

Furnished by Chris Goode

## 1.2.2 Site Operations and Source Characteristics

The Braden Mine has been in operation since approximately 1885 (Brooks and Ramp 1968). Since that time, site operations have included a horse-powered arrastra to crush the ore, and later, an electric "10-stamp" mill equipped with mercury-coated amalgamating plates, and four Johnson vanners (an ore concentrating machine; ODEQ 2002). After the ore was crushed to a fine powder in the stamp mill, the slurry was passed over the amalgamating plates, and then concentrated using the Johnson vanners. The high-grade concentrate yielded by the vanners was sent off-site for further purification (ODEQ 2002). ODEQ states that although there is no documentation of cyanide being used in milling processes, one of the current landowners reports that cyanide had indeed been used onsite (ODEQ 2002). The former mill was located on what is now the Ronish property (ODEQ 2002). In total, the mine site once included over 3,000 feet of workings, including six adits and an inclined shaft with several drifts (ODEQ 2002).

According to property owners and representatives, the most recent mining attempts at the site occurred on the BLM property in the 1970s or 1980s (Ronish 2003a; Mustain 2003). These activities continued for approximately 4 to 5 years, and included a small ball mill and mercury-separating table (Ronish 2003a). These efforts also resulted in the construction of suspected cyanide vats and a shallow groundwater well (Thoms 2003b).

Contaminants of concern at the site associated with these operations include target analyte list (TAL) metals and cyanide.

## 1.2.3 Site Characterization

This section summarizes previous site investigations (Section 1.2.3.1), discusses migration/exposure pathways and targets (Section 1.2.3.2), and describes areas of potential contamination (Section 1.2.3.3).

### 1.2.3.1 Previous Site Investigations

ODEQ conducted a site reconnaissance inspection on November 6, 2001. The Ronish property was the only parcel inspected (ODEQ 2002). No adits, shafts, or waste rock piles were observed on the property, but according to the landowner, mill tailings are present, including use as fill material in the back yard of the current residence (ODEQ 2002). The former mill was located approximately 200 feet southwest of the residence. According to ODEQ, the extent of mill tailings at the site could not be determined since no recognizable piles were present. Further inspection was limited due to the location of the area in a residential landscaped yard with mature trees, shrubs, and a lawn (ODEQ 2002). A small drainage feature that bisects the site was not flowing at the time of the site visit, and no visual evidence of acid mine drainage (AMD) was observed (ODEQ 2002).

### 1.2.3.2 Weston Site Visit

Weston and ODEQ personnel conducted a site visit on May 22, 2003. The Ronish property and portions of the BLM, Mustain, and Huntington National Bank properties were inspected. Figure 1-4 presents a diagram of site features observed during the site visit.

Conditions on the Ronish property appeared similar to those reported by ODEQ personnel during the 2001 site visit. The property owner directed Weston personnel to the area of the mill tailings deposit, located within 200 feet southwest of the residence. The tailings appeared as silty gray fine sand, and appeared to extend to a very shallow ephemeral drainage channel that runs near the southern property boundary. Evidence of former flow (vegetative debris and damp bed material) was observed in the dry drainage channel.

An apparent dry retention pond was observed upgradient (west) of the tailings area. A small concrete slough was observed at the downstream end of the pond that indicated former discharge from the pond to the ephemeral drainage channel. The pond was estimated to be approximately 100 feet long by 40 feet wide by 15 feet deep. Former mill features, including the remains of a concrete structure and wooden walls of a slough-like structure, were observed upgradient of the pond. The slough appeared partially filled with soil. The area above the slough was characterized by hummocky mounds and berms that are suspected to be constructed of waste rock from former mining activities.

A small portion of the Ronish property behind the residence is fenced, and it appears that the drinking water well is located within this enclosure.

BLM personnel accompanied Weston and ODEQ personnel during the inspection of the BLM-owned portion of the site. Selected features observed on this parcel include two shallow (approximately 15 feet deep) open groundwater wells, a suspected cyanide vat area, and an open pit area. One of the shallow wells, located upgradient (west) of the cyanide vat area, did not appear to contain water; the other, located downgradient (east) of the vat area and near the eastern property line, appeared older and may have contained some water. No information has been identified regarding the dates, depths, or construction of either well.

The suspected cyanide vat area, located downgradient of the west well and south of the access road, consists of three depressions at least partially lined with concrete. Each of the vats is heavily vegetated and contains a thin layer of accumulated soil/sediment on the bottom (Thoms 2003b). The remnants of a screening flume were apparent in the easternmost vat. The vats included discharge points indicating that they formerly flowed in series from east to west. When in use, the western-most vat likely discharged to the nearby drainage channel (Thoms 2003b).

A large depression was observed north of the access road on the BLM property. The origin of this depression is unknown, but it is suspected to be a potential mine pit. One potential discharge route for surface water runoff was observed from the hillside to the west of the pit, through the pit, and into a relatively steep and wooded ravine. The drainage path was not observed, but based on the topographic map of the site, it likely leads to the access road. A small pond measuring approximately 1 foot deep and 25 feet in diameter was observed within the pit. The pond was located in a small depression at the southern end of the pit, and no outlet from the pond was apparent. An abundant population of tadpoles was observed in the pond. Concrete and brick debris was observed within the pit in the vicinity of the pond.

Representatives of the property owner accompanied Weston and ODEQ personnel on the inspection of the Mustain property. One feature on this property was identified for inspection

\$7,500 Fire Loss To Power Co.

Storm Causes Total Loss of California-Oregon Station  
at Gold Hill; Will be Soon Rebuilt

A \$7,500 loss was sustained by the California-Oregon Power company on Saturday afternoon last, when the electrical sub-station in this city was ignited by lightning and went up in a pyrotechnic display of green and blue flame. Nothing remains save the bulged and blackened brick walls. The heavy thunderstorm then prevailing was doubtless blameable, although the direct cause of the fire is largely a matter for conjecture.

The most plausible explanation offered is that the blowing down of fifteen poles on the power line to the Braden mine caused a short circuit that began the destruction which a subsequent lightning bolt upon the wires hastened.

Shortly before 5:00 smoke was observed issuing from the sub-station, which was located on First Avenue North, fortunately remote from any building save a dismantled residence, which also went up in smoke. Attempts to notify the main station at Gold Ray and secure the shutting off of current were blocked by the failure of telephone service to that point, and practically no other effort could be made to save the structure with its valuable equipment of transformers and supplies. Owing to the fact that any attempt to play a hose upon the fire would have resulted in conducting the current with fatal effect to the linemen, the department was helpless.

Saturday night Gold Hill, and various outlying districts dependent upon the local station were without light or power, but the company established a record in renewing service by the succeeding day. Two auxiliary transformers were secured from Rogueriver and immediately installed. At the present all patrons of the station are supplied with light and power except the Braden mine, which was compelled to close down owing to the insufficiency of current. Within a short time, however, officials of the power company give assurance that another transformer will be installed and the Braden enabled to resume operations.

Owing to the fact that adequate transformers are difficult to secure except by special order to the manufacturers, no definite date can be given out for the reestablishment of the sub-station at its former capacity, but it is understood that the installing of a more modern type will be accomplished before late fall.

The new station will be of the outdoor type, enclosed with high iron railings and will carry a greater load than the former one. But one-third insurance was carried upon the \$7,500 loss sustained by the company.

liquor realization of the tragedy came to him.

Coroner A.E. Kellogg secured the body, which was taken to the undertaking parlors in this city. Owing to the plain circumstances attendant upon the death an inquest was not considered necessary. The report of the examining physician, Dr. W.P. Chisholm, is that the death "was due to exposure and alcohol."

Oscar Knotts served with credit as a private in Company F. 2d regiment of Oregon Mounted Volunteers during the Rogue river Indian campaign of the '50's. One of the earliest settlers of this district, he was a prominent figure in the mining industry of early days. Many will remember him as a gale veteran with venerable white hair, erect and able despite his four-score years--a last picturesque figure of the old prospector type. For a number of years past he and his son have lived in their cabin on Penny gulch, prospecting occasionally, but subsisting mainly upon the pension he received for military service.

Old residents who know Oscar Knotts in his prime, and who were fellow actors in the dramas of the gold camps remember him as a good workman and comrade, and sincerely deplore the manner in which he came to his death.

#### Local News Notes

Ralph Homan, a lessee at the Braden mine, narrowly escaped a severe injury to his left eye while engaged in tunnel work Wednesday. The gad, a short steel bar used in prying loose rock, rebounded under a hammer blow and effectually closed the Homan left optic for several days. Examination showed the eye to be uninjured, save superficially. Fortunately the blunt, and not the pointed, end wrought the injury, which would otherwise have destroyed the eyesight.

Faulty construction of the wagon bridge at Rogueriver, or Woodville, installed only five years ago, has resulted in the structure being condemned as endangered. An upper pier on the west side of the river was not foundationed upon bedrock, but upon loose material, which subsequently washed out. While the bridge is not exactly "tottering above the boiling tide". It will require a new foundation as soon as low water arrives. Meantime it is safe for all the ordinary purposes of travel and traffic. Yesterday and Earhardt, of Portland, were the contracting builders.

John Blodgett returned Wednesday, after a fortnight's absence at Willows Calif., to accept a contract for the construction of the new cement walk fronting of 4th Avenue north--an improvement recently ordered by the council upon petition by property owners. The new walk will extend from the News office to the west crossing, and will be a needed improvement that should enhance property values and induce the enlargement of the business district.

D.P. Blue, returned during last week from a year's absence spent at Honolulu, Hawaii, came down from Ashland Saturday and remained until Tuesday with local friends. His visit to the Rogue river valley at this time is occasioned by the arrangement of property interests at Ashland, and he intends to return to the Islands within a few weeks. Mrs. Blue and Verne, the latter being a member of the faculty of Iolani school, will not return for a visit with friends in southern Oregon until next year, when they plan to attend the San Francisco exposition. Mr. Blue declares the Hawaiian climate to be so uniformly ideal that the sameness soon palls, and exiles from other climes seldom remain longer than a few years. Nevertheless himself and family, pleasantly and profitably employed, have not yet determined to leave the "land where it is

# The Gold Hill News

VOL. 9

GOLD HILL, OREGON, NOVEMBER 30, 1906.

NO. 30

## EXPLOSION AT THE BRADEN.

### One Hundred Pounds of Giant Powder Ignited with Almost Fatal Results.

Tuesday afternoon a distressing accident occurred at the Braden mine in which Carl Darling, Joe Dawson and Jim Robbins came near losing their lives, while thawing powder at tunnel No. 2. Nearly one hundred and fifty pounds of powder exploded, hurling the victims to the ground, cutting and bruising them and otherwise inflicting serious injuries. They were all standing a distance of twenty-five feet from the powder which accounts for the fact that they were not instantly killed. Carl Darling, who was the most seriously injured, has since been in a very precarious condition and for a while it was feared that he would succumb to his injuries. Wednesday it was necessary to remove his right eye and an effort was made to remove a stone at the base of his brains but owing to his weak condition the operation was deferred until he has gained more strength. He is now resting easily and it is hoped that he will recover. Messrs. Dawson and Robbins both received painful and serious injuries but are now progressing nicely and at no time has there been any great danger of their wounds proving fatal. A miner named Rogers was also slightly injured.

The blacksmith shop at tunnel No. 2 was demolished by the force of the explosion, which was clearly felt in town.

Dr. Findley of Grants Pass was called Wednesday morning and all that medical skill and care can do is now being done for the unfortunate men.

### For Sale

A 5 room cottage and bath. About 1/2 acre of ground. Building in good repair good location—2 blocks from main street. Enquire of Gold Hill News.

### Program State Dairymen's Meeting.

The fourteenth annual meeting of the Oregon Dairymen's Association will be held at the City Hall, Ashland, Oregon, on Tuesday and Wednesday, December 11 and 12, 1906.

Upon the arrival of the delegates from the north, about 12:30 p. m. on Tuesday, an informal reception will be given by the Ashland Com-

mercial Club. There will be an address by the president of the club, Mr. M. F. Eggleston, followed by responses from members of the Dairymen's Association. The delegates and citizens will then repair to the City Hall where the regular program will take place as follows: the musical part of the program being supplied by the Commercial Club orchestra and quartet:

TUESDAY, DEC. 11, 1:30 P. M.

Music.

Call to order—President H. West.

Address of welcome—Mayor G. S. Butler, Ashland.

Responses, annual address—President H. West

Music.

"Better Cows and how to Obtain Them"—State Dairy and Food Commissioner, J. W. Bie, Portland.

"Dairy Problems or High Priced Land"—Dr. Jas. Withycombe, Corvallis.

Music.

"Southern Oregon Dairy Foods"—W. J. Dean, Talent.

"Necessity of Clean Milk"—L. B. Zemer, Tillamook.

TUESDAY, DEC. 11, 8:00 P. M.

Music.

Address, "Organization for Dairymen"—A. T. Buxton, Forest Grove.

Music.

Address—Hon. Ed. H. Webster, Chief of the Dairy Division U. S. Department of Agriculture.

Music.

Paper, "The Hand Separator as a Factor in Modern Dairying"—S. E. Brune, DeLaval Dairy Supply Co., Portland.

WEDNESDAY, DEC. 12, 10:00 A. M.

"Breeding up a Dairy Herd"—Wm. Schulmerick, Hillsboro.

"Jackson County Cow Census"—G. F. Billings, Ashland.

"Care and Feed for the Dairy Cow"—E. T. Judd, Turner.

"Dairy Development in Josephine County"—Chas. Meserve, Grants Pass.

WEDNESDAY, DEC. 12, 1:30 P. M.

Business session.

Reports of officers and committees.

Election of officers.

Selection of next place of meeting.

Address—Hon. Ed. H. Webster, Washington, D. C.

Address, "Value of Proper Packing"—W. H. Chapin, Portland.

The local arrangements are in the hands of the members of the Ashland Commercial Club, and its quarters will be "wide open" to members of the Association at all times during the convention. The Southern Pacific R. R. Co. (Continued last column)

## THE LONELY SEPULCHRE.

### Pathos and Politics Peculiarly Blended at East Randolph.

That was a sadly solemn, serious sight that greeted the gaze of early passers on Main street in East Randolph Wednesday morning.

The unbidden tear would well involuntarily to the sympathetic eye as it rested upon a lowly mound half hidden in a profusion of beautiful burdocks and other flowering plants placed with loving care about a new made grave.

That this was the resting place of one far removed from the vulgar crowd could not be doubted since the place of sepulture, instead of being chosen among the haunts of common dead in the public cemetery was located within the classic precincts of the busy whirl of active life upon a tract between the Central hotel and the Hazard building where the greenward reach of the magnificent sweep of the thoroughfare.

Within this space, alone, austere and dignified in its splendid isolation yet pathetic in its lowly aspect the little grave appeared as by magic during the starlit hours of the awesome night and throughout the day pedestrians passed with muffled footsteps and with bended heads.

A single slab carved from the kindly oak rather than the chilling marble told a touching tale of a great leader who was wont to head the sequeious mob but who now reposed in the solemn stateliness of painless political death. The simple, unostentations inscription traced with affectionate care conveyed the following brief but comprehensive message.

W. R. HEARST,

born in

INDEPENDENCE

Died in Iniquity

Gone to—?

Search among the greenery with which the mound was carefully covered disclosed one huge offering of burdocks more pretentious than the rest and appropriately emblematic of the adhesive quality of the sender's support. A card attached indicated that the tribute had been deposited by a leading local advocate of the "peopul's candidate." It bore the words: "With sincere sympathy from—"

Delicacy forbids the use of the sender's name at this time and we silently draw the curtain upon the brooding scene of sacred sorrow.

Requiescat in peace.—Register, East Randolph, Cattaraugus county New York.

## Amundsen's Vessel For Fair.

Seattle.—The sloop Gjoa, made famous as the ship in which Capt. Roald Amundsen discovered the long looked-for northwest passage, will be shown to visitors at the Alaska-Yukon-Pacific Exposition in 1909.

The vessel is now on the way from Nome and is expected to arrive at Seattle shortly.

Captain Amundsen set sail from Trondhjem, Norway, three years ago, to find the passage; that navigators have been seeking since the days of Henryck Hudson. The sloop, a staunch craft, was fitted out at the expense of merchants of Trondhjem, who had faith in Amundsen.

Amundsen met a hearty welcome when he finally got through to Nome and Seattle fellow-countrymen banqueted him and made much of him. Then they went a step further. They saw that the captain was not rich, and that the sloop was deadwood on his hands, so they gathered together and bought the vessel.

A stock company was formed of which E. L. Grondahl, president of the Seattle State Bank, is head, and the vessel was purchased for \$20,000.

It is to be exhibited at the Alaska-Yukon-Pacific Exposition in the summer of 1909, and sure to attract much attention.

Get your prescriptions filled at McCov's Drug Store. Difficult prescriptions and intricate formulas solicited.

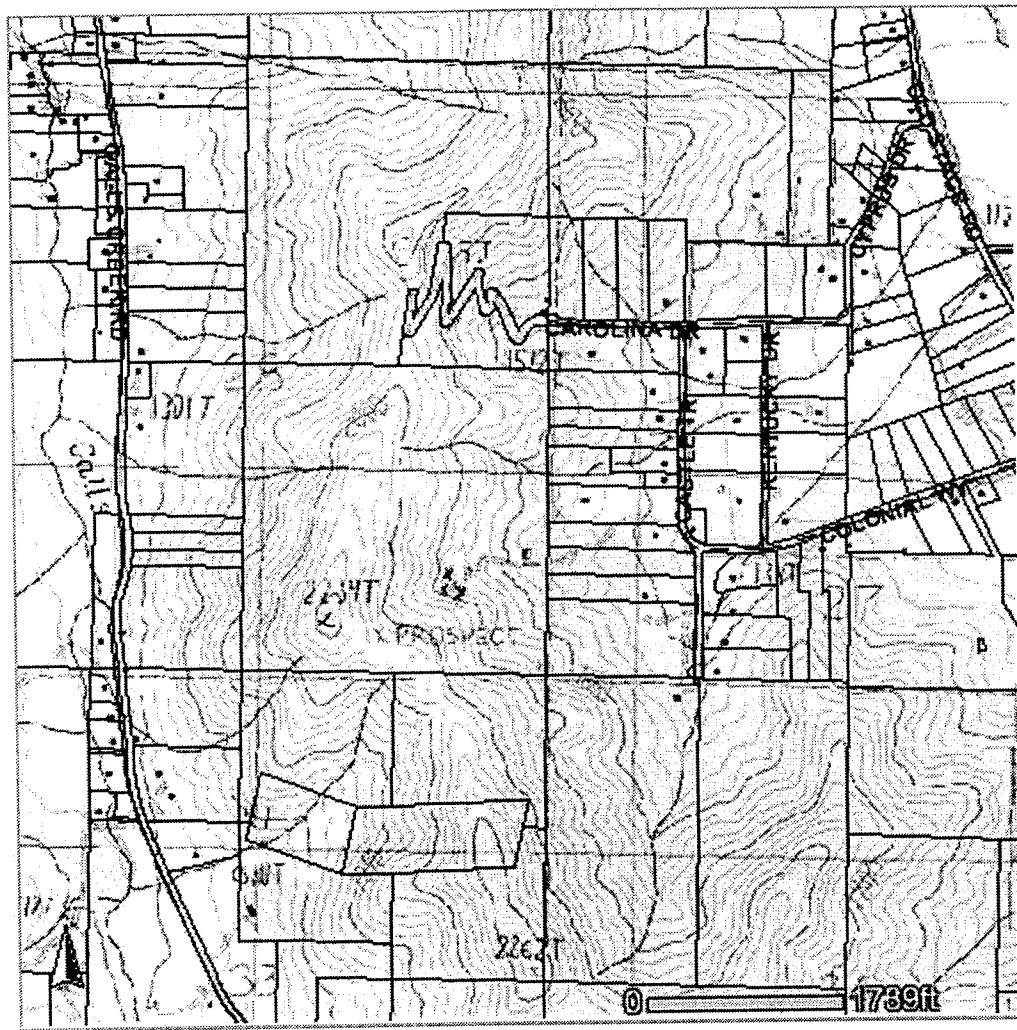
Drs. Barkan & Sewal, specialists for eye, ear, nose and throat are now located at 1700 California St., corner Van Ness, San Francisco.

C. S. Price, formerly County School Superintendent of this county was recently elected to a like position in Santa Cruz county, Calif., on the Republican ticket. Mr. Price was chosen, here, from the ranks of the Democratic party.

Whiting Bros comedy company are billed for Carter's Opera house tonight. They present a laughable comedy intermingled with first class specialties and will give a very pleasing entertainment.

will sell round trip tickets for this meeting, on the certificate plan, at one and one-third fare. Full fare is to be paid going, and a receipt taken therefor, upon which a return will be issued at one third fare.

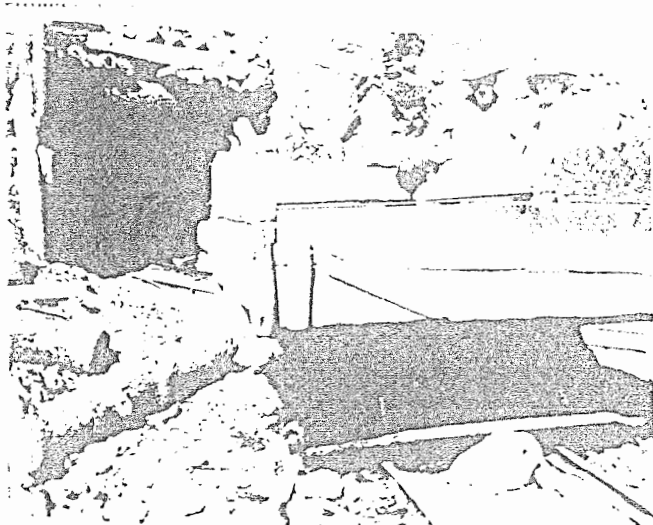
For further information address, F. L. Kent, secretary, Corvallis, or D. Perozzi, committee, Ashland.



## Kane Creek's famous BRADEN MINE

condensed from information researched and contributed by Kerby Jackson

B.A. Knott of Gold Hill located the mine in the Kane Creek drainage area sometime around 1875. Knott began early development of the mine by treating the ore with an arrastre. Following the location by Mr. Knott, the mine went through a succession of early owners including Dr. James Braden for whom the mine was eventually named. The Braden mine was located about a mile and a half up Kane Creek [known in early records as T'Vault Creek for early Dardanelles pioneer William G. T'Vault] and is today on private property. Research shows the major commodities were gold and silver, with traces of arsenic, lead, and copper.



*B.A. Knott's son Perry, John Lansden, and Evalynna Stumbo*



*Typical mine crew of early Gold Hill.*

In 1900, Braden sold the mine to Dr. Charles R. Ray who later lived in the Tolo area. That turn of the century year the doctor had been sent to Alaska by his wealthy brother, Colonel Frank H. Ray, for the possibility of investing in some Alaskan gold mines. When he found nothing of substantial value, Charles telegraphed his brother and told him that he would be returning home empty handed. Not wishing that the trip be for nothing, the Colonel persuaded his brother to take a look at a mine in southern Oregon which he had heard about. That mine was the Braden.

By 1902, the Ray brothers had decided that a way to make the mine very profitable would be to deliver electricity to the site. However, at that time, there was no electricity in the immediate vicinity of the mine. Under Oregon's water laws of 1899, the ability to divert and dam water for the purpose of developing hydroelectricity for mining was considered to be a granted right. With no electricity available to purchase, amongst much snickering of the locals who believed that harnessing the mighty Rouge River was impossible, the Ray brothers set out to build their own dam for the purpose of developing power. Initially, the Rays wished to build their dam near the town of Gold Hill, but after the city fathers wanted too much money for a piece of property, they decided to look elsewhere. They were contacted by a local miner named Dan Condor who had a placer mine four miles upstream of Gold Hill, at what was then popularly known as Tolo. Seeing the benefit of the installation of such a dam, Condor immediately entered into a business deal with C.W. Ray. As Frank Ray was an organizer and vice president of the American Tobacco Company, he had no problem raising the capital for the venture and in 1902 he sold stock on the New York Stock Exchange for a company called Condor Water and Power Company to help fund the construction.

The ambitious project got off the ground by autumn 1902 with the construction of a coffer dam to divert the waters of the Rouge in preparation for the construction of the main dam but soon encountered a few slight hitches. According to local legend, after digging the streambed down to bedrock, one of the workmen

discovered a rich quartz vein running across the river and it appears that the work crew were somewhat sidetracked by chipping visible gold out of the bedrock. A much larger problem was the discovery of dynamite which had been planted at the work site and the constant concern that opponents of the dam [mostly gill-netters] intended to blow the dam up. [The Ament Dam, installed by the Golden Drift Mining Company further downstream above Grants Pass also suffered from this problem, and on at least one occasion that particular dam was actually damaged by dynamite]. Winter and spring storms bringing high water also made the work difficult and dangerous.

Following the completion of the coffer dam, large logs were secured into cuts made into the bedrock and the gaps were filled with large rocks. Once completed the dam, then known as Ray Gold, was 17 feet high and 350 feet long and also included a mundane fish ladder. Water was drawn out of the north side of the river and used to power a 250 kilovolt generator which had been manufactured by General Electric in 1897. The water turned a series of pulleys at a rate of 360 rpms which in turn pulled on 1600 feet of one and three quarter inch rope which was rigged in such a way to turn the generators. Needless to say, if a rope broke there was no power until it could be spliced back together.

In late 1904 electricity flowed for the first time to the Braden Mine, initially a whole 1.5 megawatts worth, but the next year the generators were upgraded to 750 kilovolts.

Good businessmen, the Rays soon realized that there was actually more money to be made by supplying electricity to other mines and to nearby towns than they could make from the production of their Braden Mine. It was at that time the Condor Company reorganized under the name Rogue River Electric Company, also advertising telegraph and telephone services. With much grandeur and publicity the town of Medford was connected in 1904. Between 1905 and 1907 the Ray's company stretched 18 miles worth of electric lines from Tolo to the famous Greenback Mine near the town of Placer and also to the Granite Hill Mine on Louse Creek. By 1905 the 40 stamp mill at the Greenback Mine was powered by electricity. Remnants of some of those original electric lines can still be seen near the site of the Granite Hill. The Rays also built lines into Gold Hill, Grants Pass, Jacksonville, Rogue River, Ashland, and other surrounding communities, not to mention to numerous mines, firmly establishing the development of electricity in Southern Oregon. Less than ten years later the community of Medford, Oregon, used more electricity and had more electric stoves, electric water heaters and electric heaters per capita than any other town in the UNITED STATES. In other words, the entire use of electricity in our region really has its roots tied to the development of the Kane Creek Braden Mine.

In the meantime, while some mining was being done at the Braden, it appears that the Rays were much occupied with other projects that placed much of the Braden's development on the back burner. One of their other projects at that time included a stone quarry and a sawmill near the town of Tolo.

In 1907 Diller and Kay reported that according to mine manager E. W. Wiljegran, the Braden Mine had been under lease to the Opp Mining Company of Jacksonville for about a year. At that time the greatest reported output of the mine was in excess of \$30,000, which would equate to nearly 1,600 ounces of gold. At that time the equipment at the mine consisted of a 10-stamp mill, one giant crusher, four Johnson concentrating tables, one air compressor and machine drills. The mine ran 24 hours a day with electric power being brought in from the Gold Ray Dam.

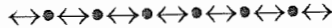
Despite the tremendous success of that 1907 season, only a "small production" was reported in the first portion of 1908 and by August of that year "Mining American" magazine reported an unexplained shut down at the Braden Mine. The article stated "*The stamps are hung up and the crew discharged. J.W. Opp, manager of the mine, does not state the reasons for suspension of business, but intimates that it is through no fault of the property itself. The Braden is one of the oldest quartz mines of the Gold Hill district and has always been a good producer. One year ago, its old mill was torn down and replaced by a larger one. Other improvements were made on the property, and it has been operating for several months on a much larger scale.*"

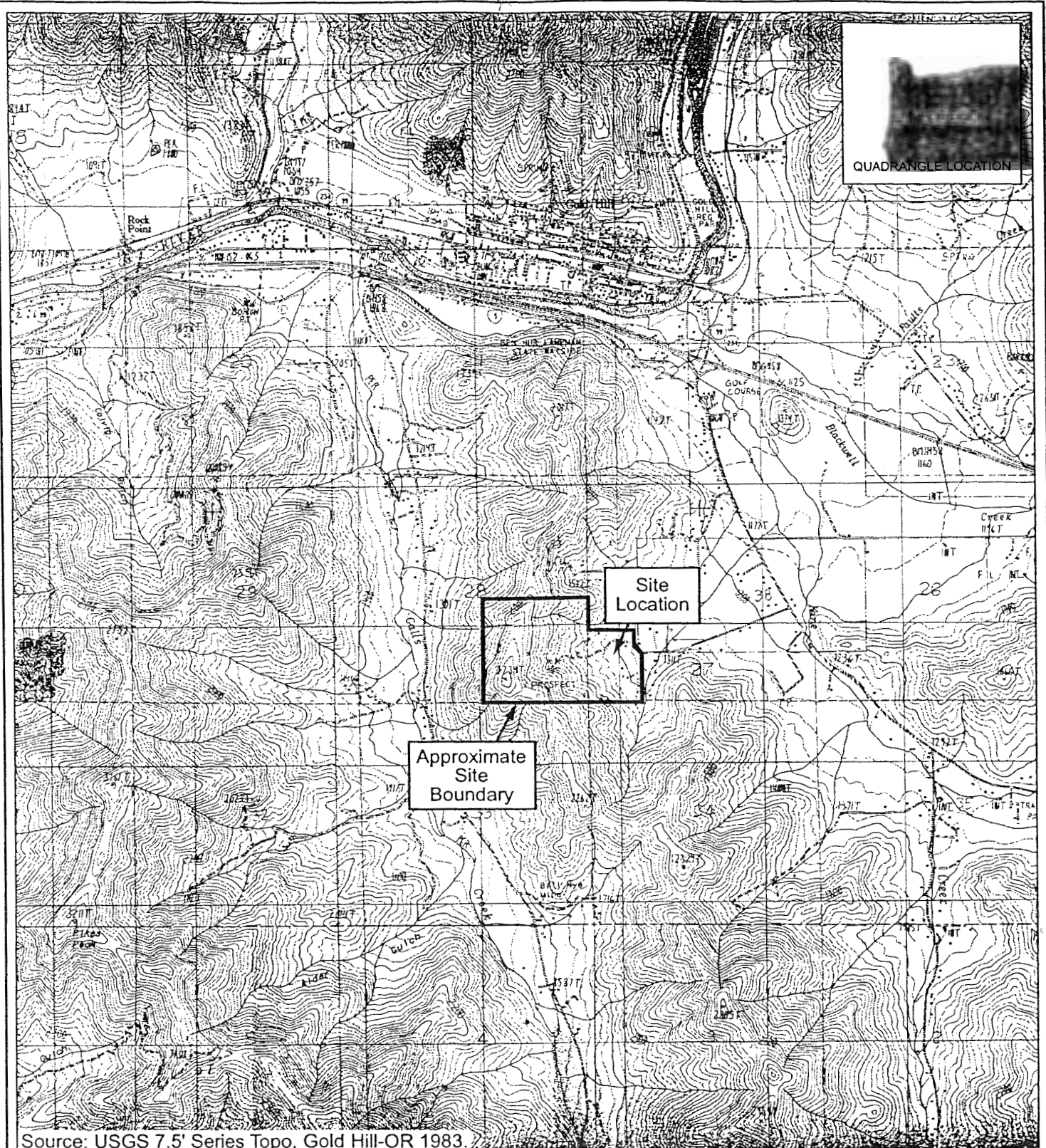


However, this was far from the end of the Braden Mine. By autumn 1909 a crew of ten men was reported working in the mine.

By 1913 it was reported that the Braden was one of the most important mines in Jackson County. Equipment at the mine at that time consisted of a 10-stamp mill equipped with a crusher, two 10-foot amalgamation plates, four Johnson vanners and electric engines, one of which was 85 HP and was utilized to supply power to an air compressor. The mine had four levels which were interconnected by raises and winzes. In the summer of 1916 the mill at the Braden was dismantled. It appears that the Braden Mine was shut down at this point of time, probably due to the World War One. There were few workers available, inflation was terrible, and the price of gold remained fixed. Many mines in Southern Oregon shut down during these years as they found it very difficult to operate profitable.

*Editor's note: Kerby Jackson has become well known by the GHHS since he documented the Museum's unique and extensive mining equipment artifacts on the website [oregongold.net/mining\\_relics](http://oregongold.net/mining_relics). We are beholden to his expertise, and his generosity of knowledge and talent. It was a lucky day for the GHHS when he first noticed our preservation efforts and joined our team of volunteers.*



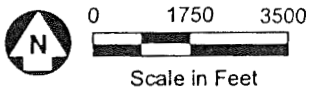


QUADRANGLE LOCATION

Site Location

Approximate Site Boundary

Source: USGS 7.5' Series Topo, Gold Hill-OR 1983.



# Site Location Map Braden Mine PA/SI Jackson County, Oregon

Figure  
**1-2**

**From:** kerby@western-stories.com  
**To:** "Janet" <jjssss2@charter.net>  
**Date:** 06/26/2011 05:20:43 EDT  
**Subject:** Re: Gold Hill Historical Society

Hi Janet,

Good to meet you today and thanks for your help on the Hammersly family.

I have spent this evening going through the legal descriptions of all the known Gold Hill District mines (all 250 plus of them!).

Though there are a lot of mines in the vicinity of Galls and Kane, I have managed to narrow the location down to a single mine. What we are looking at here is definitely part of the Braden Mine. Though the "heart" of the mine was located in Section 27, as near as I can discover, there were at least 14 claims in the Braden Group and they took in not only Section 27, but also Section 28 and Section 34. The ridgeline you are seeing from home runs through Section 28 in the west and then to the south into 34. As near as I have been able to discover, there were at least 6 distinct adits (ie. tunnels) on the Braden, the majority of them running in a vertical line up the ridgeline. What you are seeing is probably the highest of the these workings. Obviously, there were also other workings on the claims, but the majority were surface cuts and incline shafts and are therefore not really visible.

I am including below, the section on the Braden from the mss. I am working on, which overviews all of the info. I have on the Braden. Apart from an undated report made by DOGAMI in the late 1940's or 1950's (that sheds no light on the mine other than basic geology), there is nothing I have uncovered about the Braden to indicate any activity after about 1916. I had also asked Dennis if he had uncovered anything after that period and he had told me that the last mention he had seen also was around that period as well, so we must presume that she was one of the numerous casualties of WW1 era inflation which increased operating costs in an era where the price of gold was fixed. I also know that the entire mill was sent to the Ashland Mine, so there can be no doubt that THAT was the end.

Kerby

#### Braden Mine

Alternate Names: None

Drainage System: Kane Creek

Major Commodities: Gold, Silver

Trace Commodities: Arsenic, Lead, Copper

Host Rock: Hornblendite, Schist, Amphibolite

Legal Description: 36 South, 3 West, Section 27, SE 1/4

GPS: 42° 24' 25" North : 123° 3' 7" West

Elevation: 1350 feet

The Braden Mine was located around 1875 by B. A. Knott of Gold Hill who began the early development of the mine by treating the ore with an arrastre. Following the location by Knott, the mine went through a succession of early owners, including Dr. James Braden for whom the mine was eventually named, and also Dr. A.W. Cornelius of San Francisco. Another early owner was Dee (Dillard) Horn who was the son of James and

Luann Horn, early settlers on Galls Creek. Dee Horn lived on his family's homestead, raised a family and made his way mostly by mining and farming. He was said to have an uncanny nose for gold and in addition to owning the Braden around 1885, he also owned the Old Gold and the Home Mine. The Braden Mine was located about a mile and a half up Kane Creek (known in early records as T'Vault Creek for early pioneer William G. T'Vault) and is today on private property.

In 1900, Braden sold the mine to Dr. C.R. Ray who later lived at Tolo. That year, the doctor had been sent to Alaska by his wealthy brother, Colonel Frank H. Ray, for the possibility of investing in some Alaskan gold mines. When he found nothing of substantial value, C.W. telegraphed his brother and told him that he would be returning home empty handed. Not wishing that the trip be for nothing, the Colonel persuaded his brother to take a look at a mine in Southern Oregon which he had heard about. That mine was the Braden.

By 1902, the Ray brothers had decided that a way to make the mine very profitable would be to deliver electricity to the site. However, at that time, there was no electricity in the immediate vicinity of the mine. Under Oregon's water laws of 1899, the ability to divert and dam water for the purpose of developing hydro-electricity for mining is considered to be a granted right, so with no electricity available to purchase, amongst much snickering of the locals who believed that harnessing the mighty Rogue River was impossible, the Rays set out to build their own dam for the purpose of developing power. Initially, the brothers wished to build their dam near the town of Gold Hill, but after the city fathers wanted too much money for a piece of property, the Rays decided to look elsewhere and were contacted by a local miner named Dan Condor who had a placer mine four miles upstream of Gold Hill, at what was then popularly known as Tolo. Seeing the benefit of the installation of such a dam, Condor immediately entered into a business deal with C.W. Ray. As Frank Ray was an organizer and vice president of the American Tobacco Company, he had no problem raising the capital for the venture and in 1902, he sold stock on the New York Stock Exchange for a company called Condor Water and Power Company to help fund the construction.

The project got off the ground by the Fall of 1902 with the construction of a coffer dam to divert the waters of the Rogue in preparation for the construction of the main dam, but soon encountered a few slight hitches. According to local legend, after digging the streambed down to bedrock, one of the workmen discovered a rich quartz vein running across the river and it appears that the crew was somewhat sidetracked by chipping visible gold out of the bedrock. A much larger problem however, was the discovery of dynamite which had been planted at the work site and the constant concern that opponents of the dam (mostly gill-netters) intended to blow the dam up. (The Ament Dam, installed by the Golden Drift Mining Company further downstream above Grants Pass, also suffered from this problem and on at least one occasion, that particular dam was damaged by dynamite). Storms bringing high waters that year also made the work difficult and dangerous.

Following the completion of the coffer dam, large logs were secured into cuts made into the bedrock and the gaps were filled with large rocks. When completed, the dam, then known as Ray Gold, was 17 feet high and 350 feet long and also included a mundane fish ladder. Water was drawn out of the north side of the river and used to power a 250 kilovolt generator which had been manufactured by General Electric in 1897. The water turned a series of pullies at a rate of 360 rpms, which in turn pulled on 1600 feet

of one and three quarter inch rope which was rigged in such a way to turn the generators. Needless to say, if a rope broke, there was no power until it was spliced back together.

In late 1904, electricity flowed for the first time to the Braden - initially, a whole 1.5 megawatts worth, but the next year, the generators were upgraded to 750 kilovolts.

Since the Rays were good businessmen, it did not take them long to realize that there was actually more money to be made by supplying electricity to others mines and to nearby towns than they could make off the production of the Braden. The Condor company was then re-organized under the name Rogue River Electric Company and also advertised telegraph and telephone services as well. Medford was connected in 1904 with much grandeur and publicity. Between 1905 and 1907, the Rays stretched 18 miles worth of electric lines from Tolo to the famous Greenback Mine near the town of Placer and also to the Granite Hill Mine on Louse Creek. By 1905, the 40 stamp mill at the Greenback was powered by electricity, so it is thought that even though the Granite Hill is south of the Greenback, it did not switch to electric for some time after the Greenback was converted. Remnants of some of the original electric lines can still be seen near the site of the Granite Hill. The Rays also built lines into Medford, Grants Pass, Jacksonville, Ashland, Rogue River, Gold Hill and other communities, not to mention numerous mines, firmly establishing the development of electricity in Southern Oregon. Less than ten years later, the community of Medford used more electricity and had more electric stoves, electric water heaters and electric heaters per capita than any other town in the United States. In otherwords, the entire use of electricity in our region really has its roots in the development of the Braden mine.

In the meantime, though some mining was done at the Braden, it appears that the Rays were much occupied with other projects, including a stone quarry and a saw mill near Tolo, that placed much of the Braden's development on the back burner.

In 1907, Diller and Kay reported, that according to C.R. Ray and mine manager E.W. Wiljegrn, the Braden Mine had been under lease to the Opp Mining Company of Jacksonville for about a year. At that time, the greatest reported output of the mine came under the management of the Opp Co. in 1907 with a production in excess of \$30,000 which would equate to nearly 1600 ounces of gold. During that time, the equipment at the mine consisted of a 10 stamp mill, a giant crusher, four Johnson concentrating tables, one air compressor and machine drills. The mine was equipped with electric lights and ran 24 hours a day, the power being brought in from Gold Ray.

The property was developed primarily through the use of drifts along the veins and by extending winzes and upraises from these drifts. The vein formed an outcrop along the south east side of a hill and then dipped in a south easterly direction. The angle of the vein was greater than the slope of the hillside so the lower drifts are considerably deeper below the surface than those higher on the hill. In total, there were four drifts in a line, one above the other, with a total length of about 3000 feet. Their greatest depth from the surface is approximately 250 feet. The longest of these drifts is the lower tunnel which has a length of about 1200 feet. A considerable amount of very rich ore was taken from the winzes and upraises of this tunnel.

The largest share of the mine's production came from two shoots which were

nearly 600 feet apart in the lowest drift at the mine. One of the shoots extended along the vein in the drift for about 55 feet and at about the same dip, but at a winze increased to 80 feet, then narrowed rapidly. The other shoot had a length of about 75 feet along the strike of the vein, but then increased to 125 feet. The direction was South 50 degrees East and usually the best values were found at the foot of the walls. The zone of oxidation did not extend to a depth greater than about 100 foot below the surface and in many areas, the zone was found at depths of considerably less.

The rock of the ore is very fine grained and of a dark grey in color with visible small crystals of feldspar. Kay states that:

"Under the microscope the rock appears distinctly porphyritic, the groundmass being microcrystalline. The phenocrysts are mainly plagioclase feldspar, but a few crystals of hornblende, probably secondary from augite, are also present."

He goes on to say that these rocks are related to greenstone and that a large area of such rocks cut across Jackson County in a north east to south west direction and widens dramatically as it extends further south. These were thought to be rocks of volcanic origin with Paleozoic sediments, "the evidence in favor .... consists of the presence, in many places, of amygdaloidal and tuff-like characters. Where such characters are absent, it is difficult to distinguish those greenstones which are of volcanic origin from those which are fine grained intrusives."

The quartz vein in which the ore was found struck North 30 degrees East and had an average width of not more than about two feet. In some places, it pinched out entirely, while in others, instead of a definite vein, it brecciated for a width of anywhere from one foot to fifteen feet. The vein generally dipped about 25 degrees to the south east, but at times it ran nearly flat or pitched to a sharp angle. A series of parallel faults were also discovered, most of them ranging from one to three feet and rarely more than 20 feet. A zone of enrichment was found here among the faults.

The filling of the vein is mostly quartz and sulphides with a small amount of calcite. Pyrite was the most abundant sulphide, but arsenopyrite, chalcopyrite and galena were also found in very small quantity. The highest grade ore were those which were the richest in sulphides, while the quartz with very little in the way of sulphides tended to carry little to no gold.

In 1907, the average concentrate yield was one ton from every 12.2 tons of raw ore. These concentrates had an average value of about \$26 (or 1.37 ounces) per ton. The average gold and silver content of more than 3700 tons of the ore treated that year was worth about \$9 a ton, with the silver content being about 22 cents on the ton (or about 4/10ths of an ounce). 65% of these values were saved by amalgamation and 25% of them by concentration, the remaining 10% of the values being lost in the tailings. The concentrates were not treated at the mine, but were instead to shipped away by rail to the Selby Smelting and Refining Co. in Tormey, California and to the Tacoma Smelter in Washington.

In November of 1907, "Mining and Engineering World" magazine reported that the Braden was making regular monthly shipments of concentrates and that the shipments were averaging \$280 per ton.

Despite the tremendous success of the 1907 season, only a "small

production" was reported in the first portion of 1908 and on August 20th of that year, "Mining American" magazine reported an unexplained shut down at the Braden Mine and stated in part that:

"The stamps are hung up and the crew discharged. J.W. Opp, manager of the mine, does not state the reasons for suspension of business, but intimates that it is through no fault of the property itself. The Braden is one of the oldest quartz mines of the Gold Hill district and has always been a good producer. One year ago, its old mill was torn down and replaced by a larger one. Other improvements were made on the property, and it has been operating for several months on a much larger scale."

However, this was far from the end of the Braden Mine.

In 1909, the Braden was back in production and the October issue of "Mining and Scientific Press" reported that a crew of ten men were working in the mine.

By 1913, "The Mineral Resources of Oregon" reported that the Braden was one of the most important mines in Jackson County. It was noted that the equipment at the mine at that time consisted of a 10 stamp mill equipped with a crusher, two ten foot amalgamation plates, four Johnson vanners and electric engines, one of which was 85 HP and was used to supply power to an air compressor. Since 1907, two more adits and an incline shaft had been added to the mine, bringing the number of drifts to a total of six. Like the others, these new drifts were apparently also in a straight line above the main tunnel. Four levels were interconnected by raises and winzes. As before, the lowest drift still seemed to be the most productive.

This report sheds even more detail on the geology of the mine than those prior, stating that:

"The country rocks ... are Paleozoic sediments and inter-bedded andesites. A rock from the dump of adit No. 2 is plainly banded, some bands being chiefly green hornblende with some quartz, chlorite, zoisite and pyrite, and other bands being chiefly calcite, or rarely quartz; it is a calcareous hornblende schist. Another sample from the same adit is an amphibolite, containing green hornblende, some pale yellow epidote, some zoisite, some interstitial plagioclase, some garnet, and a little magnetite. But the hanging wall of the vein under the incline shaft is apparently spessartite, containing abundant hornblende grading from brown to green, abundant plagioclase, some zoisite, calcite, sericite, magnetite and siderite. The ore is highly quartzose, containing a little calcite and some pyrite, as well as a little arsenopyrite, chalcopyrite and galena." Since 1907, another shoot of ore had been opened on another vein by means of the incline shaft. This vein struck North 55 East, had an average dip of about 25 degrees south east and the quartz had a thickness of two to five feet in width. At the 190 foot mark in the incline shaft, a second vein appeared and was thought to swing into the main vein from a direction of North 10 degrees East with a dip of 35 degrees east. This vein had been followed below the incline shaft and the quartz was two feet wide. Sometime in 1914, the Braden again shut down, putting its 40 man crew out of work, this time due to World War One. In their issue of October 3, 1914, "Engineering and Mining Journal" reported that the mine had re-opened.

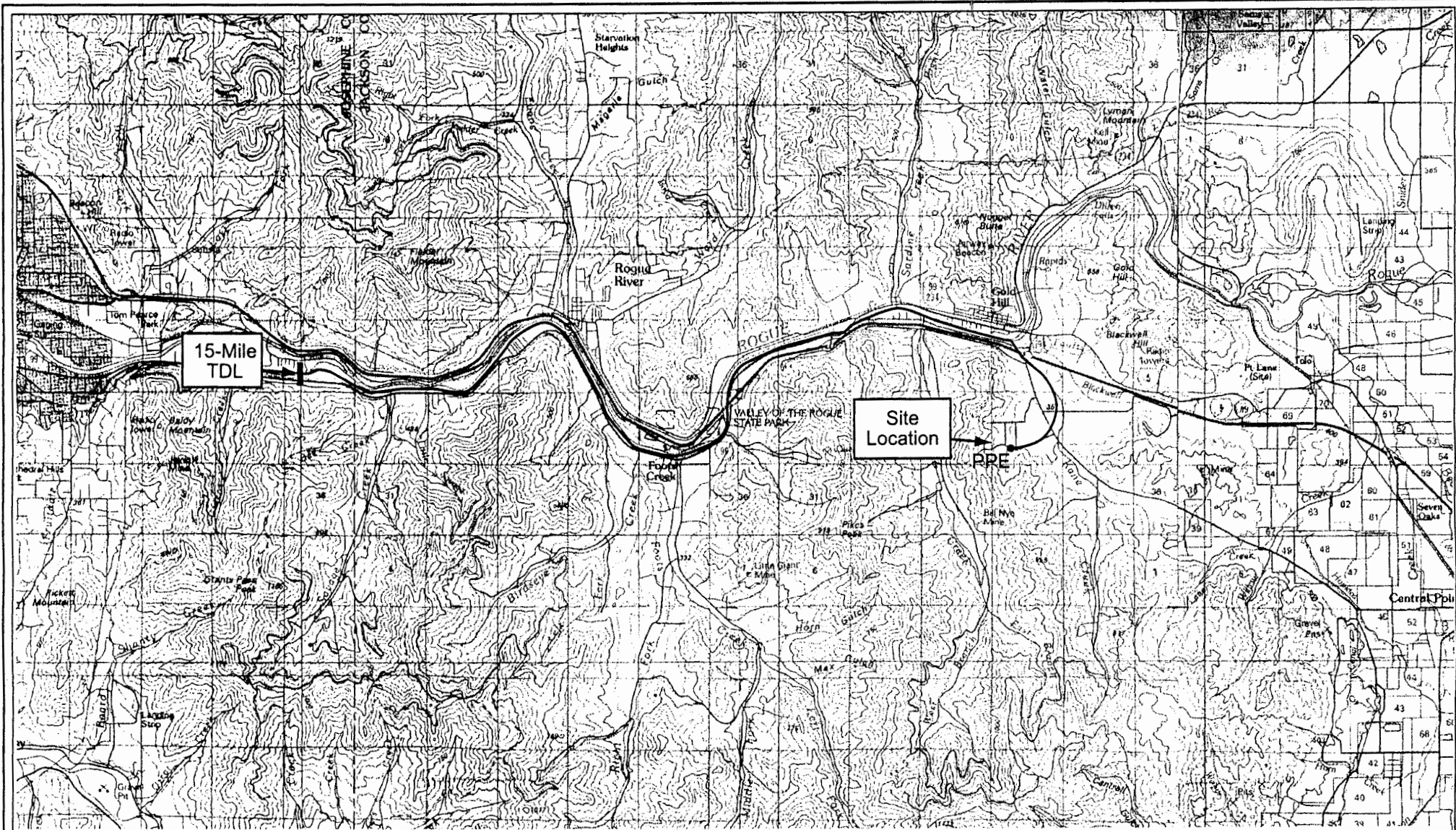
In the Summer of 1916, the mill at the Braden was dismantled and part of the machinery was purchased by A.W. Bartlett and moved to his newly acquired Ashland Mine in August and September of that year. It appears

that like many other mines, the Braden was shut down at this point, probably due to the fact that the price of gold remained fixed, yet due to World War One, the inflation was not only terrible, but there were few workers available. Many mines in Southern Oregon shut down in these years as they found it very difficult to operate profitably.

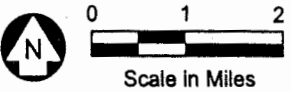
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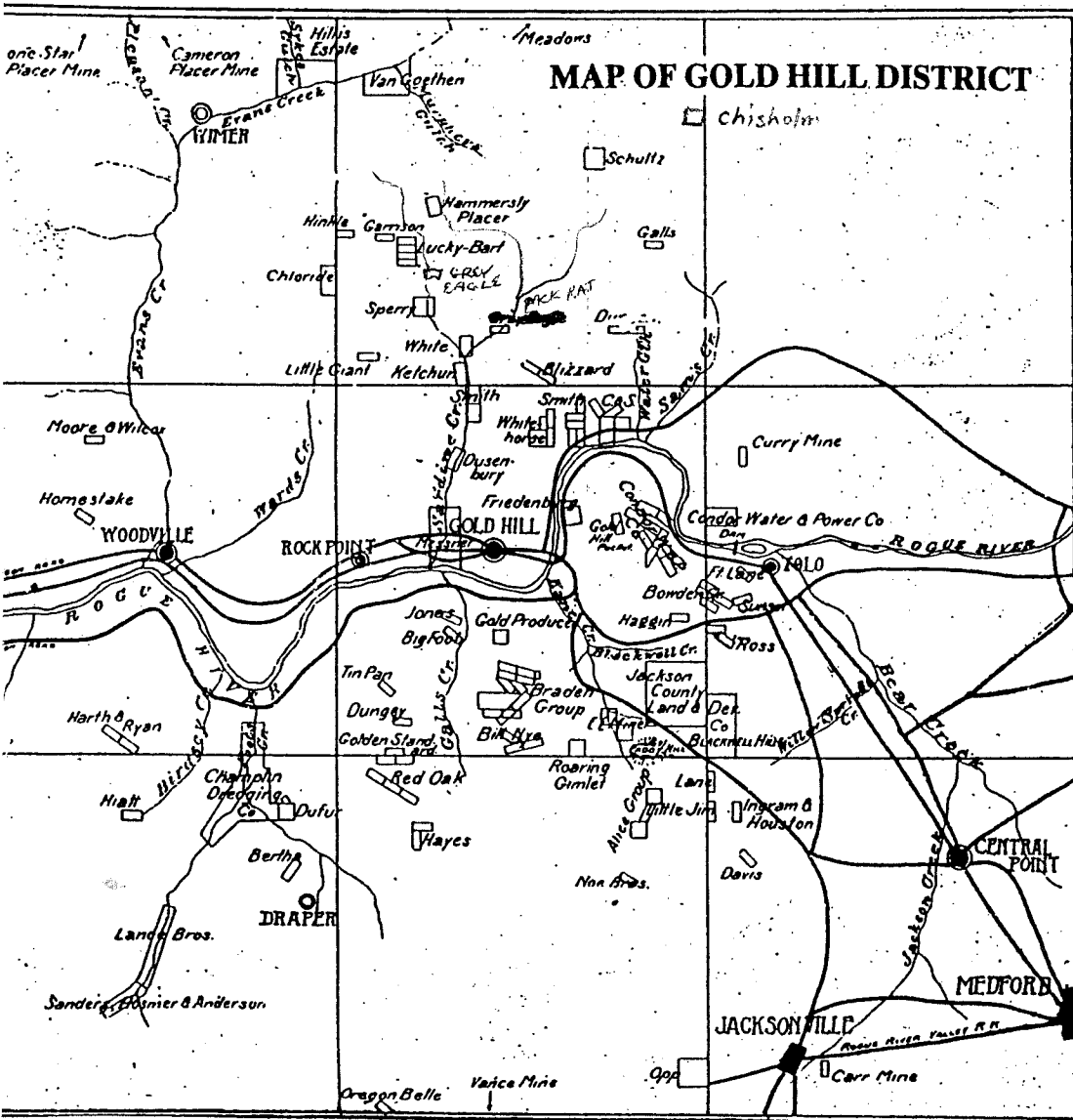


Source: USGS 1:100,000 Scale Topo, Grants Pass-OR/CA (1989) and Medford-OR/CA (1978).



15-Mile Target Distance Limit (TDL) Map  
 Braden Mine PA/SI  
 Jackson County, Oregon

Figure  
**1-6**



Dec. 30, 1911

**T**HE following is a list of mining properties in the region contiguous to Gold Hill, classified as to their respective districts:

**Kanes Creek:** Revenue, Alice, Mendenhall, Roaring Glimlet, Braden, Millionaire, Centennial placer, and many others; also the Hughes and Householder lime quarries.

**Galls Creek:** Bill Nye, recently purchased by a powerful French syndicate, operating mines in all parts of the world; five stamps will soon be in operation. Gold Standard, Red Oak, Rattlesnake, Kubli, Tin Pan, Burns & Duffield, H. D. Jones, Last Chance, and Big Foot.

**Foots Creek:** Champlin Dredging Co., Black Channel placer, Lance Bros. placer, Dixie Queen, Bertha, Horseshoe, Swaker, Hummingbird, and many others.

**Sardine Creek:** Little Giant, Black Hawk, Grey Eagle, Lucky Bart group, Corporal G, Garrison, Haff group, Hinckle, Smith placer, Dusenbury placer, and many others; this creek placers its entire length.

**Rogue River Hills:** Fairview, Blizzard, White Horse, Sylvanite, Trustbuster, Pactolian, Garfield (iron), Fleming-Ward (iron).

**Gold Hill Mountain:** Gold Hill ledge, Copper Queen, Whitney, Fisher, Dikeman and many others.

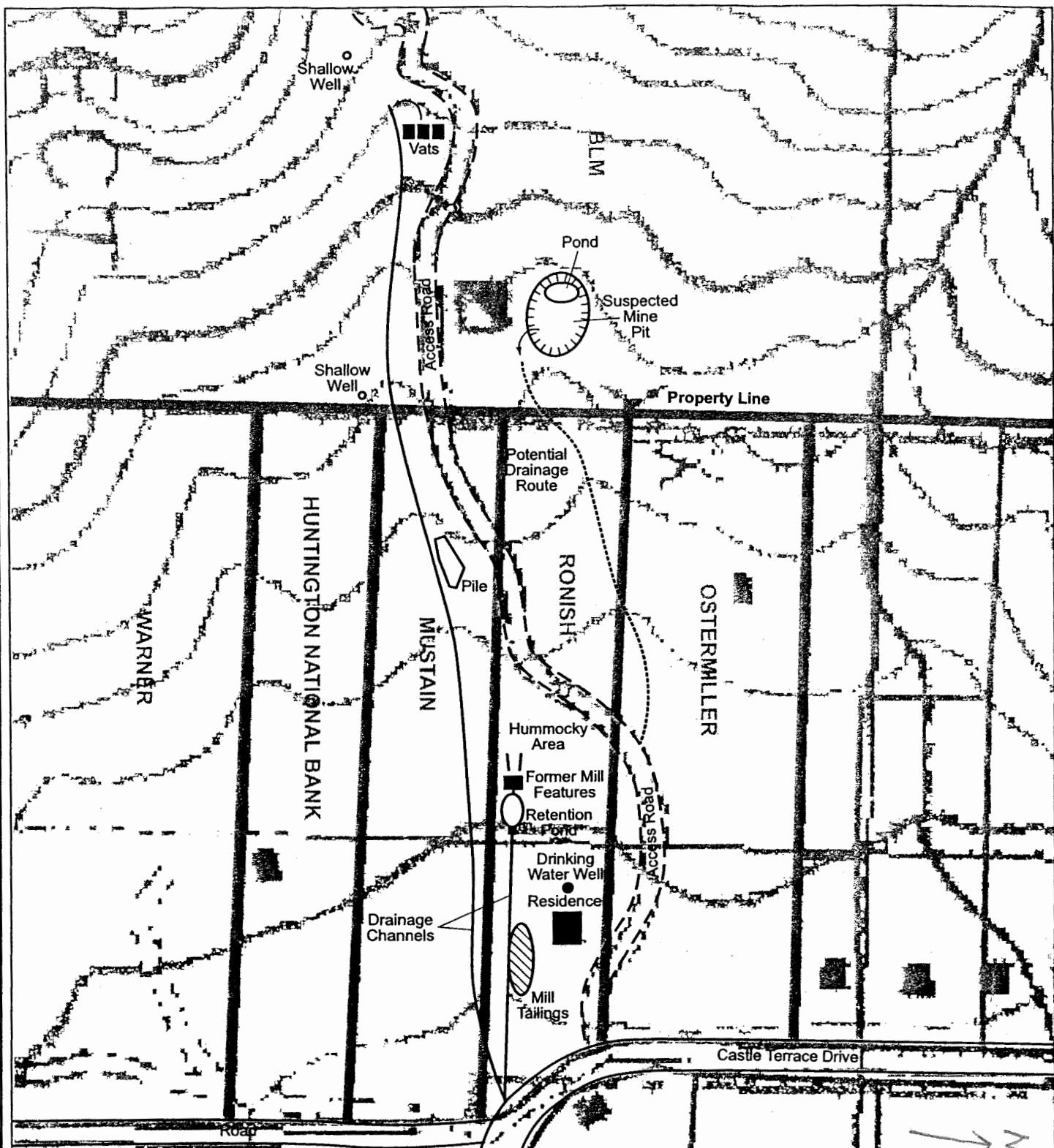
\$140.<sup>00</sup>

Tulad Oregon April 16<sup>th</sup> 1889

I hereby agree to pay to Mary Ann Charner the legal representative of the Estate of Thos Charner deceased, the sum of One hundred forty <sup>dollars</sup> or before the 20<sup>th</sup> day of November 1889 - for the use of the place known as the Gardanella place including & embracing the grounds & orchard, and the buildings belonging to said place, from the 20<sup>th</sup> day of Nov 1888 to Nov 20<sup>th</sup> 1889 -

James Braden

Sept 7/1889 Received from James Braden \$140 (One Hundred Forty Dollars) cash in full for one years rent up to said date.



Note: Basemap provided by ODEQ. Locations of site features shown are approximate.



Likely Potential Source of Discharge Route

# Site Plan Braden Mine PA/SI Jackson County, Oregon

Figure  
**1-4**