. In Amador County, prior to 1880, unionization was viewed as deleterious to corporate profit and labor relations in the mines. Thus, mine officials balked at the idea of unionizing (Supernowicz et al. 2006).

Union organizers had a hard time recruiting in these communities until 1903, when the WFM sent organizers and "Big Bill" Haywood to hold rallies in Amador County. Haywood was a fiery and motivational speaker. Miners at the Kennedy and Argonaut listened eagerly to Haywood's message of a shorter 8-hour day, no discrimination, union recognition, and workers compensation. The miners formed a local branch of the WFM union and notified the community that non-union workers would be treated as "scabs." In response, the mine owners formed the California Mine Operator's Association and vowed not to recognize the union. They fired 50 men who were known union members. This action caused a backlash, and aroused sympathy for the miners in the community. On Sunday, April 12, 1903, the Miner's Union ordered a strike of the Gwin, Zeila, Kennedy, Oneida, Central and South Eureka (the Argonaut was closed at this time due to its lawsuit with the Kennedy). More than 1,000 miners walked off the job, shutting down all the mines in Amador and some in Calaveras County.

A small percentage of the men employed in the mines had joined the union up to the time of the strike. However, the strike effective Monday morning, April 13 closed the mines because many of the non-union employees walked off their jobs in sympathy with the union members. Work was suspended on Monday in the Kennedy, as well as the two Eurekas and the Oneida, except that the mills were kept running on rock in the bins, and the engineers kept the water skips and pumps in operation.

The Miner's Union basically made 4 demands:

1. 8-hour shifts instead of 10 hours at the same pay scale
2. No discrimination against union miners
3. Reinstatement of the men discharged for affiliation with the union

---

6 Ibid, 2.93, 2.96-2.97.
7 Ibid, 2.97.

4. Recognition of the union by the mine operators.

On Wednesday, April 22 the Kennedy mine operators issued the following statement: "Employees may return to work, union and non-union men, and no discrimination against either. Where the time of the underground shift is now ten working hours, the same shall be reduced to nine working hours, with the same rate of wages. The union is not to be recognized. We decline to concede eight working hours."

On Friday, April 24 a settlement was reached and the strike was declared off. The settlement covered 4 areas:

1. The Workday was to be shortened from 10 to 9 hours. Underground miners would be able to consider the time it takes to get down to their work stations from the top of the shaft as part of the 9 hours, but would be on their own time from the end of the shift to the time required to get out of the shaft, and for the half hour lunch time
2. Reinstatement was to be left to the discretion of Kennedy's management
3. No discrimination against union Miners
4. The Miner's Union would not be recognized.

No physical violence was reported as a result of the 1903 strike, although labor union activity increased. In December 1903, strikes were declared against the South Eureka and the Royal Consolidated Mines at Hobson, about 5 miles northeast of Copperopolis in Calaveras County. Mining comprised two thirds of the total industry in Amador County in 1903.

On Sunday morning, May 9, 1909 the 8-hour law covering underground miners was passed by the California state legislatures and became effective. A wide divergence of interpretation existed between the mine owners and the mine employees. Some thought that eight hours of work began when the miner appeared for work at the collar of the shaft until he returned back at the collar after the work shift, and included lunch break. Kennedy Mine Miners did not work on Sundays. Kennedy's management interpreted the eight-hour law to mean eight hours of actual work "at the point of operation." The Miner's Union focused on the Kennedy because it was the mine with the most employees. On Monday morning, May 10, 1909, 90-100 underground miners reported for work. On Wednesday morning 30-40 reported in sick. The men boarding at the Kennedy Mine boarding house complex "who refused to work, were given their checks for their respective amounts, and required to quit the grounds." On Thursday, May 13, 130 miners reported for work. The Miner's Union declared the strike on and off within

one week.

On October 1,1934, operations ceased at the Kennedy and Argonaut mines, as well as at the Central Eureka at Sutter Creek and the Original Amador at Amador City on the following morning. These closures followed a vote on Sunday, September 30,1934 by members of the Mother Lode Local No. 48 of the International Union of Mine, Mill and Smelter Workers to strike these mines on Thursday, October 4 if management did not comply with 5 union demands. The two major demands were "Recognition of the Union for purposes of collective bargaining," and accepting "A sliding scale of wages using $4.50 as a basic wage based on a price of gold of $20.67 per fine ounce."

The Union contended that the increase of the price of an ounce of gold from its historical set price of $20.67 per ounce to $35 in January, 1934 was made for the purpose of providing increased pay for mine workers rather than benefit the mine operators. However, E.C. Hutchinson, president of the Kennedy Mining and Milling Company stated that "The rise in gold price did not mean an extra profit in gold but simply meant that the mines can operate on low grade ore, something that they could not handle at the former price. That means that the mines will be in operation longer and employing more men." Mr. Hutchinson also questioned whether the union demands represented the wishes of a majority of mine employees. W. P. Henry, president of the Central Eureka Company stated that the Central Eureka had 2 wage increases the prior year and was currently paying the highest wages in its history listed at "$4.00 a day for muckers and $4.50 for miners, all that the cost of operation will permit."

The Kennedy Mine was the last of the 4 mines picketed under strike orders by the Union to reopen without union contract on March 11, 1935 with an initial crew of 50 men. The Amador County mines continued to operate without a union contract.

Criterion A: Law: Legal Interpretation of "Extra Lateral Rights"

By 1894, the Kennedy Mine operation had proceeded diagonally underground along the eastward dip of the ore body from its original north south surface claim. Crosscuts were made approximately every 100 feet in depth from the top of the shaft, and drifts were excavated to the south and north from these crosscuts. Such 100-feet interval excavations were referred to as "levels." Land was purchased toward the east and south as mining reached further underground in that direction to the 1,750-foot level along the fissure containing the gold-laden quartz rock.

The Pioneer Gold and Silver Mining Company held a mining claim which adjoined the Kennedy Mine surface claim on the south. Until 1891 mining at the Pioneer was limited to a 70-foot deep shaft in disrepair. This shaft had penetrated a lava cap before encountering a ridge of quartz. A tunnel, 520 feet in length, had been started in the Volunteer mining claim located to the east and below the Pioneer mill site. It was dug into the hill to the west where it encountered quartz rock. The Amador Ledger newspaper reported on January 3, 1891 that prospecting operations were being conducted at the Pioneer claim. The same newspaper reported on February 14, 1891 that ore from the Pioneer mine was being crushed at the Zeile mill to determine the amount of gold content. W. F. Detert was then the owner of the Zeile mine. In February, 1893, W.F. Detert, J.B. Francis, H. Eudey, and B.F. Taylor purchased the Pioneer mining claim and renamed it the "Amador Mining Company."

On August 11, 1894, the Argonaut Mining Company filed suit against the Kennedy Mining and Milling Company to recover $325,000 due to trespassing. The Kennedy had been mining from the 1,450 to 1,750 level (primarily on the 1,650 level) in property it had purchased from Mr. J.F. Da Silva, over 900 surface feet east of the original Argonaut mining claim. However, this mining activity occurred east of the Argonaut claim, and the Argonaut Mining Company contended that the ore removed by the Kennedy Mining and Milling Company belonged to it on the belief that such ore actually extended in a continuous formation all the way down diagonally from its (top) apex near the surface of its mining claim, and according to the federal mining laws of 1866 and 1872, it thus has ownership rights from the apex of the ore deposit, within its end lines, all the way to the bottom of such deposits, even if the rock formation extended into land owned by another party. In this case, the gold ore mined by the Kennedy, but claimed by the Argonaut, was actually recovered within the boundary lines of land which the Kennedy owned.

The Argonaut Mining Company filed a second lawsuit against the Kennedy Mining and Milling Company on August 5, 1897 to recover another $125,000 damages for trespassing alleged to have been committed since commencement of the first action, and to obtain a permanent injunction against the Kennedy Mining and Milling Company. The trial convened on September 15, 1898 in San Andreas before Superior Judge Nicol. Mr. Detert commissioned several nationally acclaimed geologists to testify on behalf of the Argonaut. While it could not be proved that the ore deposit extended in a continuous formation from the top of the Argonaut mining claim to the Kennedy property; nevertheless, it was convincingly argued that the fissure where the ore (primarily quartz rock containing a small amount of gold) is located extends in a

continuous pattern from the apex down, commonly referred to as a vein. In the September 1898 pretrial negotiations the Kennedy legal team agreed to this vein concept which made the Kennedy Mining and Milling Company liable under the mining laws of 1866 and 1872. The two mines agreed to a gross value of ore removed by the Kennedy at $62,218.45, less the cost of milling and mining of $6,119.40.

Despite the agreement on the vein apex made during the pretrial negotiations, the lawsuit proceeded before Judge Nicol at the request of the Kennedy Mining and Milling Company on its contention that the mining law of 1872 specified ore deposits (a vein) could be followed from its apex in an established mining claim to its bottom within parallel end lines. The Kennedy argued that the Argonaut Mining Company had no extra lateral rights and therefore could not follow the vein beyond its original mining claim end line between it and the Kennedy on the north side because its end lines were not parallel, but were divergent (they flared out rather than being straight true east and west). This was an important observation because had the Argonaut's north end line goes straight east rather than flaring to the north, the Kennedy mining activity at the 1,650-foot level would not have been within the path of the descending ore body from its apex in the Argonaut mining claim.

Judge Nicol made a decision that may have seemed arbitrary to the Kennedy's legal team. He noted that the Act of 1872 became law on May 10,1872 while the patent for the mining rights of the Pioneer Gold and Silver Mining Company at the Pioneer Quartz Mine was not issued till August 12,1872. However, he also noted that Argonaut's predecessor had applied for, and had taken all the necessary steps to obtain a mining patent, prior to the passage of the Act of Congress of May 10, 1872. Therefore, according to Judge Nicol's opinion, the Argonaut's rights accrued under the Act of Congress of July 26, 1866 which makes no mention of parallel end lines. On that basis the Argonaut, having established the apex of the vein in its mining claim, was within its legal right to follow the vein underground beyond its hypothetical parallel end lines and extract the ore even though the ore was in land owned by the Kennedy Mining and Milling Company and situated northeast of Argonaut's original mining claim.

The Kennedy appealed Judge Nicol's decision of March, 1899 to the California State Supreme Court, which affirmed the judge's decision in December, 1900. The Kennedy then appealed the case to the United States Supreme Court in May 1902 and again in December 1902. After extensive deliberations the U.S. Supreme Court also ruled in favor of the Argonaut Mining Company on March 9, 1903. The Kennedy obligation, with interest, increased to over $85,000. This ended one of the lengthiest and most bitterly

fought litigations in U.S. mining history regarding extra lateral rights due to the concept of a miner's right to follow an ore vein from the apex, which is established to exist within his or her mining claim. It also provided an opportunity for the highest court in the Country to interpret the Mining Acts of Congress of 1866 and 1872 relating to mining claim end lines. The litigation between the Kennedy and Argonaut mines, and the subsequent decision, was the landmark decision that still today defines Extralateral Rights and is included in the Lindley American Law Relating to Mines and Mineral Lands and Costegan on Mining Law.

Criterion C: Engineering: Evolution of Mining Technology

Between the years 1848 and 1942, mining technology advanced at an unprecedented rate. Many of the technological advancements came as a result of trial and error testing in California's Mother Lode and elsewhere in California mining. The Kennedy reflects the many facets of the revolution in mining technology over the approximately 90 year history of the site.

From the discovery of gold in the foothills through the early 1850's, gold was mainly procured from the placers in and around streams and rivers. Mining this gold was known as placer mining. During these early days, hand tools were used in a system called ground sluicing. The miners would dig into the bed of a stream or the side of a hill above a stream and remove the topsoil and rock to reach the bedrock where gold was found. The displaced stones were stacked to create narrow passages for wooden sluice boxes. As water flowed through the sluice, the miners would shovel the soil and rock into the sluice and the more dense (gold- and silver- bearing) material would sink to the bottom and the less dense material would be discarded as waste. Evidence of ground sluicing can be found along Humbug Hill (Area 3).

This source of gold that could be retrieved by placer mining was quickly depleted. It was then no longer possible for a nomadic miner with a pick and a pan to readily collect gold in streams or on the surface. On March 7, 1853, E. E. Matteson, who was working on American Hill north of Nevada City, conceived the idea of directing a stream of water under high pressure in a hose with a nozzle called a "monitor. The water was targeted on hillsides that consisted of gold-bearing gravel. This method of mining was called hydraulic mining and evidence of this type of mining can be found on Humbug Hill.

The most significant developments in mining technology, however, happened late in the nineteenth century and focused on underground mining, also referred to as hard rock

mining or lode mining. The center of such mining occurred along the foothills of the western slopes of the Sierra Nevada mountains from Mariposa in the south to Johnsville in the north. Gold was found primarily in quartz ledges that were the true source of gold that had washed down to the streams and was first found in the placer deposits. The prospect of great wealth was the incentive to bring in mining experts and equipment to improve quartz mining efficiency. Californios from Mexico and Cornish miners from England instituted better methods of exploration. Geologists were able to trace gold-bearing ledges displaced by movement in the faults. With the introduction of dynamite, air drills, and underground timbering support technology, shafts could be sunk deeper to follow the quartz formations commonly known as "veins."

The Kennedy Mine was a late-comer to hard rock mining when mining activity began in the original 480-foot mining claim in 1860. Mining operations were modest during the first 9 years to 1869 and produced only a 140-foot deep shaft with a whim apparatus. A stamp mill with 20 stamps was also constructed on the premises in 1867. A second shaft was begun in 1870-71 with the use of a steam-powered hoist. The steam was created in a wood-burning boiler. A third shaft was started in 1871, also with the use of a steam-powered boiler, and had reached 800 feet from the collar by 1878. A visiting mining engineer, Walter A. Skidmore M.E., summarized his description of this shaft on May 1, 1879 with the following statement: "It is intended to last for all time and is the best constructed and most substantial shaft in California." This third shaft was known as the "Main" and subsequently the "South" Shaft. These shafts, as well as a fourth (the "North") shaft begun in 1886, were dug vertically into the ground until they encountered the quartz rock with gold located diagonally in an eastern slanting fissure. The shafts would then follow the contour of the fissure. All four shafts were begun in the mining claim patented in 1872 (Area 5). Water for the boilers and stamp mill was brought to the mining operations via open ditches from creeks to the north and stored in reservoirs on what is known as "Humbug Hill" or "Kennedy Hill" (in Area 4) before being released for use in the mining operation. The construction of the Amador Canal was completed in 1877. It brought water in a 45-mile long ditch from the Sierra Nevada mountains to 5 reservoirs and distributed the water to the mines by way of another 45 miles of branch ditches. Although the Kennedy Mine did not benefit from this available water until it was reopened in 1886, Mr. Skidmore estimated that mines could profitably mine quartz paying $7.00 to $10.00 per ton with water power. Yield at the Kennedy between 1871 and 1878 was between $10 and $20 per ton. Mr. Skidmore also estimated that mining and milling costs would be reduced from $6 per ton to $4 with waterpower. Water wheels were utilized when the Kennedy Mine was reopened in 1886. However, steam-powered boilers were maintained on a standby basis at all time.

The event that gave the Kennedy Mine its identity occurred in November, 1898. A fifth shaft was begun about 1,950 feet east from the North Shaft. It was dug vertically to intercept the eastern sloping fissure containing the ore. The fissure was intercepted at 3,680 feet from the surface. This shaft is known as the East Shaft and it terminates at 4,764 feet. At the 4,650-foot level a drift extends in an easterly direction for about 100 feet where a winze was installed, which enabled mining to proceed at about 65 degrees down to 5,912 vertical feet, making the Kennedy the deepest mine in North America when the U.S. Government closed the gold mines in 1942.

The primary source of power for mining and milling at the East Shaft was steam-powered boilers which were converted from burning wood to oil in the first few years of the 20th century. The Kennedy converted its machinery to electrical power in December 1926. Milling at the Mine followed standard procedures in that era. A crusher was located in the head frame, which broke the ore down to pieces about 2 inches in diameter. The broken rock was transferred on a trestle to hoppers in the stamp mill. From there the ore was conveyed to 100 stamps for crushing. The crushed particles were then washed over mercury-coated plates to attract the free gold. However, gold bonded to other metals as well, such as iron. These were not attracted to the mercury and required special processing to free the gold. In his report of May 1, 1879, Mr. Skidmore states that such particles comprised about 2% of the ore and were worth the effort when concentrated $80 to $100 per ton. Various methods of concentrating these particles were used over the lifetime of the Mine. A chlorination plant was built and operated in Area 1 from 1891 to 1913 to free the gold by a roasting method. Subsequently, these separated particles were sold to area smelters to free the gold through a heat process. The floatation system was brought on line in 1934 to improve the method of separation prior to sending such particles to the smelters.

Deep vertical shafts were more successful than shafts dug on an incline or slant because they could be kept straight and the hoisting time was cut down. Modern, three-compartment shafts, such as was the East Shaft, gave the mine economies of scale, increasing production by about a factor of five.

The costly and inefficient chlorination method of removing gold from metal-sulfides was abandoned when transportation improved to a point where it became economical to ship the ore to nearby smelters. Once it had been developed, the cyanide process was used to reprocess tailings, removing much of the remaining gold that older techniques could not. Although the cyanide process was not as efficient in compared to the chlorination method, it was much cheaper. Shutting down about 1915, the Kennedy Mine chlorinator was the last to close in the state of California.

Mining in California was done by hydraulic, lode, dredging, and placer mining methods. All of these were used to some extent on the property of the Kennedy Mine Historic District and affected local waterways in some degree when the tailings were dumped into creeks and streams. These tailings caused great damage to farmlands downstream by creating sand and silt. In 1884 a major lawsuit between Edwards Woodruff vs. North Bloomfield Gravel Mining Co. was decided by Federal Judge Lorenzo Sawyer and District Judge Matthew Deady against the hydraulic mining

company. The judges ordered an immediate halt to all dumping of tailings into rivers and streambeds, effectively shutting down all hydraulic mining in California. To stop lawsuits from aggrieved farmers who derived their water from creeks downhill from the Mother Lode, all Amador County quartz mines agreed to keep their tailings away from waterways, and thus improving the farmer's fields. The Federal Caminetti Act, which passed in 1893, allowed hydraulic mining to reopen only if the mines built impoundment dams to hold the tailings. The law also required the mines to be under supervision. The California Debris Commission was created by Congress that same year to oversee mining and mitigate the damage caused. After 1912 the law was applied to all mining. Mines were either forced to come up with solutions to the tailings problem or go out of business due to lawsuits. These changes were very costly for the mines. The Zeile Mine in South Jackson closed. The Argonaut Mine moved its entire mill to the top of a hill above Jackson to run its tailings down the back side away from the nearby fork of Jackson Creek. The Kennedy Mine came up with a unique solution never before used in California Mining: The Kennedy Tailing Wheels (Resource No. 53).

The Kennedy Mine's East Shaft Stamp Mill was separated from the nearest dam site for entrapping the tailings by two low hills and a distance of about one-half mile. The Kennedy Mine owners learned of a wheel system being used in Montana for the purpose of lifting similar material to a higher level. Mr. James Spears, a mechanical engineer, was sent to Montana to study this system. After being authorized to design an appropriate system for the Kennedy Mine, he established elevations over the obstructing hills to determine the diameter of a wheel which would be capable of lifting tailings to the required level for clearance of both hilltops. Once these obstacles were surmounted, a simple gravity flume would be able to carry the material to the storage dam. Mr. Spear's findings indicated that a diameter of 58 feet would be required. Given this dimension, each wheel would raise the tailing residue 44 feet, taken from the center of the wheel.

A total of four wheels were built between 1912 and 1914, each lifting the tailing slurry a similar height to a connecting flume. Each connecting flume was built with a slight decline or fall which carried the slurry by gravity to the bottom of the next wheel. Each wheel had 16 spokes and 208 wooden buckets which were bolted to the inside rims. A 40-foot laminated wood pulley on each wheel was driven by a canvas belt powered by a 25-horse-power motor. The wheels turned at about 14 revolutions per minute and kept up with the tailings output from the 100-stamp mill which produced about 850 tons of material every 24 hours. The wheels, connected by about 2,000 feet of flumes, lifted the tailings from the mill elevation, approximately 100 feet in height over the two hills to

the Impoundment Dam (Resource No. 57). This system ran very successfully until the closing of the mine and mill in 1942 to comply with U.S. Government Order L-208.

In 1935 a 1,500-ton Cyanide Plant (Area 7) was erected south of the mine to re-treat stored tailings from the mill's Impoundment Dam (Resource No. 57) and was operated until 1939. Using cyanide to reprocess tailings removed much of the remaining gold that older techniques could not. The cyanide process, developed in 1887, was first used in the U.S. in 1893 but not adopted by most of the Mother Lode mines because of complications due to the composition of the ore, plus the stamp mills used at most mines did not stamp the tailings fine enough.

Summary Statement of Significance

The technological modifications and advances made over the last 150 years have taken this property from a mining claim with just a simple shaft to a mine that demonstrates what was state-of-the-art during its years of operation. The engineers of the Kennedy Mine had to reinvent methods that were commonly used at the time to go as deep as they did. Of significance is (1) the East Shaft, dug over the course of 44 years (1898 to 1942) and reaching a depth of 5,912 feet, the deepest in the world during its operation; (2) The second (and currently standing) East Shaft Head Frame, erected in 1928-1929, was built entirely with hot rivets without welding and is the largest head frame still standing today; (3) The four Tailing Wheels (two of which remain standing), built in response to the growing anger of the farmers and ranchers down-stream of the tributaries where the mining effluent was discarded; (4) The Impoundment Dam built to hold the tailings and prevent the toxins contained within them from reaching the rich farmland of California's central valley; and (5) After the devastating fire in the Argonaut Mine, the Kennedy created an unique modification to the fan. Located at the North Shaft (Resource No. 43), the fan could go both directions, so that it could either blow air in, or suck air out of the tunnels. This technology is now standard in all modern mines in the United States, but it was first developed and used at the Kennedy. The expense of these technological modifications was worthwhile due to the wealth produced in the Kennedy Mine. Other mines in Amador and the foothills did not go to such lengths in technological advancement.

The long and contentious relationship between the Kennedy and Argonaut Mines will tie their history together forever, as the tale of one cannot be told without the telling of the other. It started in 1894 when the Argonaut filed the first lawsuit claiming that the Kennedy was mining ore that rightfully belonged to the Argonaut. A second lawsuit was filed in 1897, again claiming encroachment. There were lawsuits over restitution for damages caused by fires in one mine destroying property or delaying work in the other mine. The lawsuits between the Kennedy and Argonaut went from local court to the California Supreme Court and finally to the nation's Supreme Court in 1900. However, after the fatal fire of 1922, a passageway was maintained so that each mine would provide escape from the other in case of emergency. In 1928 the Kennedy head frame burned to the ground leaving no other way for the crew to egress the mine. Due to the new spirit of cooperation between the two mines, the miners were able to return to the safety of the surface without incident by way of the Argonaut shaft.

In conclusion and reiteration, the importance of the Kennedy Mine is economic. The mining of gold at the Kennedy and other nearby mines supported the basic economy of Jackson, Sutter Creek, Martell, and other nearby communities. The economic impact also affected large cities such as Sacramento, San Francisco, and helped to build the state of California. The continuing presence of the mines, although they no longer produce gold, still has an impact on their surrounding community, both as a reminder of the past that provided the existing culture, but also as a continuing source of revenue as a draw to tourism which provides a major portion of the local economy.

Narrative Chronological History

1836: Andrew Kennedy arrives in U.S. from Ireland.

1849: The Gate is discovered by a boy who ran away from Sacramento in search of gold. It is located on the north fork of Jackson Creek, about one mile from Jackson. It was called "The Gate" because of the fissure in a reef of rock which crossed the creek, about twenty feet wide with nearly perpendicular walls on each side through which the creek flowed.

1850: As many as five hundred miners had settled around The Gate. Claims were fifteen feet square. This was the usual size of claims all over the country until the spring of 1851. When mined, it was not as rich as many other places in Amador County, but it was uniformly good, paying eight to sixteen dollars a day to the man. Diarrhea was common at this time. A man called "Grizzly" jumped a sick man's claim. A meeting of

the miners was called and it was decided that any man who was sick had no right to a claim. However, the decision was immediately reversed when the sick man's friend drew his revolver and threatened anyone who worked the claim. The largest piece of gold came out of this particular piece of ground. It weighed four ounces and was shaped like a bull's head. During the dry season dirt had to be carried in sacks to the spring near Kennedy Flat for washing. A ditch, still visible on the north side of the creek, was dug by the Johnston family, who came to Jackson from Pennsylvania. The ditch was one-to-two miles in length, and the water sold for one dollar per inch. It is said to have been the first ditch in Amador County.

1851: The Johnston family of Jackson Gate cut a ditch about one mile long from the north fork of Jackson Creek to the gulch below the Kennedy Mill. This early canal system was used to transport water from North Fork of Jackson Creek to Placer, Hydraulic, and Tunnel Claims along its route. Said to have been the longest ditch in the county at the time, the Johnstons reportedly received a one dollar price per miner's inch (12.5 gallons per minute) of water delivered. The Jackson Gate Mining Register refers to the "Italian Ditch" located on Humbug Hill as originating out of Sutter Creek and going to Humbug Hill. The ditch abruptly ended at the edge of the hydraulic workings. Hydraulic mining could only be accomplished once a ditch system had been established.

1854: According to Logan's Alley, Humbug Hill was named after the "ruse" of a Mr. Gibbons. Gibbon's Gulch, located near Jackson Gate and "cleaving to the slope of Humbug Hill," was the location of an elaborate but common hoax. Mr. Gibbon convinced fellow fortune seekers that his gulch was extremely rich with gold. This caused a lot of excitement and investment in placer claims. But the gulch and the surrounding hillside proved "humbug." The "Register for Mining Claims for The Gate District," was first established on February 14, 1854. This publication documents the many claims on Humbug Hill that will be made in future years. Many of these claims were held only for a year or two. The Rogers Claim, Americanized for Raggio, included a three tunnel claim and a total of five "sluicing" claims.

1856: Arthur McCauley and his partners registered several placer claims on Humbug Hill within the old river channel. The McCauley Claim extended back through the Hill and also down to the gulch. Within a short period they initiated a full-scale hydraulic mining operation. By using high volumes of water under high pressure and delivered through a monitor, large volumes of earth could be moved efficiently. This process undercut the banks and created a slurry of gravel, sand, and mud that was then directed

into large sluice boxes. From these sluice boxes gold was recovered. The use of the hydraulic method made the mining of even low-grade material profitable, but the effects on the hillside could be devastating to the natural habitat. Large open cuts from this type of mining can still be seen today in the Humbug Hill area. Hydraulic mining is dependent on the establishment of a ditch system. In 1856 a ditch was dug from Sutter Creek to Humbug Hill and called the "Italian Ditch." Many of these claims were located to one side of the "Italian Ditch" which brought water to the miners. On November 30, Nicholas, Joseph, and Antonio Massa registered six tunnel claims located "to the right hand of the 'Gate' and to be four hundred twenty feet wide in front and extending back as far as the rule of this camp will permit."

1859: Andrew Kennedy (also called Patrick or John in some historical descriptions) filed a preemption claim for a ranch that lay south of the Oneida Ranch. It started at Humbug Ridge at the Oneida fence line, ran southerly 1,980 feet along the Jackson-Creek Road to a stone corner at the "Negro's" line (the boundary of the pioneer mine), then easterly three quarters of a mile, then northerly to the fence, and back to the beginning. This ranch apparently encompassed much of Humbug Hill, including the earlier mining claims. In March, a group of Chinese miners, known as Sing On & Co., claimed four sluicing claims on Jackson Creek just below the "Rock."

1860: By 1860 many of the claims made in the previous 6 years had been abandoned.

- **January 4**: The three managers of the Oneida Mine; John Fullen, James Fleming and James Berrigan, along with Andrew Kennedy, filed four contiguous mining claims, each 120 feet long to extend 480 feet south from what will be known as the Smith & Gaves Claim on the north and terminating approximately 400 feet north of the Pioneer Quartz Mining Company (later to become known as the Argonaut Mine). This is what is referred to as the "Original Kennedy Mine." The Register for Mining Claims indicates that this was a five-tunnel claim. An Abstract of Title, dated July 12, 1870, indicates that Andrew and his three partners staked out a 300-foot wide tunnel claim on Humbug Hill on January 4, 1860. A map included with this Abstract of Title shows that the claim was located at the top of Humbug Hill in the old river deposit and was named "The Kennedy Shaft." The ore in this shaft was a continuation of the ore being mined in the adjoining Oneida claim, on the north. Ore was extracted down to the 1,200-foot level. This ore was of low grade and so the operators made only a little profit. During that same time period, John Gaves and Clairborn Smith located three claims, known as the "Smith & Gaves Claim," (located on Negro Hill)) extending southwesterly from

and adjoining the earlier claims. [It should be noted that "John Gaves" referred to frequently in this text may be "John Gaven." Walter Skidmore's penmanship makes it difficult to ascertain if it is Gaves or Gaven].

- **January 14:** John Gaves, having bought out most of his original partners recorded ten claims on the ground lying between the Kennedy & Co. claims to the south, and the Oneida Claims to the north. These ten claims were 120 feet each.
- Several other claims in the area had been made over the previous few years and all were consolidated to form the Kennedy Mine in 1860.

1861: On October 4th, Andrew Kennedy sold his 1/4 mining interest to Thomas Brady for $5,000. On December 28 John Gaves sold an undivided ½ interest in ten claims to Andrew Kennedy & Company.

1862: On March 4, Clairborne Smith sold his ½ interest in the Smith and Gaves Claim to "John Fullen & Co." The Kennedy Mine now stretched from the Oneida Claims on the north to the Pioneer Quartz Mining Co., on the south, 2,006 feet. Andrew Kennedy sold his ranch on Humbug Hill to Thomas Brady on May 10. This ranch eventually became part of the Pendola Mining Company Claim, which was later purchased by the Kennedy Mining and Milling Company.

1863: One month after the Pioneer Mine (later named the Argonaut Mine) filed its claim with the general land office, the owners of the Kennedy Mine contested the claim, requesting that the terminology "northern portion of the quartz lode" be withdrawn from that claim document.

1866: On February 5, the Kennedy Quartz Mining Claim was patented. It encompassed three leads: the original Kennedy to the south; the Smith & Gaven; and the James Fleming & Company to the north. The northwest corner of The Humbug Hill area includes the northern section of the claim and is owned by the Kennedy Mine Foundation. The Kennedy Reservoir is located on the original claim, as well as three prospecting shafts sunk in the 1850's and 1860's, one of which is the "Old Kennedy Shaft" noted in the 1870 "Abstract of Title" and the "Skidmore Report" of 1879. Three laws, derived from Spanish and English common law, were enacted: (1) all mineral lands of the public domain are free and open to exploration; (2) rights and rules that had evolved under the district system were valid and to be recognized by the government; and (3) titles held under the old system of claims could be obtained permanently with a

payment of $5 per acre plus costs of surveying and recording the claim. The Act of 1866 defined the width and length of claims.

1867: The twenty-stamp mill was built comprised of four batteries with five stamps each. Andrew Kennedy applied for U.S. citizenship on May 25.

1869: The $^1/_4$ mining interest that originally belonged to Andrew Kennedy and which was first sold in 1861 was conveyed 4 more times until November 22, 1869 when John Fullen, James Fleming, James Berrigan and B.F. Langford conveyed all mining interests to 2,006 feet (between the Oneida Mine on the north and the Pioneer on the south) to Michael Geagan and 10 other businessmen for $1 On this same day James Fleming, John Fullen, James Bergan (aka James Berrigan), and Benjamin F. Langford conveyed title to the "Kennedy Mining Cos. Claim" to 11 Jackson businessmen for $1.00. This title included:

- The 2,006 feet along the quartz lode from the "Oneida Company Claim" on the North to the "Pioneer Quartz Mining Company" on the South
- All whims, hoisting equipment, machinery, tools, and improvement
- The steam quartz mill located on the east side of the toll road from Jackson to Ione
- The engine, boiler, stamps, batteries, machinery, fixtures, and water rights to the mill
- The boarding house, lodging house, office and blacksmith shop and all blacksmith tools, and "horses known as the Mill horses"
- All wood at the mill and all personal property, tools and implements, machinery and fixtures of every kind

1870: The Kennedy Mining Company was incorporated on April 2. One of the stockholders was Peter Reichling, who would later become superintendent of the mine. On April 18, the 11 Jackson businessmen conveyed the Kennedy Mine to the Kennedy Mining Company for $1.00. The stockholders of this company were the same 11 businessmen. The Abstract of Title, dated July 12, 1870, was done for the Kennedy Mine by Farley & Pawling, Attorneys at Law (Farley later went on to become a U.S. Senator). On December 31, the northern boundaries of the Townsite of Jackson were established with the recording of Townsite Map 4 in book A of Plats. All of Area 3 (The Gate) lies within the designated townsite as all or a portion of Lots 1, 2, 6, and 7, Block 13.

1871: The first steam-powered hoist was erected at the "Old Works" shaft, also called the "Upper" shaft and "Old Hoisting Works" shaft. On April 29, the "Survey of That Certain Gold Bearing Quartz Vein or Lode Known as the Kennedy Quartz Mine" was done by William L. McKim, W.S. Deputy Surveyor. Kennedy Mining Company purchased the "'Humbug' Ditch" from James Morgan. The ditch took water from Sutter Creek and Grass Valley Creek and conveyed it to French Hill and the Kennedy quartz mill. The ditch was approximately 14 miles long and had a capacity of 60 inches of water. There was a miner's strike in May. Military personnel arrived in June to protect the mines from striking miners.

1872: The Act of 1866 was amended to state that the quartz claims length maximum will be 1,500 feet and 300 feet on each side of the mineral vein. This amendment also stated that tunnel owners had the rights to all veins or lodes within 300 feet of the mouth of the tunnel. After moving the mill and the addition of the powered hoist and twenty-stamp mill in 1871, the Kennedy Mine was granted a United States patent on July 29, signed by President Ulysses Grant. The patent covers 27.85 acres and extends "two thousand and fourteen and 32/100 linear feet of the Kennedy Quartz Mine vein, lode, ledge, or deposit."

1873: Two promising ore shoots were being worked: the Kennedy on the north and the Pioneer (Argonaut) at the south end of the mine. The Pioneer vein included 170 feet that lay within the Kennedy property; however, some of this vein also lay within the property of the Argonaut. The Kennedy Mine shut down when, at 750 feet, the ore in the south shaft gave out. The ore did pick up again, but it was in that part of the vein that belonged to the Argonaut Mine. On April 17,Michael Tuohig, Patrick K. Keogh, Arthur McKay, and Arthur McCauley obtained Placer Mining Promise 181 that covered the "South East Quarter of the South East Quarter and the East half of the East half of the South East Quarter of the South East Quarter of Section Seventeen (17) in Township Six (6) North of Range Eleven (11) East of Mount Diablo Meridian, containing fifty (50) acres of land, more or less, as shown by the official survey and plat of said Township, said placer mining claim or lot of land being situate in the Jackson Mining District, in the County of Amador and State of California.....commonly known as t he McCauley Placer Mining Claim."

1874: Andrew Kennedy, after whom the Kennedy Mine is named, died on May 9, and is buried in Jackson's Catholic cemetery. He was approximately 74 years old. He never married. His gravestone states in error that he died in 1871. This error most likely came about because the marker was placed years after his death. No ore was milled.

1876: No ore was milled.

1877: On August 23, a Patent was issued to Michael Tuohig, Patrick H. Hoegh, Arthur McKay, and Arthur McCauley for the McCauley Placer Mining Claim, located in the Southeast Quarter of Section 17 and containing 50 acres. These 50 acres later became a part of the Pendola Ranch. Two acres of the Claim were conveyed to the North Clyde Quartz Mine, located northeast of the Argonaut Reservoir, and used as a Mill Site for the North Clyde.

1878: The Kennedy Mine discontinued operations in June. It had operated intermittently for 41 months from 1871 to 1878 and was credited with $300,000 in production during this period.

1879: Mining Engineer Walter Skidmore prepared a report for the Kennedy Mining Company Board of Directors. The report describes ore produced at three different shafts, including high-grade ore from the Main Shaft (South Shaft) and the Smith & Gaven Shaft (North Shaft), and low grade ore from the Old Hoist Works Shaft. Skidmore goes on to describe how the equipment was inadequate to produce maximum gold potentials, particularly the twenty-stamp mill. Each of the 20 stamps weighed only 400 pounds. Skidmore recommended using forty 750-pound stamps increasing the crushing capacity by about a factor of four. Each of the 100 stamps finally used at the East Shaft weighed 1,200 pounds

1880: A small reservoir is constructed on top of Humbug Hill.

1884: The McCauley Placer Mining Claim patent was recorded on December 27. Minor hydraulic mining was used here. An environmental legal precedent was established by Judge Sawyer in Sacramento who ruled that mining operations could no longer dump debris into rivers and streams, such as the Sacramento and San Joaquin Rivers or their tributaries, because it caused the flooding of California's Central Valley farms. The McCauley Placer Mining Claim eventually became part of the Pendola Ranch. Because of siltation of rivers and the resultant flooding of Central Valley farms, hydraulic mining came to a standstill.

1885:

- The Amador Dispatch reported on October 3 the arrival to Jackson from San Francisco the previous Monday of Francis Reichling (Peter's brother), Mr. Belshaw, and Mr. Varnum "for the purpose of making the necessary arrangement for resuming operations as soon as possible. The new company we understand will spend about $35,000 in sinking crosscuts and getting the mine in good working order, after they will put up a new 40-stamp mill with all the modern improved machinery for saving gold."
- On November 7 the Amador Ledger reported "An agreement has been recorded between the Kennedy Mining Company and F. Reichling; the company agrees to deed the mining property for the sum of $97,600, to be paid one half in nine months, the balance in twelve months; the part of the second part to have the privilege of extracting and working ores in the meantime, if the purchase money is not paid at the expiration of the time stated the agreement is to be void, and all improvements placed upon the mine are to become the property of the company." This agreement, somewhat similar to a lease with option to purchase, allowed Francis Reichling to upgrade the mining equipment and perform ore tests with the help of mining engineer F.F. Thomas. Amongst the upgrades was a new 40-unit stamp mill. By incorporating the company after upgrading the equipment, Francis was able to spread the risk of the venture capital. This series of transactions was a typical practice of Francis Reichling—invest in various mining operations, but in association with other investors. The cost of the upgrades was assumed by the new corporation. The Superintendent responsible for reconstruction of the mine was F. F. Thomas who had graduated from Yale in 1863. According to his letters to the Kennedy board, F. F. Thomas embarked on an intense effort in the subsequent months before the second half of the purchase price was to be paid. His crews modernized the workings, extended drifts, and sank the Main Shaft further. The purpose was to determine whether the gamble the investors were taking was likely to pay off.

1886:

- The Amador Dispatch reported that 75 men were employed at the Kennedy Mine on July 3.
- A second report came out July 17 stating that the new 40-stamp mill was being built. This 40-stamp mill had 16 Frue vanners and would be operated steadily until the 100-stamp mill was built at the East Shaft, processing approximately 36,000 tons of ore per year with the sulpherets running up to $150 a ton.

- The Kennedy Mine was purchased for $97,600 by a group of 15 investors on December 28, who, led by Francis Reichling, had incorporated on December 21, as the Kennedy Mining and Milling Company. Reichling paid the entire purchase price of the property 2 months before the agreement specified. The corporation was capitalized at $100,000 with F. Reichling owning 20% of the stock. Under the new ownership the south shaft was sunk 200 feet deeper to 1,400 feet. Profitable ore was found once again. The South Shaft was said to be the richest in the Mother Lode. The motive power for the new mill and hoist was water provided by the Amador Canal Co. The water power substantially reduced operating costs from that of creating steam power with burning wood. The Kennedy Mining and Milling Company owned and operated the Kennedy Mine until it was closed by the U.S. Government in 1942 due to World War II. The company called themselves Mining and Milling because they were willing to mill ore from other mines. They also didn't necessarily mill all their own ore. The two operations were kept separate to some extent; they even had separate payroll books at first.

1887: Mr. James F. Parks, who had been foreman of the Keystone Mine and the timberman in the Ophir Mine before that, was hired February 1 as new Superintendent of the Kennedy Mining and Milling Company and immediately paid off a $44,000 debt owed by the company. (The previous superintendent, Mr. F. F. Thomas, became Superintendent of the Gwin Mine, south of the Mokelumne River).

1888: Water was purchased by the Kennedy Mining and Milling Company for fifteen cents per miner's inch and the mine was operating with two shafts and one tunnel. With the use of large amounts of Giant Powder, the north shaft was sunk. Ore was concentrated in the 16 Frue vanners after being crushed in the 40 stamp mill. The stamp mill required 5 cords of wood per day at a cost of $5 per cord when insufficient water was available for water power. Hoisting works were powered by water or steam, but the stamp mill was run solely by water power. The south shaft hoist was powered by two, 6-foot reversible Knight's Wheels at 181 feet of pressure driving a 14-inch engine with a 3-inch stroke connected to 2 boilers. The North shaft hoist was powered by Pelton wheels under 165 feet of pressure. Water was supplied through a riveted iron pipe and flume to a tank measuring 40 by 165 square feet. Water from the tank supplied concentrators and rock breakers and the stamp batteries. A quantity of 245 miner's inches of water was needed every day.

1889: The Pendola Placer Claim was located in April by Bernardo Pendola. It was

bounded on the north by lands of the Oneida Mining Company, on the south by the Clyde Quartz Mining Claim, on the east by the McCauley Placer Mining Claim, and on the west by the Kennedy Quartz Mining Claim.

1890: The State Mineralogist Report states that the storage reservoir on Humbug Hill had been increased to about four times its former capacity. Over 1,500 feet of 15 inch pipe was laid from the reservoir to the mill that same year.

1891. The chlorination plant was put into operation on July 1. On September 4, two parcels were purchased by the Kennedy Mine from J.F. Da Silva totaling 16.5 acres. One of these was a 7-acre a quartz mining claim with quartz located on the surface. The remainder of the property was a placer mining claim. This claim was east of the Volunteer and Clyde claims, which in turn bordered the east side of the Argonaut and Kennedy. The purchase price was $100 in gold coin. On November 30, the yearend annual report from superintendent J.F. Parks to John Barton, president of the Kennedy Mining and Milling Company, showed the following expense item: "Purchase of 17 acres of land from J.F. Da Silva....$2,510.00."

1892: The Kennedy Mining and Milling Company filed papers for a U.S. Patent on June 16 for 1,316.7 linear feet of the Silva Quartz Mine, or vein, which was issued 8 months later on February 6, 1893. The new Superintendent's residence was completed. According to the Superintendent's Report of 12-1-1892, the chlorination plant was improved. The Superintendent's Home was completed. Occupants of record include Superintendent Bill Sinclair, Superintendent Mark Eudey, and the Jack Campbell Family. It was demolished in the 1950s when State Highway 49 was constructed. This was a two-story house located on the west side of the Kennedy's south entry road, across from the auto garage. It had an open staircase with a round stained window on a nearby wall. There was a wrap-around covered porch. The yard was surrounded by a white picket fence set onto a rock retaining wall.

1893: On January 4 a portion of the Pendola Placer Claim was patented as the North Clyde Quartz Mining Claim (or Clyde Extension Quartz Mining Claim), having been determined that the Clyde vein extended north under the old river deposit. The Pioneer Gold and Silver Mining Company was purchased by a group of mining investors headed by W. F. Deter, owner of the Zeile Mine. The Pioneer was renamed and incorporated as the Pioneer Mining Company. This mine would later be renamed the Argonaut Mining Company. A single shaft had been dug through a lava cap down to about 70 feet, at which point a drift had been dug some 70 feet to the North to follow the ore

body. An adit 520 feet long was in place from the Volunteer quartz mine located to the east. Of the many placer claims established within the ancient river deposit that caps Humbug Hill, one claim was unpatented because it yielded no gold. The 1.27 acres were deeded to the owners of the North Clyde (Clyde Quartz Claim) and it became known as the North Clyde Mill Site.

1894: Excavation of ore by the Kennedy Mining and Milling Company along the 1,650 level of the former Da Silva land caused the Argonaut Mine to file a lawsuit on August 11 on the theory that the Kennedy Mining and Milling Company was excavating ore to the east from the apex in the Argonaut's mining claim. The Kennedy was mining beneath the Da Silva property, which it owned. However, the Argonaut claimed that the ore body with apex in the Argonaut mining claim extended east and below the Da Silva land surface. On the basis of the mining laws of 1866 and 1872, the ore in the Da Silva belonged to the Argonaut. The surface ground for a reservoir site was deeded to the Argonaut Mining Company in November. The North Clyde Mill Site was purchased by the Kennedy Mining and Milling Company.

1895: The whole of the Pendola Placer Claim was conveyed to the owners of the Clyde in April 1895. The Kennedy Mine and Milling Company purchased land from John Stevich and Robert Aitken for the creation of a reservoir on September 21. The purchase price was $100. The Kennedy Mining and Milling Company purchased the Pendola Placer Claim/North Clyde Quartz Claim from Bernardo and John Pendola on September 21. Purchase price was $100. When Bernardo Pendola deeded the McCauley Claim to the Kennedy Mining and Milling Company, he reserved the right "to such use and occupation of the surface of the premises herein conveyed during the lifetime of said Bernardo Pendola as does not conflict with mining, milling, or other necessary operations" of the Kennedy Mine. Pendola died on June 20, 1897. Lot 50, the Clyde quartz lode mining claim was purchased from Biaggo Calugeras on September 25 for $100. This claim was originally filed on January 25, 1875 by John Stevich and Robert Aitken. The North Clyde was purchased from Edmund Roberts on September 28 for $100.

The more distant mining claims from the Kennedy claim, such as the Pendola, McCauly, John Stevich (aka Stoevich), and the 9.33 acre Da Silva parcel are all listed as placer mines, while the Volunteer, Clyde, the 7.22 acre Da Silva parcel, and the Golden Gate claims were quartz mines or quartz locations. This is because a line of quartz was located across the Volunteer and Clyde claims, and another line of quartz came across the more easterly Silva property and Golden Gate claims. The purchase price of these placer and quartz mining claims was only $100 because the gold in these sites was minimal.

1896: The South Shaft is down 1,950 feet vertically below the collar of the shaft, and a nearly 2,500 feet on the incline below the croppings. The North Shaft is at a vertical depth of 2,150 feet with a 50-foot sump. Pelton wheels used water power to power the North and South shafts, with a wood-powered boiler for standby. The mine is operated continuously. The Gates canvas plant, operating on tailings from the Kennedy Mill, has been reconstructed since 1894. A total of 105 men were employed.

1897: The owners of the Argonaut Mine filed a second lawsuit against the Kennedy Mine and Milling Company on August 5 for encroachment.

1898:

- The property which is today known as the East Shaft, which was east of the Kennedy Mine's original principal location (known as the North and South Shafts and which are described in Section 7, Area 5), was purchased for the Kennedy Mine extension.
- The Massa property, lying east of and adjacent to the land owned by the Kennedy Mining and Milling Company was purchased for $9,350.10. It contained about 44 acres with mineral rights in about 53 acres. This property, which now extended the Kennedy Mine property all the way to Jackson Gate, was purchased to provide land to dig the East Shaft and to construct the new stamp mill. Superintendent Parks justified the purchase of the property to the stockholders because (1) it contained suitable ground for hoisting works and a mill site; (2) it was in the direction of the dip of the Kennedy Mine Ore Bodies and in the event of sinking a vertical shaft to intersect the Kennedy vein at a point three or four thousand feet in depth, the location of the new mining plant would be on this ground; and (3) there was a large belt of quartz ore cropping out on this ground, and that provided acceptable proof that this belt of quartz cropping was a continuation of the "Zeile Belt" or East vein of the Mother Lode Mineral Belt.

- **September**, one month before the trial between the Kennedy and the Argonaut was scheduled to begin, the Kennedy conceded that the ore it was mining in the former Da Silva land had its apex in the Argonaut mining claim, and the two mines agreed to a net settlement of the ore value extracted from the disputed territory in the amount of $64,199.95.
- **October,** despite the settlement agreement, the trial went on as scheduled on the basis of the Kennedy's assertion that the Argonaut Mining Company had no extra lateral rights because its end lines were divergent (flared) rather than parallel as required by the 1872 mining law, and that the Argonaut therefore could not follow the dip of the ore body into the Kennedy's Silva property.
- **November 24,** The East Shaft of the Kennedy (located 1,950 feet east of the North Shaft) was begun. Engineers believed that this new shaft, if going straight down as a plumb bob, would intersect the eastern dipping ore body that had been discovered at the 3,500 foot level below surface. A steam boiler was installed to drive the hoist, air compressor, and 4 drills to dig the shaft.
- A pipeline from the Kennedy Reservoir was constructed to deliver water to the East Shaft area. It began in the dam embankment on the north side of the reservoir, traversed the hillside, and then dropped down into the East Shaft Area.
- Kennedy's president notes the location of a second "ore channel being parallel to the vein" in his annual yearend report to the stockholders
- Mine superintendent, J.F. Parks noted difficulties in his November annual yearend report in hoisting ore up the inclined south and north shafts due to the increasing depth of both shafts. Both shafts were down to the 2,200 level where they were connected to each other about 500 feet apart.
- **December 1,** The Superintendent's Report under "Water Power" describes how the Kennedy Mining and Milling Company installed a steam boiler and engine at both the stamp mill and the North Shaft to conserve water due to a drought from 1897. The South Shaft was under steam power from its inception. This drought negatively impacted prospecting and exploration, as well as the amount of ore brought to the surface through hard rock mining.
- **December,** The Kennedy reservoir broke where the water pipe entered the embankment on the north side of the dam. Water rushed down the hill towards the Oneida cutting deep gullies in the hillside. The incident may have been a result of the newly constructed pipeline which delivered water to the

East Shaft. Water to the North and South Shafts was delivered from the southern side of the reservoir.

1899: Superior Court Judge Nicol rendered his decision on March 13 in favor of the Argonaut Mining Company. He ruled that although the Pioneer (the Predecessor of the Argonaut) received its U.S. Patent on August 12, 1872, which is after the Act of May 10, 1872 that stipulated extended lateral rights from an ore body apex only where parallel end lines were in place, the Pioneer had actually filed for a patent on January 13, 1871 and paid for its patent rights on February 23, 1872. Thus, Judge Nicol stated that the Argonaut was in compliance with the law because the former owner of the mine had filed for a patent under the provisions of the mining law of 1866 which did not require parallel end lines. Judge Nicol entered two judgments against the Kennedy on March 29: one for $8,448.55 for ore extracted under the Volunteer Mine and one for $58,469.85 for ore extracted from under the Silva property. The 2,200 level drift penetrated 196 feet past the boundary. On October 14 the Kennedy Mining and Milling Company appealed the case to the State Supreme Court on the basis that the Argonaut Mining Company had no extra lateral rights because its end lines were divergent (flared) rather than parallel as required by the 1872 mining law, and that the Argonaut therefore could not follow the dip of the ore body into Kennedy's Silva property

Large deposits of low-grade ore ($3-4 per ton) were encountered along two fissures near the North Shaft at about the 2,200 foot level. A crosscut tunnel was started at the 2,100 foot level at the North Shaft to connect with the new East Shaft. Excavations had reached 450 feet from the workings by the end of the year. Connections were made between the South and North Shafts at various levels, including the 2,200 foot level.

1900: The East Shaft had been sunk 1,018 feet during the 12 month period prior to November 30 for a total depth of 1,845 feet. During the latter part of the year, the existing boiler and hoisting engine were replaced by units with greater power. From this time forward, the Kennedy Mine was one of the largest producers on the Mother Lode. Between 117,000 and 172,000 tons of ore per year were produced from 1904 through 1917.

- **March 23** - East Shaft down 1,108 feet. "Going down at the rate of 90 feet per month. Not more than a skip full of water accumulated in the bottom of the shaft in eight hours." Per the *Amador Ledger*
- **May 11** - Down 1,240 feet. "Going down at the rate of 18 feet per week." Per the *Amador Ledger*

- **August 10** - Down 1,500 feet. "The miners make an average of 85 feet a month in sinking. The shaft has now reached a depth of 1,500 feet, and the bottom is so dry that a cloud of dust rises when the skip is dumped at the hopper." Per *Amador Ledger*
- **September 12** - Down 1,620 feet. "The East Shaft at the Kennedy Mine passed the 1,600 foot mark last Friday, and is now down about 1,620 feet. The first ground for this shaft was broken in November, 1898, and at the present rate of sinking, the 3,100 feet it was intended to sink at the outset, will be attained by the end of three years from the start." Per *Amador Ledger.*
- **December 28** - the Kennedy Mine and Milling Company appealed their case against the Argonaut to the U.S. Supreme Court after the State Supreme Court affirmed the decision of Judge Nicol in favor of the Argonaut.

1901: In June, oil began to replace wood as the burning material in boilers at the East Shaft to create steam that powered the machinery.

1902: A third boiler was installed and room for two more was made near the East Shaft. A second air compressor was added. Digging was extended westward on the 2,400 and 2,500 levels to encounter the eastern dip of the ore body. Grading for a new head frame and stamp mill was performed during the summer months. Jackson newspapers carried articles about the Kennedy Mine's discovery of large quartz deposits on and near the 2,200 foot level, some as thick (wide) as 100 feet, but containing an average of only $5 in gold. By the end of the year, the Kennedy was constructing 60 stamps (The East Shaft operations started with 20 new stamps). The mill with the 40 stamps near the South Shaft was the only mill in operation at this time. Plans were being made to add those 40 operating stamps to the 60 under construction so that one mill would have 100 stamps. U.S. Supreme Court began Case 189, a re-argument of Cases Nos. 49 and 58 between the Kennedy Mine vs. Argonaut Mine on December 10.

1903: March 9 the U.S. Supreme court upheld California's Supreme Court decision that "the Argonaut Mining Company was entitled to all the rights which would attach under the act of 1866, and to any additional rights which inured under the act of 1872." On April 13 the Miner's Union in Jackson, with only several dozen members, went on strike against the Gwin, Zeila, Kennedy, Oneida, Central and South Eureka (the Argonaut was not in operation awaiting the Supreme Court decision). James F. Park, Superintendent of the Kennedy Mine since February 1, 1887 and one of the most respected mining men along the Mother Lode, was found dead on Saturday morning on October 16 in his

bedroom with a pistol wound to the head. Mr. Parks had been in the final stages of "Miner's Consumption" also known as Silicosis or Black Lung Disease. Webb Smith became the new Superintendent. Mr. Smith had been a foreman and machinist at the Kennedy since 1896. A wood-framed gallows was erected by V.S. Garbarini over the East Shaft. In April, the miners striked and walked off the job in response to 50 union miners being fired by the California Mine Operator's Association.

1904: A total of 100 stamps were working in January –60 in the new mill at the East Shaft and 40 in the old mill at the North Shaft. The main work is being done at the East Shaft. Plans are in place to add more boilers. Construction of the East Shaft is completed and in full operation. With 100 stamps, the East Shaft mill had an average monthly output of 10,500 tons. Mercury amalgamation was the primary process used to separate the gold from the quartz. Rod and ball mills were introduced along the Mother Lode in the 1920's.

1905:

- The railroad from Ione to Martell, which was subsequently used to transport oil in bulk to Jackson and the Kennedy Mine, was completed. A narrow gauge track from the Martell station was laid to the Kennedy East Shaft. Not intended as a locomotive line, it was instead a tramway "with mules as the motive power." The route ran around the east side of Humbug Hill to the east of the railroad depot, passing in front (on the east side) of the Walk-In Cellar (Powder House #2; Resource No. 16 in Area 1) and extended down to the road west of the Mine Office. It was used to facilitate the transportation of supplies to the Kennedy Mine. Cable was used to pull the tramway car back up the hill after delivering supplies to the lumber yard at the East Shaft (Area 1). Gravity was used to bring the cars down by cable, and mules were used to take the cars back up.
- The East Shaft boilers switched from burning wood to burning oil to generate steam. This steam was used to operate air compressors for the power drills in the East Shaft and for the steam engines which provided power for the double-drum hoist and the stamps in the stamp mill. It was estimated that conversion to oil from wood saved the company over 30 percent of their cost to produce steam. The oil was stored in Oil Storage Tanks above the Change House (Resource No. 1) on four level pads.

1907: On June 30, the Kennedy Mining and Milling Company acquired a right-of-way easement lease for an oil pipeline through the Oneida Gold Mining and Milling Company property. The pipeline enabled the Kennedy Mining and Milling Company to convey oil

from the railroad cars at Martell to its storage tanks at the East Shaft. Construction was initiated on Mine Office (Resource No. 13). The mine reservoir on Humbug Hill was being used by bathers. In June, notices were posted that any person bathing in the Kennedy Reservoir would be prosecuted

1908: The three-story Mine Office building made of reinforced concrete was completed near the East Shaft, combining in a single location the office, assay, retort, and melting room, and 4 bedrooms on the top floor for visiting officials.

- The west room on the ground floor is the retort room. From the Kennedy Mine's stamp mill, the amalgam would be taken to this room where the gold and silver were separated from the mercury by heating the amalgam in the brick and iron furnace. The quicksilver would then transition from solid to gas. When the gaseous mercury was cooled it would turn into a liquid again and could then be reused. This room is also where the gold bars were poured for shipment to the San Francisco mint where they would be further refined and purchased. The gold bars were purchased by the San Francisco mint on behalf of the U.S. government. This room includes a large blast furnace and a large brick and metal furnace used to distill and recover mercury from the gold-mercury amalgam. Multiple work tables and shelves line the walls.
- The east room on the ground floor is the assay room where the assayer determined the richness of the ore samples by adding chemicals and heat to the ore. On average, one ton of ore produced 0.38 ounce of gold. Each day about 400 tons of ore were mined. The assayer would also measure the gold content of the gold bars being shipped out and tailings being discarded. This room includes an oven and balances used to weigh the gold. Laboratory equipment, including chemistry glassware, valances, mortar and pestle, ceramic crucibles, Bunsen burner, condensers, beakers, graduated cylinders that were used can be found in this room. The west rooms on the first floor were offices.
- The east room on the first floor was the main office and contains a large walk-in vault and safe. The office contains display cases with miner's equipment, such as carbide head lamps, carbide, keys, nails, and photographs. Most of the business of the Kennedy Mine was conducted here. Twice a month, the miners would walk up the long external stairway, through the east door, and into the office at the end of the week. After receiving their pay, the miners would then exit by the south door. An entire wall in this room is comprised of filing cabinets that currently contain the mine records. The First Floor also has a communal bathroom.
- The upper (second) floor has four small guest bedrooms, three of which have been restored by the local Mother Lode Chapter of The Questers. These rooms

accommodated visiting bank officers, mining engineers, stockholders, or board members.

The tramway between the Martell train station and the Kennedy mine was completed. This was built to provide savings in freight rates. Due to the increased use of compressed air, the capacity of the compressor machinery installed in 1906 was increased. A working station was cut on the 3,150 foot level and was equipped with chutes and a water tank. The main cross-cut was driven 714 feet towards the West; "300 feet from the station the East fissure was passed through, disclosing a large body of low grade milling ore; 136 feet further West, or 436 feet from the station, the second opening was cut, carrying water, gouge, and low-grade ore." The ore of the West and East fissure began to merge to the north of the East Shaft at 3,000 feet in depth, and 535 feet east of the shaft. "The 3,150 South drift, from the main cross-cut, was opened on the East splice, 300 feet from the station; this has been driven 183 feet. Some very promising ore has come from this drift."

1909: In May the 8-hour law covering underground miners was passed by the California state legislature.

1910: The St. Peter/St. Paul Catholic Church, which had been patronized by Italian and French immigrant families with services conducted by a priest from Jackson on the fifth Sunday of each month, was abandoned. The church had also doubled as a school house. Its records were moved into Jackson. Jerry Podesta, the son-in-law of Andrea Arata, started using the building as a livestock and hay barn.

1911: The Amador Ledger reported on June 30 that there had been a meeting on June 24 between "officers of the Kennedy, Argonaut, and Zeile mines" and "about fifteen farmers present, whose lands are subject to overflow from Jackson and other creeks. These farmers contend that the quartz mines are largely responsible for the damage to the valley land, and have organized an association for mutual protection." The article continues by describing how farming lands are also impacted by Sutter Creek and Dry Creek. This first meeting is described as amicable and pleasant, but nothing was accomplished. On August 18 the assay department was upgraded. By December, a new Transformer Building (Resource No. 20) was in the final stages of completion. It was further away from the other surface equipment and consisted of three 150 kilowatt transformers.

1912: The Ledger reported on September 13 that "the bottom of the shaft is now below

the 3,500 foot level. The additional level will carry it down to 3,700 feet, including sump." On November 15 the Ledger stated that, "At the end of the week the shaft at the Kennedy had reached a depth of 3,630 feet." Efforts to locate a level at 3,700 feet, however, encountered the first of 2 fissures. The west fissure was struck at 3,680 feet and the east fissure was encountered further below. The shaft was sunk fairly continuously through the ore body until more stable rock was once again encountered at the 4,050 level. The ore in this area was not removed to protect the integrity of the shaft. On December 27 the East Shaft encountered the "ore body" or gold vein at 3,716 feet. At the point of the junction, good milling rock was shown to have a width or thickness of 14 feet. Gold deposits had been encountered earlier as a result of cross-cutting from the East Shaft toward the North and South Shafts, which had been terminated at the 2,300 foot and *2,200* foot level, respectively. The maximum quantity of ore crushed by the 100-stamp mill was in 1912, when 172,200 tons were milled. Although debris was no longer dumped directly into the waterways due to the ruling made in 1894, the effluent mill tailings run-off continued to spill into the streams and flowed into the farmland west of the Kennedy Mine. The miners believed that the orchards, vegetable growers, town merchants, etc. made their livings by selling produce and services to the mining communities and that these secondary enterprises had no practical right to threaten California's economic well-being that was based on mining. However, the miners underestimated the importance of California's burgeoning agricultural community. The farmers south of Ione, along Dry Creek, threatened to sue the mines for water contamination for the continued run-off. In 1912 the state legislature passed an act which compelled the mining companies to impound their tailings or cease operations. So the Kennedy Mining and Milling Company hired an engineer, James Spears, to resolve the problem. He did so by developing the Tailing Wheels. The Ledger reported on March 15 that "Organizers of the Federation of Mines were in town for the past week arranging with local members of the organization to establish a union in this city." The Kennedy purchased the Bellweather claim and ranch from the Bright estate for $20,000, which was considered a low price. The Bellweather was located along the east branch of the Mother Lode, neighboring the Zeile Mine on the North.

1913: The Ledger reported on February 14 that the construction of 4 wheels "will be used in pumping the tailings over the hill upon which the Bright mine is located to a ravine which will afford ample storage room for many years." On June 14 it was reported that "They are getting the station at the 3,650 level in shape to commence running for the ore body. They have been delayed in this work somewhat by the meeting with the soft formation below, the shaft having been lowered to the depth of 3,950 feet, and encountering two ledges in the distance; the formation necessitating

going to the depth in order to find solid ground for sump and timbering. The ore bodies have not been explored further than merely cutting them in sinking operations, but from the character of rock taken out the ledges are as rich as any rock heretofore encountered in this wonderful gold producer."

1914:

- The State Mineralogist reported that the Kennedy mill was powered by electricity, but the steam plant boilers still operated the 800 h.p. hoist.
- The agreement between the owners of the Kennedy Mine and Milling Company and the farmers along Dry Creek went into effect December 1. The agreement states that the debris from the mill should be prevented from flowing into the creeks along the Mother Lode. Four tailing wheels became operational to move tailings across the north fork of Jackson Creek, and over two hills to the impound dam. Thus, the Kennedy Mine was able to continue operating. From 1914 to 1934 tailings were stored behind a dam south of the East Shaft. They were transported to the dam by 2,000 feet of flume using tailings-elevator wheels of 58 feet in diameter. The first wheel is located 990 feet from the end of the Stamp Mill (Resource No. 12)

1918: By 1918 the mines were mostly manned by immigrant employees because locally born Americans were called upon for duty in World War I; 200 men were employed at this time. The immigrant workers were tolerated because they were essential to the local industries, but warnings were issued. In January a representative of the International Union of Mine, Mill, and Smelter Workers addressed an audience in Amador City and miners were urged to forestall any labor disputes or strikes during this time of crisis. A miner named Charles Stumpf was laid up in January with a fractured leg caused by a falling timber. A miner named Kosto Radich, a native of Herzegovina, aged 28 years, was killed instantly on February 22 when he was caught between a rock and a timber, causing him to break his neck. Webb Smith was the mine superintendent. At this time the Kennedy Mine and Milling Company controlled the following claims: the Kennedy, the Silva, the Hall placer mine, the Bellweather, the Clyde, and the North Clyde placer mine.

1919: A fire was found on the 4,000 foot level of the Argonaut Mine on March 27 and subsequently burned between its 4,000 and 4,500 foot levels. It was thought to have been extinguished later that year.

1920:

- Saturday March 6, the Argonaut fire that started in 1919 spread to the Kennedy through drifts which connected the two mines.
- March 12 the fire broke into the 3,300 foot level of the Kennedy Mine. The day shift of 40 men had to be quickly hoisted from the 3,300 foot level as they arrived for work to escape death by carbon monoxide. Timbers on this level received major fire damage. Heavy smoke and gas was also detected on the 3,100 foot level about 300 feet from the East Shaft.
- Sunday, March 14 at 4 pm the North, South, and East Shafts of the Kennedy Mine were sealed and water began to pour down the East Shaft to extinguish the fire.
- April 30 the flooding in the Argonaut and Kennedy mines had been stopped.
- September 1, all but 5 watchmen of the remaining 26 employees were laid off.
- September 17, the Kennedy announced that it would begin the unwatering process, which would take several months, at the expense of the Argonaut.
- Late September, Webb Smith resigned. Production had to be halted and the fire was not brought under control until the lower workings (below 3,260 feet) of both mines were flooded, This caused a loss of over a year in operating time at the Kennedy mine, and brought about more lawsuits between the two companies.

1921:

- The Amador Dispatch reported on March 4 that unwatering had been completed below the 4,050 foot level of the Argonaut where the 2 mines are connected.
- On August 19 the Kennedy was completely unwatered and operations were scheduled to begin in September. James Spiers was the superintendent and about 75 men were employed. Although there is still water at the bottom of the East Shaft, work can begin on the 3,900 foot level.
- On September 19 the Kennedy Mining & Milling Company deeded a Right of Way over a portion of Kennedy land to the State of California for a new highway under the "State Highways Act" approved March 22, 1909 and the "State Highways Act of 1915" approved May 20, 1915. This "Deed State Highway" set "Conditions, Exceptions, and Reservations," which if violated by the State would annul the deeded Right of Way to what is now Highway 88/49.

1922: At approximately 11:45 p.m. on Sunday, August 27th a fire broke out just below the 3,000 foot level of the main shaft of the Argonaut Mine. The shift foreman, skip tender, and helper reached the surface through the flames and smoke. Two rescue crews were sent down—one to the 3,600 foot level and another to the 3,900 foot level of

the Kennedy Mine. Tunnels were dug to reach the men, but all 47 had been overcome by asphyxiation within 3 to 4 hours after the fire started. It took the men on the 3,600 foot level 22 days to reach the trapped men in the Argonaut.

As the mine increased in depth and mining costs increased, it was necessary to mine more selectively so that from the middle of the 1920's until the mine's closing in 1942, the tonnage of ore produced decreased. See Table 1 below.

1923: The Kennedy and Argonaut Mines were reconnected at the lower level by order of the Industrial Accident Commission, Department of Safety "to provide for the safety and protection of the workmen in both mines." The connection was made at the 3,900 foot level of the Kennedy Mine and the 4,650-foot level of the Argonaut, which are essentially the same level.

1924: Webb Smith resumed the duties of the Kennedy Mine superintendent in December.

1926: In December, the Kennedy Mine converted from steam-generated power to electricity. Steam generating boilers were the primary power source from inception of the mining operation in Area 5. Efforts were made to use waterpower for the recovery and processing of the ore at the mill due to the relative lower cost of machinery utilizing a Knight water wheel installed in the nearby branch of the Amador Canal Company water ditch (known as the Moore ditch) running through the property. However, steam-generating boilers were the standard source of energy throughout the Mine's operating history. They were available on a standby basis, even at such time when using waterpower for mining in Area 5, due to the lack of a constant supply of water.

1928:

- April 17, after 7 years of litigation between the Kennedy and the Argonaut, the jury trial begins. The Kennedy asks for $1,500,000 for the fire damages that penetrated its 3,300-foot level on March 6, 1920. The Kennedy does not hold the Argonaut responsible for starting the fire, but claims that through negligence and carelessness, the Argonaut did not take proper precautions to prevent the spread of the flames. Former superintendent, James Spiers, estimated the cost for repairs, labor, and lost equipment at $452,777.64.
- April 28, after 2 hours of deliberation, the jury brought the following verdict: "We the jury in the above entitled action find for the defendant."

- In June a contract was signed with Moore Ship Building Works to replace the wooden structure with a steel gallows frame over the East Shaft. It would be built entirely with hot rivets.
- On September 7 a fire swept through the Kennedy Mine's East Shaft area. Believed to have originated in the timber yard adjoining the sawmill, which was located on the west side of the Head Frame over the East Shaft, the fire rapidly consumed most of the buildings located on the site. The windy conditions that day spread the fire into the head frame, which was then 100 feet high and made of wood. The cause of the fire is unknown. The fire destroyed the head frame and all nearby buildings except the Mine Office on the hill and the Stamp Mill below. The fire destroyed the hoisting and electric cables, and debris from the Head Frame fell into the mouth of the shaft. Four miners working in some old workings came out of the North Shaft. According to the *Jackson* Dispatch of September 7th, "The shaft could not be closed during the fire because of the intense heat. However, the miners were brought through the 3,900 foot level of the Kennedy into the 4,650 foot level of the Argonaut, and up to the surface of the Argonaut Mine without any fatalities." The men came up unharmed through the door placed over 5 years before (after the Argonaut fire of 1922) between the 3,900 foot level of the Kennedy and the 4,650 level of the Argonaut. The buildings and head frame were quickly replaced.

1929: Rebuilding the East Shaft operational buildings was concluded. In January, the new steel gallows frame was completed over the East Shaft. According to the Amador Dispatch of February 18, 1929, the procedure to dewater the mine commenced with "the grinding of the big hoist machines at the Kennedy." The East Shaft was once again in operation by March, 1929. Buildings that were rebuilt included:

- Change House--The Change House was built to provide a location for the miners to shower and to change into their street clothes after working in the mine. Each worker was provided a locker to store either their street clothes or working clothes, whichever was not in use. During the showers, the miners may have been inspected by someone posted near the showers to make sure they weren't carrying any gold on their person ("high grading"). Unlike many other mines in the area, however, the Kennedy Mine worked on an honor system when it came to high-grading. Although they knew it occurred, as long as the "theft" was less than 10%, it was ignored. Because miners hung their wet and filthy garments to

dry before showering to leave and would then put them on again the next day, the building became known colloquially as "The Dry."

- Blacksmith/Machine Shop--Equipment was manufactured or repaired in this building
- Foreman Office—Underground--All mining operations below ground were directed from this building. When a miner came on duty he would report to this building and pick up his "brass," an identifying tag, so that the foreman could tell who was in the mine at all times. At the end of the shift, (eight hours later), when the miner came up out of the mine, he dropped his "brass" into the square slot in the brick wall to the right of the door.
- The surface plant destroyed in the fire of 1928 was rebuilt and the Kennedy Mine reopened in May. Hoisting rock began on May 13 and the mill started crushing rock on May 14. A second shaft was started about 100 feet east of the East Shaft at the 4,650 foot level. Unlike the vertical East Shaft, this shaft (winze) progressed at a 65 degree incline. It had its own hoist and was sunk to relieve the hoisting power necessary in the vertical shaft. This offset shaft reached the 5,850 foot level, with a sump at 5,912 vertical feet. Total depth of both shafts reached 5,912 vertical feet when the mine closed in 1942. It was reported in September that over 200 men were employed and that the 60 stamp mill was operating on good ore. The shaft was sunk another 250 feet from the 4,650 level. Eventually the East Shaft would reach 5,912 vertical feet, with over 50 miles of underground workings.

1931: A ball mill and flotation cell process replaced many of the concentrating processes of the 100-stamp mill.

1933: To recover some of the gold that was lost in the crushing by the stamp mill, construction of a 1,500-ton cyanide plant was begun. The plant was constructed on the ridge immediately west of the impoundment dam. The purpose of this facility was to re-treat the tailings accumulated in the impoundment dam. Tailings were removed, processed through the cyanide leaching plant, and deposited into a separate Tailings Pile adjacent to the western slope of the process area ridge.

1934: The official price of gold from 1837 to 1932 was $20.67 per ounce. In January of 1934 the official price of an ounce of gold increased to $35.00. Because of the high price of gold, the lower grade ore could be mined productively. Construction of a steel cyanide plant, the largest in the world, was finished. An indirect effect of the increase in

the price of gold was worker unionization.

- On September 30, the Mother Lode Local No. 48 of the International Union of Mine, Mill, and Smelter Workers voted to strike, demanding recognition of the union, a raise in wages, and a six-day work week. The union asked for $5.57 a day, time and a half for overtime and Sundays, and double time for holidays. The salary increases were based on the increased price of gold. The mine owners stated that the gold price increase did not translate into bigger profits but merely allowed the mines to extract more of the lower-grade ore, which meant more mining jobs.
- Monday, October 1, Day operations ceased. Pickets were stationed at various entrances to the mine properties to prevent workmen from entering except for emergency workers to keep the mines free from water.
- October the 1,500 ton capacity cyanide plant went into operation. The tailings were pumped out into impound dam.
- On October 25, California's governor, Frank Merriam, called for a "six-point" mining program to resolve the miner's strike.
- The strike continued and then on November 29 a meeting was held in Sutter Creek followed by a meeting December 13 in Jackson.
- On December 20 the lower levels of the Kennedy Mine flooded because the pumps had not been operating due to the striking miners.

The floatation system went into full operation to separate the sulfide particles coming over the mercury coated plates in front of the operating stamps. The floatation system replaced concentrator tables previously used to separate the sulfide particles. Sulfides contributed to approximately 21% of the gold produced by the Kennedy Mining and Milling Company between 1886 and 1942. The flotation method was first tested at the Kennedy in 1931. Equipment included a 5 by 5 ft Allis Chalmers ball mill in a closed circuit with an 8 by 24 foot Dorr classifier. A 10-cell flotation machine, followed by a 2-cell cleaner, comprised the flotation equipment, with a Dorr filter for dewatering concentrates.

1935:

- January 1, The Cyanide Plant became operational. Over the next 4 years, this plant processed 1,309,118 tons of tailings from the dam site. The reworked tailings of the cyanide plant were covered with heavy soil by bulldozers to prevent the fine sand particles from being blown by winds. The foundation of the

plant and the mound of reworked tailings are visible to the northeast of St. Sava's Church.

- February 22 10 men were hired to pump water from the mine. The strike ended in March and the mine reopened on Monday, March 11 with about 50 men. The Stamp Mill (Resource No. 12) was restarted and began to crush rock that had been placed in the bins before the strike went into effect. Hoisting rock continued to be held up till dewatering was complete. On March 29 Webb Smith retired and his duties were assumed by mine foreman William Sinclair, who had been employed at the Kennedy since 1919.

1939: June 1, the Cyanide plant was stopped and tailings ceased being pumped into the impound dam. On October 12 Superintendent William Sinclair died at age 54. He had been ill for 18 months. On October 19, Mark Eudey was named the acting superintendent. He had been the accountant for the Kennedy Mine and Milling Company since 1936.

1940: Webb Smith, who had served as mine superintendent, died February 8.

1941: From 1929 to 1941 the chief production was between the 4,650 foot and 5,900 foot levels. High voltage electricity was brought to the mine and is sufficient to run heavy equipment. In August, increasing costs caused all work below the 4,650 foot level to be discontinued. From this time until the mine closed, preparations were underway to mine known ore from the 4,650 foot level and above.

1942: War Production Board Limitation Order L-208 was issued on October 8th, causing all sizeable mining operations to cease. At this time the Kennedy Mine was the deepest mine in North America at 5,912 vertical feet. The East Shaft went straight down to 4,764 feet. The Kennedy Mine accounted for over 50 miles of underground workings. Corrugated iron buildings which had enclosed the tailing wheels were torn down and used for scrap. Machine/Blacksmith Shop was dismantled.

1945: Order L-208 was lifted on July 1st, however, the Kennedy Mine did not reopen due to flooding, and the effect that the water had on the underground wooden supports over the three year period that the mine was closed.

1948: In 1948-49 the tailings were worked intermittently (using trammels and vibrators) by Frank Fuller Jr. of Jackson and from 1949-50 by Michael Hagel of Sacramento in

hopes to extract gold. Hagel's project was not successful. The reworked tailings were dumped west and southeast of the Cyanide Plant. When the wind blew, dust-like sand from this area created problematic air pollution. The Kennedy Mine Company solved this by covering the tailings debris with heavy soil.

1950: The Kennedy Mining and Milling Company goes out of business.

- September 7 the Board of Directors voted to sell all assets of the Company to J.S. Hutchinson for $30,000 but withholding the bank account and the Fuller contract, the latter to be divided amongst the stock outstanding.
- September 21 Mark Eudey acquired the deed to the Kennedy Mine property from the Kennedy Mining and Milling Company.
- December 26, the Kennedy Mining and Milling Company went out of business, ending one of the best known mining operations in California. The gold lodes were, however, not exhausted and further mining could be warranted under more favorable economic conditions.

1952: The quitclaim deed, bill of sale, and assignment show James Sather Hutchinson purchasing the mine from Mark Eudey (the last mine superintendent) on September 16. The Machine Shop machinery was sold at auction.

1953: The Kennedy Mine's management wrote a memorandum to the U.S. Government asking for $200,000 ($500,000 in gold value less the recovery expenses of $300,000) due to the remaining gold at the 4,050 level abandoned because of the Government's sudden demand to close the mine in 1942. In the Memo, it is stated, "The location of this ore is between the 3,600 and 4,050 levels. The 3,600 station is so close that blasting would disturb the ore in question. The 3,750 and 3,900 stations are right in the ore body. The 4,050 station is out of it but again so close that blasting would disturb. The mine development from the vertical shaft has been by levels at 150 foot intervals. From stations above and stations below the transsection the ore body, naturally, was reached by cross-cuts." This memorandum was never sent to the government.

1959: James S. Hutchinson suddenly died before his 92nd birthday. Mark Eudey reacquired the Kennedy property. On May 18 Mark and Frances H. Eudey deeded for $10 to Harry and Edna Wiechman and Morton A. and Helen Sullivan the following real property:

- Land to the east of the center line of the Jackson Gate Road and to the east of the center line projected southerly that had been held by the Kennedy Mining and Milling Company
- Property formerly belong to the Zeile Mine Company
- Property formerly belonging to S. W. Bright which had been acquired and held by the Kennedy Mining and Milling Company

Mark Eudey reserved to himself and his heirs and assigns all subsurface rights in and to the underground workings of the Kennedy Mine below a depth of 500 feet from the surface of the lands conveyed and all subsurface extralateral rights which had formerly belonged t the Kennedy (mineral rights).

1960: In February there was a survey of the Kennedy Mine property by Walter H. Ralph R.C.E. 1706 for Mark Eudey recorded at the Amador County Surveyor's Office on June 15. "Record of Survey, Property of Mark Eudey." On December 1, the Kennedy Mine (152 acres, buildings, and mineral rights) was acquired by Sybil Arata for approximately $41,600. Sybil had been teaching ceramics at San Francisco City College. After the purchase, Sybil moved into the residence of the mine's former boarding house manager. The tailings from the mine were covered with a layer of soil.

1963: Tailing Wheel #3 fell down. On September 18, the Kennedy Mine was designated a California Historical Landmark.

1970: Tailing Wheel #2 fell down.

1994: Sybil Arata died on May 12 and it was her wish that the Kennedy Mine (1) was to be preserved for its historic value, and (2) be maintained as open space for wildlife habitat. The original intent was to donate this property to the Nature Conservancy, but they turned it down. A committee was created by Bob Devlin to discuss and decide upon possible uses of the property and included representatives from the Amador Land Trust, Historical Society, Foothill Conservancy, Jackson City, and Amador County.

1995: The Kennedy Mine Committee, created in 1994 and led by Bob Devlin, used many volunteers and performed the initial clean-up of the property which was in great disrepair.

1996: The nonprofit Kennedy Mine Foundation was formed. On November 16 responsibilities are transferred from the Kennedy Mine Committee to the Kennedy Mine

Foundation. The Kennedy Mine Committee is disbanded.

1997: Legal ownership of the Kennedy Mine was conveyed to the nonprofit Kennedy Mine Foundation on July 22, 1997.

2002: Highway 49 is widened and the South shaft, 500 feet away from the North shaft, is covered over with fill. Underneath the widened Highway 49 the South Shaft is filled with water, but otherwise intact.

2006: Kennedy Mining and Milling lands originally deeded to Wiechman and Sullivan, and now owned by the Oro de Amador, Inc., were deeded to the City of Jackson on December 4, excluding the subsurface mineral rights which continue to be held by the Kennedy Mine Foundation.

Table 1
Productivity at Kennedy Mine from 1886 through 1942

Year	Levels Worked	Tons Ore	Tons Sulpherets	Yield Sulpherets per Ton of Ore	Total oz Gold that Year	Total oz Gold To-Date
1886-7	1000 - 1200	35,518	419.83	1.125	7,546	7,546
1888	|	22,754	313.06	1.029	5,557	13,103
1889	|	24,668	363.21	1.270	6,925	20,028
1890	↓	25,508	299.08	0.977	10,512	30,539
1891		37,550	560.62	1.830	23,467	54,006
1892	1200 –	37,600	686.61	1.281	19,653	73,659
1893	1900	35,668	931.30	2.320	32,062	105,722
1894	|	35,183	1,302.09	2.254	25,594	131,316
1895	|	34,559	1,103.98	1.953	25,956	157,271
1896	|	36,741	734.88	1.688	18,171	175,442
1897	|	38,713	740.36	1.359	14,389	189,830
1898	↓	36,267	707.12	1.624	15,897	205,727
1899	1900 –	47,136	709.50	1.300	15,311	221,038
1900	2500	54,414	815.92	1.120	11,024	232,062
1901	|	59,834	1,027.59	1.541	15,696	247,759
1902	|	64,190	881.60	1.160	15,227	262,986
1903	|	95,836	1,338.00	1.069	19,049	282,035
1904	|	116,924	1,492.75	1.000	24,784	306,819
1905	↓	148,136	1,954.70	1.009	26,126	332,945
1906	2500 –	152,320	2,635.49	1.157	21,558	354,503
1907	3100	143,930	2,780.20	1.495	36,139	390,642
1908	|	154,100	3,255.47	1.421	37,650	428,292
1909	|	145,300	2,779.16	1.282	32,726	461,018
1910	|	168,000	3,538.49	1.345	39,991	493,463
1911	|	171,900	3,395.58	1.274	39,589	540,598
1912	↓	172,200	3,203.63	1.355	40,313	580,911
1913	3100 –	167,400	2,983.99	1.378	43,053	623,963
1914	4050	166,600	3,012.98	1.188	35,098	659,061
1915	|	164,000	2,606.43	1.156	38,200	697,261
1916		140,900	1,880.81	1.177	39,191	736,453

1917	|	142,500	1,755.54	1.127	34,399	770,852
	↓					
1918	Argonau	94,150	1,225.33	1.294	23,883	794,735
1919	t Fire	109,650	1,235.52	1.253	26,589	821,324
1920	|	14,833	163.06	1.214	3,778	825,102
1921	|	12,714	186.77	3.090	5,853	830,954
1922	↓	83,091	1,137.37	1.624	25,895	856,849
1923	4650-	66,132	975.42	1.559	21,123	877,972
1924	5100	119,328	1,317.88	1.421	42,022	919,994
1925	↓	113,385	1,013.90	1.188	41,006	961,000

Table 1
Productivity at Kennedy Mine from 1886 through 1942
Continued From Previous Page

Year	Levels Worked	Tons Ore	Tons Sulpherets	Yield Sulpherets per Ton of Ore	Total oz Gold that Year	Total oz Gold To-Date
1926	|	100,292	710.58	0.968	38,250	999,249
	↓					
1927		97,059	722.42	0.988	43,446	1,042,696
1928	Mill-9 months	69,277	502.53	1.023	29,541	1,072,237
1929	Mill-6 month <fire>	50,264	320.76	0.882	22,925	1,095,161
1930		88,126	631.00	0.921	33,250	1,128,411
1931		88,846	716.80	1.013	31,366	1,159,777
1932		71,054	854.47	1.080	19,039	1,178,816
1933		64,740	661.25	1.167	11,886	1,190,702
1934		41,693	587.20	2.136	13,428	1,204,131
1935		25,780	456.25	2.455	7,898	1,212,028
1936		37,178	606.28	2.048	9,387	1,221,415
1937		9,600	118.98	1.609	3,349	1,224,763
1938		4,091	70.25	2.353	1,386	1,226,150
1939		18,275	298.24	2.298	4,084	1,230,233
1940		26,733	497.07	2.229	5,618	1,235,851
1941		25,803	533.06	3.081	5,362	1,241,213

1942		13,282	277.04	2.588	4,218	1,245,431
	Totals	**4,321,73**	**66,029.40**	**1.313**		

Table 2
Dividend and Assessment Account at Kennedy Mine from 1886 through 1942

Year	Bullion Value ($)	Bullion Yield per Ton	Sulpherets Value	Total Value	Total Value per Ton	Dividends
1886-7	$116,021.75	$ 3.267	$ 39,956.28	$ 155,978.03	$ 4.392	$ 17,000
1888	$ 91,459.56	$ 4.019	$ 23,405.60	$ 114,865.16	$ 5.048	$ -
1889	$ 111,789.82	$ 4.532	$ 31,340.06	$ 143,129.88	$ 5.802	$ 15,000
1890	$ 192,353.90	$ 7.541	$ 24,921.96	$ 217,275.86	$ 8.518	$ 30,000
1891	$ 416,341.28	$ 11.088	$ 68,716.79	$ 485,058.07	$ 12.918	$ 310,000
1892	$ 358,047.12	$ 9.523	$ 48,180.86	$ 406,227.98	$ 10.804	$ 220,000
1893	$ 579,994.43	$ 16.261	$ 82,735.20	$ 662,729.63	$ 18.581	$ 480,000
1894	$ 449,716.05	$ 12.782	$ 79,315.70	$ 529,031.75	$ 15.037	$ 340,000
1895	$ 469,010.35	$ 13.571	$ 67,491.27	$ 536,501.62	$ 15.524	$ 340,000
1896	$ 313,565.86	$ 8.534	$ 62,018.88	$ 375,584.74	$ 10.222	$ 190,000
1897	$ 244,795.85	$ 6.323	$ 52,617.75	$ 297,413.60	$ 7.683	$ 80,000

Table 2
Dividend and Assessment Account at Kennedy Mine from 1886 through 1942
Continued from previous page

Year	Bullion Value ($)	Bullion Yield per Ton	Sulpherets Value	Total Value	Total Value per Ton	Dividends
1898	269,684.24	$ 7.436	$ 58,905.31	$ 328,589.55	$ 9.060	$ 125,000
1899	255,184.17	$ 5.414	$ 61,284.53	$ 316,468.70	$ 6.714	$ 75,000
1900	166,930.29	$ 3.068	$ 60,941.22	$ 227,871.51	$ 4.188	$ 25,000
1901	232,264.64	$ 3.882	$ 92,180.88	$ 324,445.52	$ 5.422	$ 10,000
1902	240,310.55	$ 3.744	$ 74,434.81	$ 314,745.36	$ 4.903	$ -
1903	291,305.47	$ 3.040	$ 102,435.07	$ 393,740.54	$ 4.108	$ -
1904	395,381.24	$ 3.382	$ 116,906.78	$ 512,288.02	$ 4.381	$ 95,000
1905	390,601.76	$ 2.637	$ 149,422.08	$ 540,023.84	$ 3.645	$ 150,000
1906	269,321.38	$ 1.768	$ 159,554.84	$ 445,608.95	$ 2.925	$ 20,000
1907	531,876.66	$ 3.695	$ 209,656.29	$ 746,990.54	$ 5.190	$ 250,000
1908	559,212.74	$ 3.629	$ 219,013.15	$ 778,225.89	$ 5.050	$ 265,000
1909	490,197.38	$ 3.374	$ 186,251.57	$ 676,448.95	$ 4.656	$ 230,000
1910	600,626.17	$ 3.575	$ 224,584.47	$ 826,612.59	$ 4.920	$ 290,000
1911	599,318.33	$ 3.486	$ 217,862.49	$ 818,304.32	$ 4.760	$ 265,000
1912	599,993.94	$ 3.484	$ 232,493.11	$ 833,260.05	$ 4.839	$ 295,000
1913	659,256.64	$ 3.938	$ 228,723.55	$ 889,895.27	$ 5.316	$ 300,000
1914	527,591.52	$ 3.167	$ 197,890.00	$ 725,481.52	$ 4.355	$ 145,000
1915	600,080.44	$ 3.659	$ 189,516.07	$ 789,596.51	$ 4.815	$ 210,000
1916	644,239.39	$ 4.572	$ 165,845.02	$ 810,084.41	$ 5.749	$ 235,000
1917	550,458.83	$ 3.863	$ 160,574.57	$ 711,033.40	$ 4.990	$ 120,000
1918	371,871.14	$ 3.950	$ 121,786.20	$ 493,657.34	$ 5.243	$ 25,000
1919	412,191.62	$ 3.759	$ 137,401.00	$ 549,592.62	$ 5.012	$ -
1920	60,078.31	$ 4.050	$ 18,009.98	$ 78,088.29	$ 5.264	$ -
1921	81,694.06	$ 6.426	$ 20,259.99	$ 120,978.75	$ 9.515	$ -
1922	400,311.34	$ 4.818	$ 126,449.34	$ 535,244.59	$ 6.442	$ -
1923	333,474.09	$ 5.043	$ 103,129.89	$ 436,603.98	$ 6.602	$ -
1924	699,040.48	$ 5.858	$ 169,551.02	$ 868,591.50	$ 7.279	$ -
1925	712,926.56	$ 6.288	$ 134,671.36	$ 847,597.92	$ 7.475	$ 25,000
1926	693,563.65	$ 6.915	$ 97,056.43	$ 790,620.08	$ 7.883	$ 65,000
1927	802,146.43	$ 8.265	$ 95,890.40	$ 898,036.83	$ 9.252	$ 160,000
1928	539,719.45	$ 7.791	$ 70,888.96	$ 610,608.41	$ 8.814	$ 100,000

1929	429,495.22	$	8.545	$ 44,354.50	$	473,849.72	$ 9.427	$ 10,000
1930	606,077.60	$	6.877	$ 81,205.82	$	687,283.42	$ 7.799	$ 10,000
1931	558,320.58	$	6.284	$ 90,005.14	$	648,325.72	$ 7.297	$ 10,000
1932	316,805.18	$	4.459	$ 76,736.42	$	393,541.60	$ 5.539	$ -
1933	340,469.82	$	5.259	$ 75,532.01	$	416,001.83	$ 6.426	$ -
1934	380,939.12	$	9.137	$ 89,057.33	$	469,996.45	$11.273	$ -
1935	213,118.41	$	8.267	$ 63,294.20	$	276,412.61	$10.722	$ 150,000
1936	252,413.03	$	6.789	$ 76,125.85	$	328,538.88	$ 8.837	$ 110,000

Table 2
Dividend and Assessment Account at Kennedy Mine from 1886 through 1942
Continued from previous page

Year	Bullion Value	Bullion Yield per Ton	Sulpherets Value	Total Value	Total Value per Ton	Dividends
1937	101,752.69	$ 10.599	$ 15,447.96	$ 117,200.65	$ 12.208	$ 20,000
1938	38,890.89	$ 9.506	$ 9,624.14	$ 48,515.03	$ 11.859	
1939	100,933.47	$ 5.523	$ 41,991.44	$ 142,924.91	$ 7.821	
1940	137,037.44	$ 5.126	$ 59,587.30	$ 196,624.74	$ 7.355	
1941	108,148.04	$ 4.191	$ 72,506.71	$ 187,654.75	$ 7.273	
1942	113,248.27	$ 8.526	$ 34,379.75	$ 147,628.02	$ 11.115	
Total	**21,021,598.64**	**$ 4.864**	**5,676,031.76**	$ 26,697,630.40	$ 6.178	$5,812,000

Note::

- The amount value realized from the cyanide plant was $1,508,200.90, raising the grand total to $28,205,831.30.
- There are some who dispute the 26,6 figure

Berriman, Clyde R.
1980 Kennedy Tailing Wheels National Register of Historic Places Inventory—Nomination Form United States Department of the Interior Heritage Conservation and Recreation Service. Structure #81000146.

California Department of Transportation
2008 Draft Historical Context and Archaeological Research Design for Mining Properties in California. California Department of Transportation, Sacramento, CA.

Cenotto, Larry
1977 Amador County History. Reprint of 1927 Edition. The Fun Times Publishing Company, Jackson, CA

Clark, William B. and Carlson, Denton W.
1954 Mines and Mineral Resources of Amador County, CA. California Journal of Mines and Geology, Volume 50, January 1954 No. 1. State of California, Department of Natural Resources, Division of Mines, Ferry Building San Francisco.

Clark, William B.
1963 Gold Districts of California, Bulletin 193. Sesquicentennial Edition. California Gold Discovery to Statehood. Department of Conservation, Division of Mines and Geology.

Crawford, J.J.
1894 Twelfth Report (Second Biennial) of the State Mineralogist for Two Years Ending September 15, 1896. California Mining Bureau Report 13, 726 pp, Amador County: Gold pp 65-81.

Dames and Moore, an Environmental Engineering Firm
1995 Final Environmental Assessment Kennedy Mine Tailings Site Jackson, California for Oro de Amador, Inc.

Department of Conservation
2000 California's Abandoned Mines: A report on the Magnitude and Scope of the Issue in the State, Volumes 1 and 2. Office of Mine Reclamation, Abandoned Mine Lands Unit

Devlin, Bob
1996 Kennedy Mine Recollections: From the Death of Sybil Arata to the Formation of the Foundation. Personal notes.

Folio, Jackson
1898 Geologic Atlas of the United States. Department of the Interior U.S. Geologic Survey. J.W. Powell, Director

Garbarini, Evelyn
1975 The Kennedy Wheels. Amador Ledger Print, Martell, CA.

Holliday, J. S.
1999 Rush for Riches; Gold Fever and the Making of California. Oakland Museum of California, University of California Press, Berkeley and Los Angeles, California

Irelan, William Jr.
1889 Eighth Report of State Mineralogist, For the Year Ending October 1, 1888. California State Mining Bureau, Sacramento, CA

Irelan, William Jr.
1891 Tenth Report of State Mineralogist, For the Year Ending October 1, 1890. California State Mining Bureau, Sacramento, CA

Irelan, William Jr.
1893 Eleventh Report of State Mineralogist, First Biennial for the year ending September 15, 1892. California State Mining Bureau, Sacramento, CA

Kennedy Mine Foundation Archives
Jackson, California

Kennedy Quarterly, The
2000 Chronicles of Amador County: 1918—A Time of Change in Amador County

Logan, Clarence
1934 Mother Lode Gold Belt of California. Bulletin 108

Loyd, Ralph C.

1983 Mineral Classification of the Sutter Creek 15' Quadrangle, Amador and Calaveras Counties, California. Open File Report 83-36 SAC. Under the direction of Thomas P. Anderson, Program Manager, and Rudolph G. Strand, Minerals Officer. California Department of Conservation, Division of Mines and Geology. Sacramento, CA

Mason, J.D.
1881 History of Amador County with Illustrations and Biographical Sketches of its Prominent Men and Pioneers. Thompson & West, Oakland, CA

McCabe-Pressey Architects
1999 Kennedy Mine Office Building Restoration Maintenance Manual

Richards, Robert Wendell
1999 The Tall Frames: Quartz Mining After the Gold Rush. A History of Amador County Mining. Hilda's House Publications, Sutter Creek, CA

Supernowicz, Dana et. al (Caltrans)
2006 Historic Resource Evaluation Report for the Proposed Widening and Rehabilitation Project State Route 49/88 in Jackson and Martell Amador County, California 10-AMA-49, PM 4.0/5.8 and 9.8/10.5 EA 461300; Prepared for Gary Gagliolo, Acting Chief Central Sierra Environmental Analysis Branch Central Region, Fresno California

Thomas, Julie
2003 Kennedy Mine Foundation Archives: Consultant's Report. A Special Collections and Manuscripts Librarian, California State University, Sacramento

Wagner, Jack R
1970 Gold Mines of California. Howell-North Books Berkeley, CA

Young, George J.
1929 Kennedy Mine Replaces its Surface Plant; May 11 issue of Engineering and Mining Journal

U.S. Supreme Court
1902 Kennedy Min & Mill Co v. Argonaut Mining Co, 189 U.S. 1 (1903); Kennedy Mining & Milling Company, Plff. In Err., v. Argonaut Mining Company. No. 49;

Kennedy Ming & Milling Company, Plff. In Err., v. Argonaut Mining Company. No. 58.

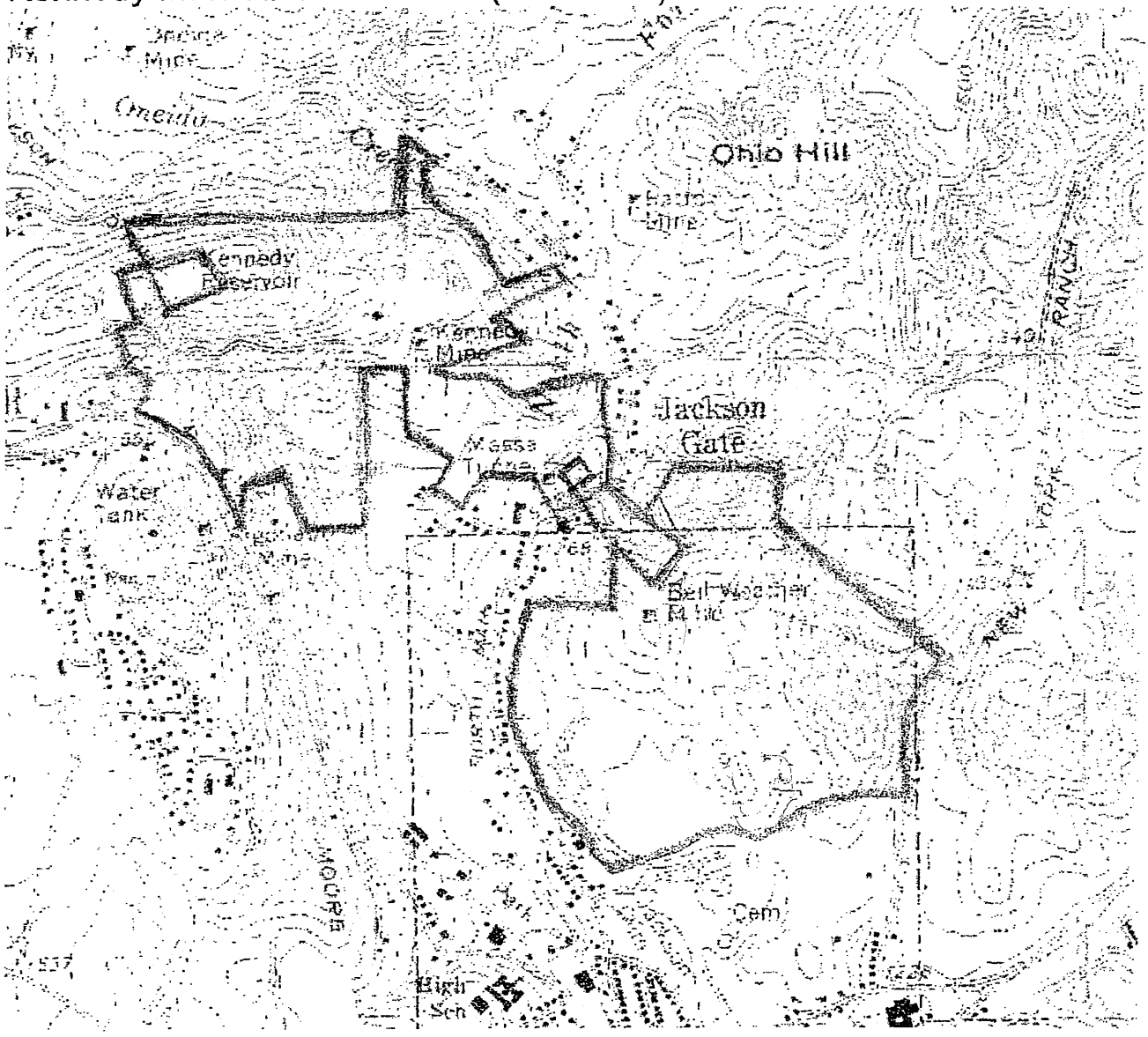
Boundary Description

APNs:
044-010-027-000 (within jurisdiction of Amador County)
020-020-030-000 (within jurisdiction of Amador County)
020-020-023-000 (with jurisdiction of City of Jackson)
020-020-027-000 (with jurisdiction of City of Jackson)

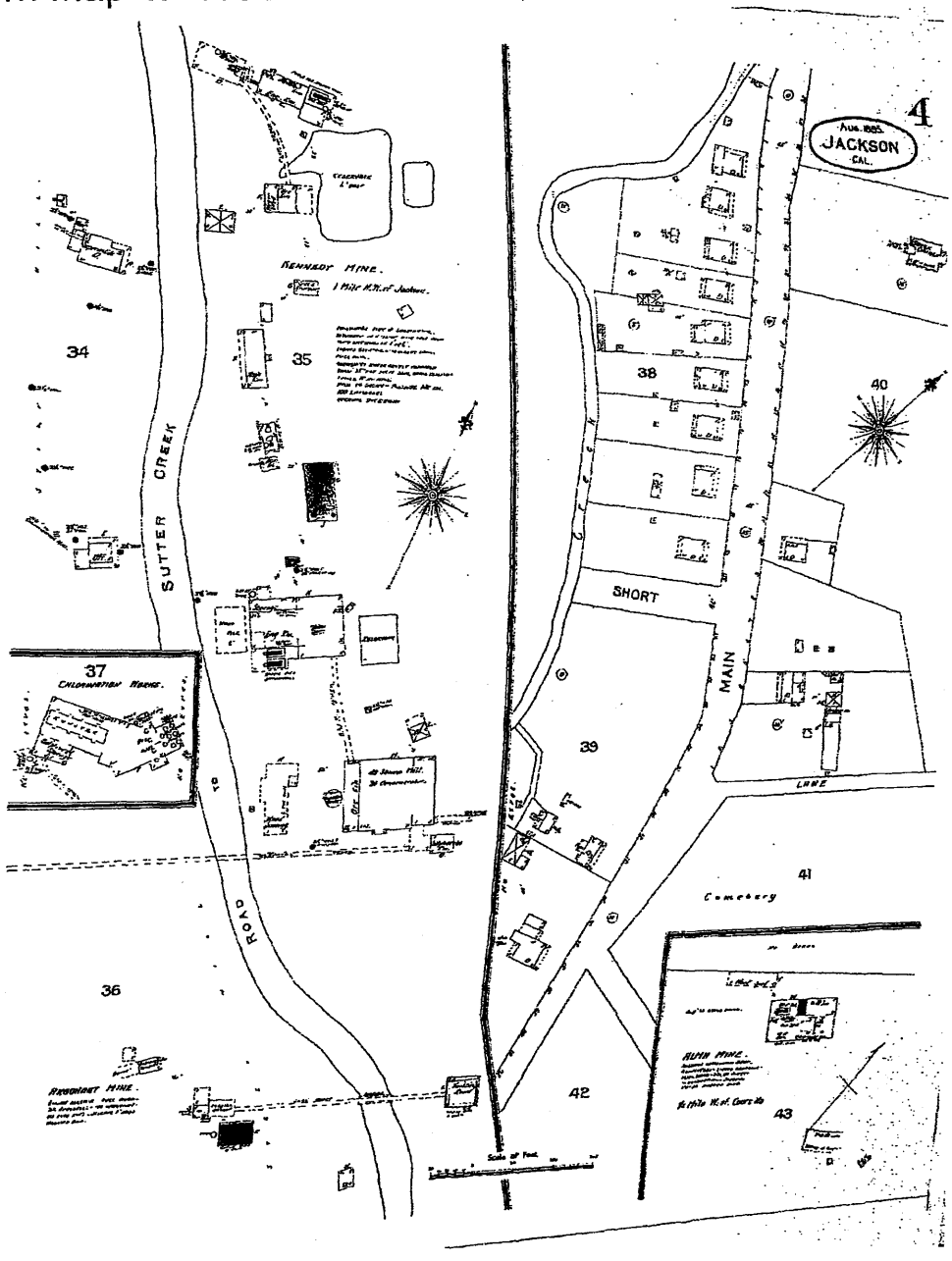
Boundary Justification

These are the parcels historically associated with Kennedy Mine.

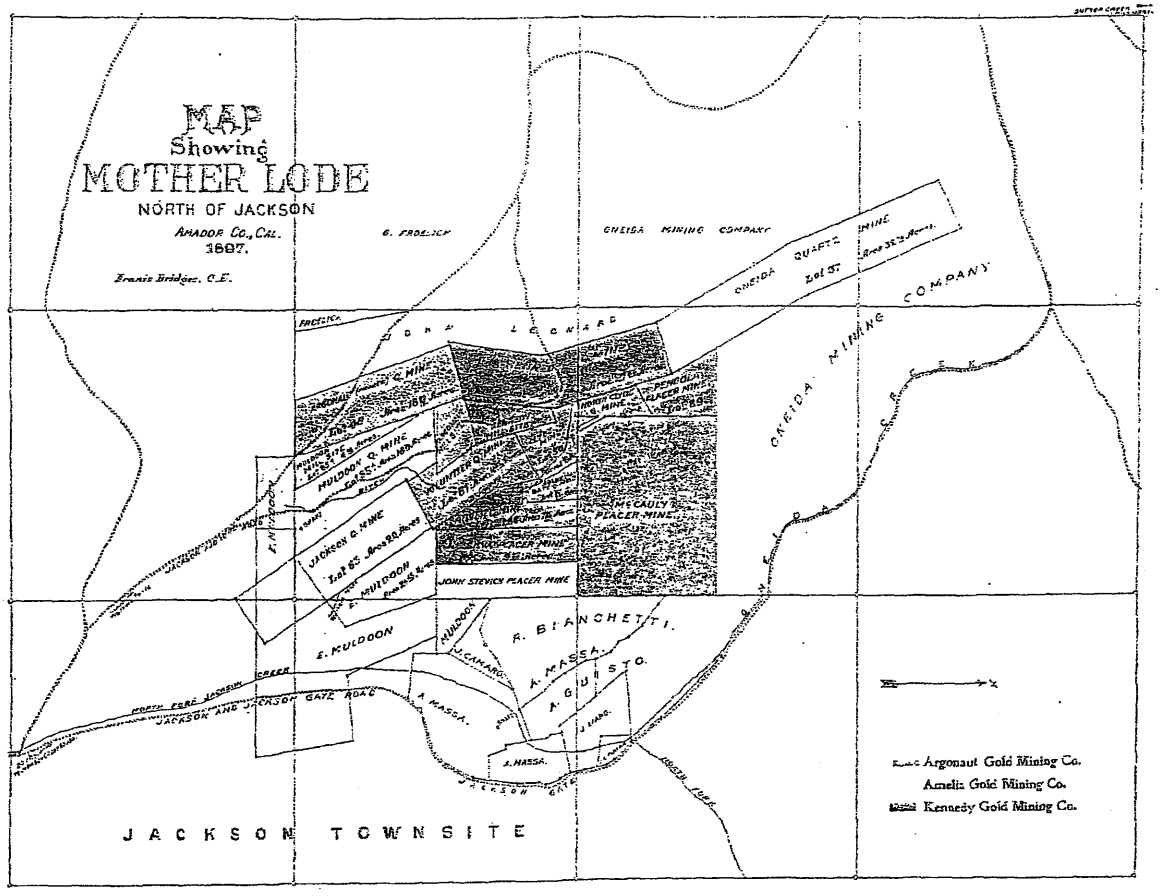
Kennedy Mine Historic District (Areas 1-7)



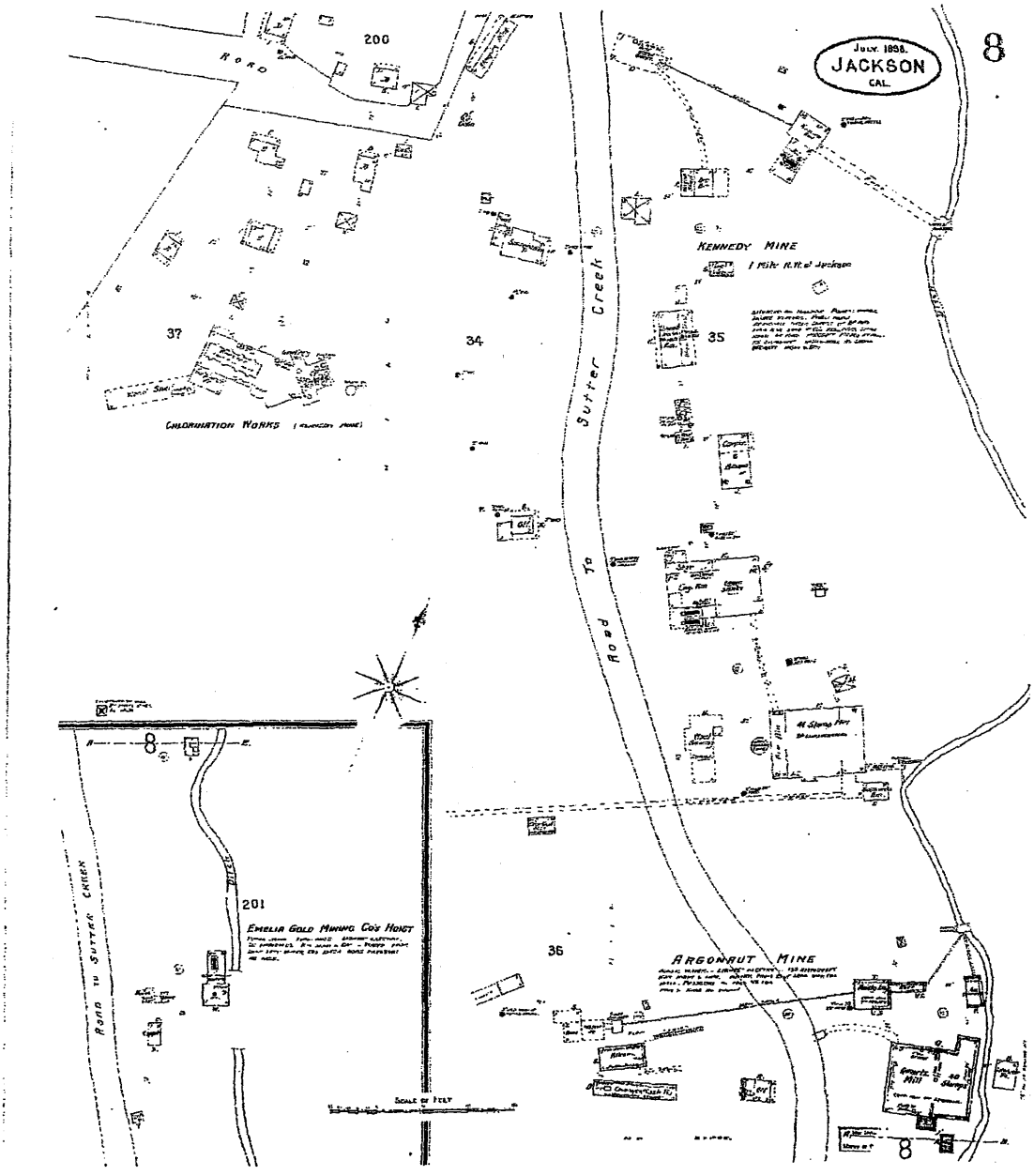
Sanborn Map 4: 1895



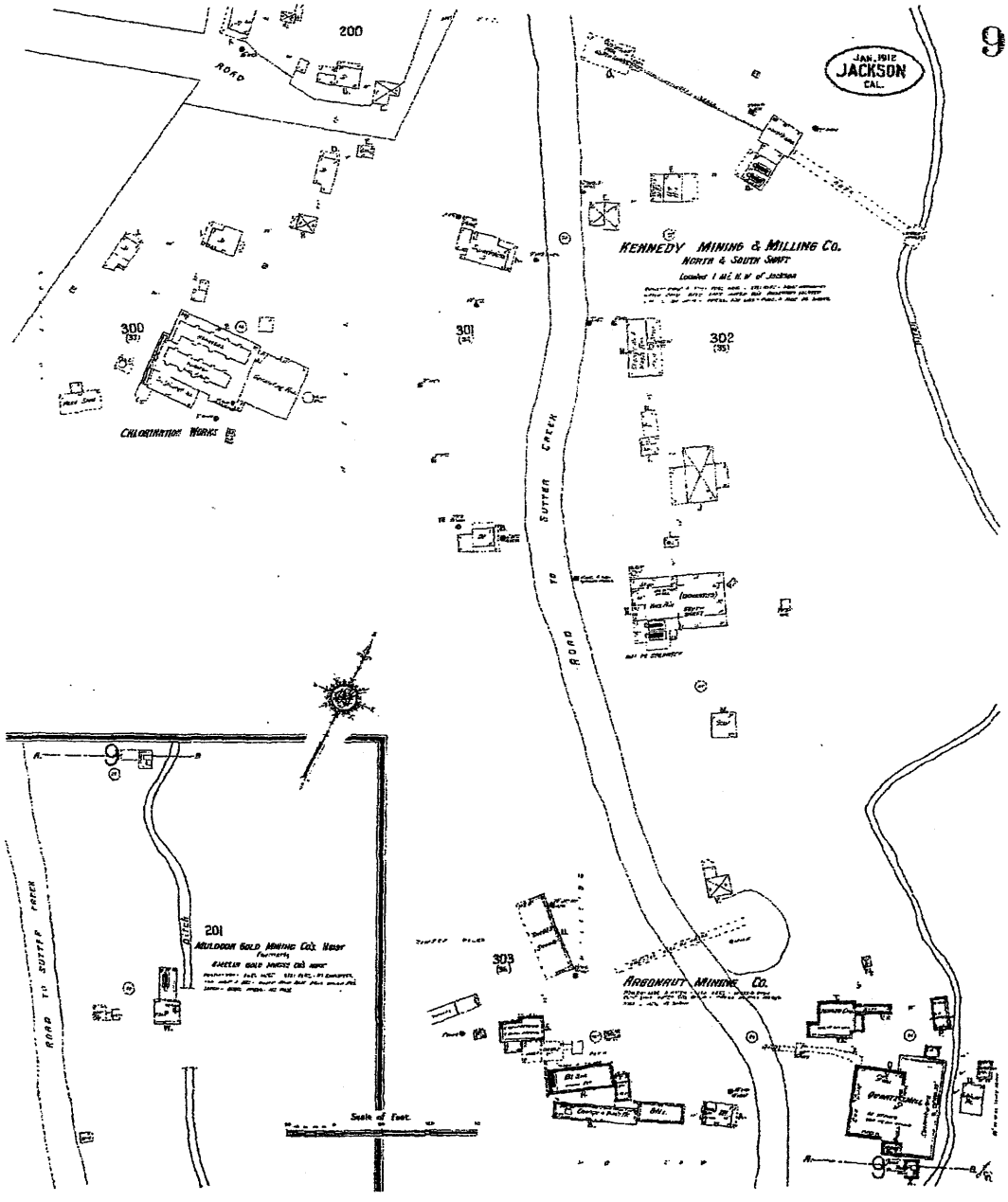
1897


MAP
Showing
MOTHER LODE
NORTH OF JACKSON
AMADOR Co., CAL.
1897.
Francis Bridges, C.E.
ONEIDA MINING COMPANY
ONEIDA QUARTZ MINE
Lot 37
ONEIDA MINING COMPANY
JACKSON G. MINE
E. MULDOON
JOHN STEVICH PLACER MINE
R. BIANCHETTI
A. MASSA
A. GIUSTO
NORTH FORK JACKSON CREEK
JACKSON AND JACKSON GATE ROAD
JACKSON TOWNSITE
Argonaut Gold Mining Co.
Amelia Gold Mining Co.
Kennedy Gold Mining Co.

Sanborn Map 8: 1898

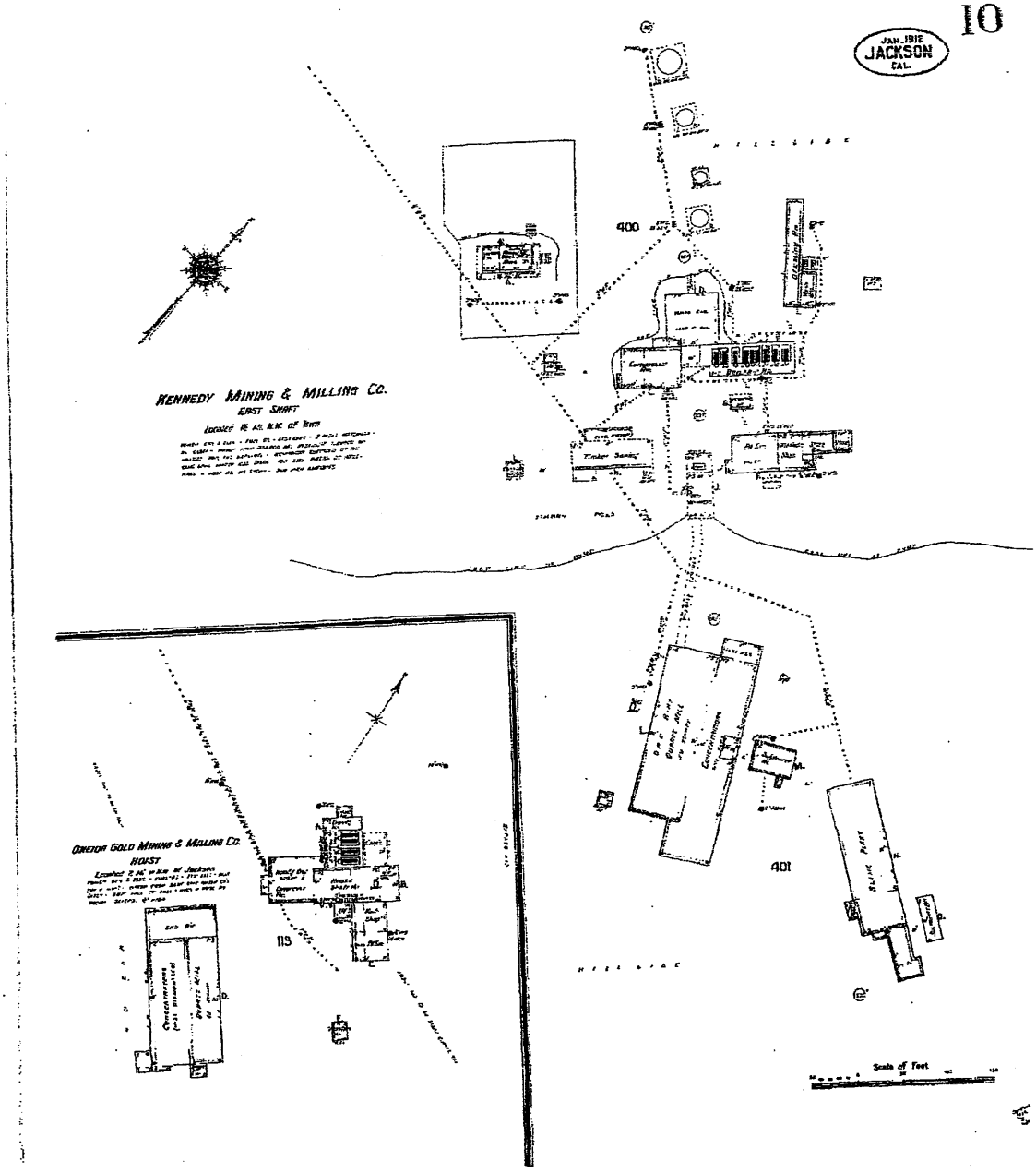


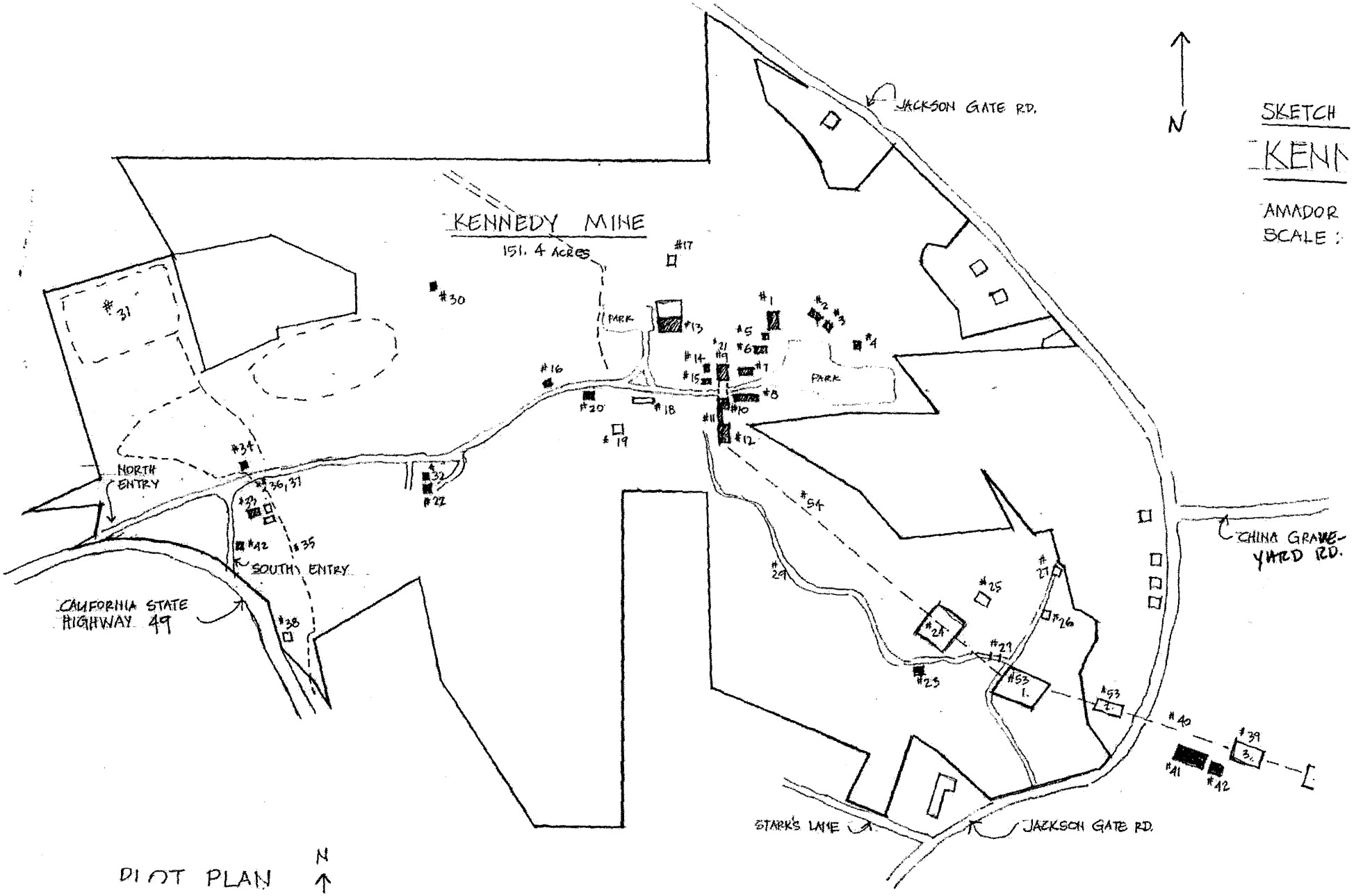
Sanborn Map 9: 1912


9
200
ROAD
JAN. 1912
JACKSON
CAL.
KENNEDY MINING & MILLING CO.
NORTH & SOUTH SHAFT
300
301
302
CHLORINATION WORKS
SUTTER CREEK
TO SUTTER CREEK ROAD
201
303
ARGONAUT MINING CO.
Scale of Feet.
9

Sanborn Map 10: 1912

10


JAN. 1918
JACKSON
CAL.
400
KENNEDY MINING & MILLING CO.
EAST SHAFT
OREGON GOLD MINING & MILLING CO.
HOIST
115
401
Scale of Feet


KENNEDY MINE
151.4 ACRES
JACKSON GATE RD.
N
SKETCH
KENN
AMADOR
SCALE :
PARK
PARK
NORTH ENTRY
SOUTH ENTRY
CALIFORNIA STATE HIGHWAY 49
CHINA GRAVE-YARD RD.
STARK'S LANE
JACKSON GATE RD.
#1
#2
#3
#4
#5
#6
#7
#8
#9
#10
#11
#12
#13
#14
#15
#16
#17
#18
#19
#20
#21
#22
#23
#24
#25
#26
#27
#28
#29
#30
#31
#32
#33
#34
#35
#36
#37
#38
#39
#40
#41
#42
#53
#54

PLOT PLAN N