Josephine County
Grants Pass District

Name: Granite Hill Mine

Owner: Mrs. Inez D. Wilkinson, 704 N. 7th Street, Grants Pass, Oregon.

Location: About 9 miles N.E. of Grants Pass in Sec. 26, T. 35 S., R. 5 W.

Area: 460 acres of patented land. Granite Hill is in Secs. 26 and 27. The Red Jacket which is now included with the Granite Hill includes the E. 1/2 of the S.E. 1/4 of the N. E. 1/4 of Sec. 34.

Equipment: No equipment on the property. The mill was removed during the war. Water stands approximately 165 feet in the shaft. The property is described on Page 171 in the Handbook.

Informant: J. E. Morrison. Information given to me by Mr. Wilkinson.

GRANITE HILL DREDGING GROUND.

(Before financing)

Estimated 13,500,000 cubic yards of gravel $7.250.000.00

To prove values and yardage	$ 5.000.00
Equipment - 100 cubic yards per hour	30.000.00
Total.	$ 35.000.00

(Time required 30 days.)

GRANITE HILL DREDGING GROUND.

(After financing)

13,500,000 cubic yards at .50 ----------$7.250.000.00
100 cubic yards per hour 24 hours per day--------$1200.00

Fuel and Oil per day	$10.00	
Supplies & Maintenance	35.00	
1 dredge Master	12.00	
1 Welder and Repair man	10.00	
3 dragline men	24.00	
3 Oilers	13.50	
3 Boat tenders	15.00	
	$ 119.50	119.50
Profit per day		$1080.50

SUMMARIZATION

GRANITE HILL PLACERS

GRANITE HILL MINING DISTRICT

JOSEPHINE COUNTY, OREGON

By - George H. Mac Donald.
Consulting Mining Engineer
498 - 25th Street.
Oakland, California.

SUMMARIZATION

GRANITE HILL MINES

GRANITE HILL MINING DISTRICT

JOSEPHINE COUNTY, OREGON

****

OBJECT of EXAMINATION. The object of the examination on which this report is based was to make a reconnaissance of the district as a whole, to check to some extent the data already obtained, but more particularly to collect data as to the geology and the source of the gold, and as to the structural conditions of the gravel as affecting the distribution of gold over such a large area; and generally to express an opinion as to the feasibility and value of the project as a whole, and more particularly with respect to dredging operations.

The writer pan-sampled the surface in several places and obtained gold in every pan, other than this no other attempt was made to sample during the present examination, as a sufficient amount of work seems to have been done along these lines by other engineers, to indicate very valuable areas of gravel, and I would not consider a limited hand sampling as giving any additional data of immediate value.

TOPOGRAPHY; CLIMATE;
GENERAL CONDITIONS; The district is typical of the areas of southwestern Oregon; Granite Hill and the surrounding mountains rise abrubtly from the broad and shallow area. They are bold and deeply eroded mountains, carved out from an extensive area of very early granite intrusions of batholithic proportions.

The relief is rugged. The area is drained by the North Fork, Middle and South Forks of Louse Creeks.

The climatic conditions are favorable for work all the year.

LOCATION: The property is located on Upper Louse Creek in Josephine County, Oregon, in Sections 25, 26, 34 and 35, Township 35 S. Range 5 W., W. W. M.

There are approximately four hundred acres - all deeded land.

It is in the heart of a rich mineral belt. The Granite Hill Quartz Mine, Ida Mines, Columbian Mines and Red Jacket Mines virtually surround the placer grounds. There are numerous ledges on these properties and many rich lenses have been taken out on the side hills.

GENERAL GEOLOGY
of the DISTRICT: All the southwestern part of Oregon is geologically speaking, of great age. Weathering and erosion of the rock surface of the mountain ranges has developed on a vast scale and throughout great epochs of time, with the result that large areas of underlying rocks of great age have been discovered by erosion. In other words, the gradual wearing down of the mountains and the levelling off processes and corresponding filling up of the valleys (constructional) has been going on with less interruption from young or recent mountain building forces and extrusive processes than is the case in California.

There is evidence over considerable areas of Tertiary eruptives, and some later flows of basalt, but over the greater part of southwestern Oregon there is evidence of the eroded end of the Cretaceous Shore Line. The mountain ranges are either a complex of shhits with intrusions of granitic rocks, or else the remains of massive Tertiary extrusives.

There has been no detail geological work done in Southwestern Oregon and in the short time available, during a rather hasty reconnaissance I could not possibly do more than make a general observance of the quite complex geological conditions surrounding the base of Granite Hill. I took no geological samples and made no identifications of rock other than megascopic field approximations.

Granite Hill is a mass of very early intrusives - granite, and appears to be distinctive.

There appears to be a fairly strong belt of shists, tentatively, I can correlate the shists as Archean, the granite is evidently intrusive to the shists, to the north end of Granite Hill the rocks evidently belong to the Paleozoic Era, and to the west there are two large masses of what appears to be a dark highly silicified shistose slate of great age, and highly metamorphosed. I would classify them as a partly eroded roof pendant of what were the overlying rocks at the time of the intrusion. They are similar to many of the early Paleozoic Sedimentaries. I noticed a great number of fragments of the same rock scattered all through the gravel as far as twelve miles.

DEPOSITS FORMED BY MECHANICAL PROCESS: Geological theory proved true by the history of thousands of placer deposits, and the experience of legions of miners, assert that placers are always secondary, and not of primary origin.

They are unconsolidated accumulations of rock and mineral fragments in which gold forms but an infinitesimal percentage.

Nature did not create a placer as she did a vein itself, it may have been present in a single vein that outcropped boldly on a hill-side, or there may have been a whole series or network of small veins, which, individually had only a small amount of gold.

Through countless ages the surrounding country rock and vein material were broken down and eroded away by rain, frost and chemical action, the gold being chemically resistent and heavy was left behind.

This was the first step in the formation of a placer, "the freeing of the gold from the surrounding country rock by natural agencies", this process is going on today on the property under consideration in this brief geological reconnaissance.

Such occurrences of gold are common in the Appalachian regions of the southern States, and in Alaska, as well as in countries like the Guianas and Madagascar.

When outcrops of gold-bearing veins are decomposed a gradual concentration of the gold follows, either directly directly over the primary deposits or on the gentle slopes immediately below.

A typical occurrence of such a development is illustrated by the following diagram:-

GEORGE H. MacDONALD

Here the country containing small veins of gold and heavily mineralized with pyrite has been completely decomposed from the surface to a depth of 30 feet with a general transition below the 30 foot layer of complete decomposition into unaltered rock 200 to 300 feet below.

The rainfall extremely heavy, about 140 inches, washes the decomposed rock down the sloping ridges which rise only a few hundred feet above the surrounding flat country, with the result that the top of the hill is nearly bare, and the detrital material collects at or near the base, in a zone much wider than that of the gold-bearing rock, or vein, this layer, a sort of mushroomed migration of the outcrop is locally called a "manta" or blanket.

Gold placers may be formed by rapid erosion of hard rocks, and such placers are often rich and highly concentrated. In the great placer regions the concentration has generally been preceded by an epoch of deep secular decay of the surface, the final result is a loose, ferruginous detritus easily washed and containing easily recovered gold, the gold consists of grains of rough and irregular form and has a fineness but slightly greater than that of the gold in the primary vein.

Running water is by far the most important agency in the formation of gold placers. The high specific gravity of gold explains many of the puzzling features of the placers. Placer gold is six or seven times as heavy as the most common accompanying minerals -- feldspar and quartz -- and settles to the bottom in flowing water with surprising rapidity. It is almost impossible to lose a particle of gold, of the value of one cent, in a miner's pan; it sinks immediately to the bottom of the gravel and sand after one or two preliminary shakes in water. Once lodged there, at the bottom, it stayes there, in spite of shaking and rotating. This illustrates the fundamental fact that the gold is mainly on the bed-rock. The rapid settling of the gold accounts for the partial failure of some devises for placer mining, particularly the clamshell and the suction rock pumps.

HISTORY: Louse Creek has been known for many years for its placer gold and has been mined extensively for a distance of three or four miles below the Granite Hill Placer Property. Adjoining and immediately below the Granite Hill Placer the Forest Queen Mining Co. has been operating a large hydraulic plant using the Ruble System, which has proved very satisfactory. On the South Fork of Louse Creek and above the Granite Hill Placer Ground and on the Red Jacket Claim a Mr Hull mined successfilly for years, recovering a large amount of gold. It is stated that his returns for one year were $93.000.00.

Although the values on the Granite Hill Placers have been known for years, the grade in the creek was small and a large slide near the lower end on the grounds prevented extensive hydraulic mining.

Attempts were made to overcome these handicaps. A long tunnel was driven over 800 feet through the slide, all in good gravel which paid its own way, but instead of reaching bedrock it still remainded eight feet above and the drainage sought was not obtained.

In the fall of 1917, the Mc Intosh Bros. Olie and Will, expert placer operators, secured a lease from the old Granite Hill Mining Company, upon a 33&1/3 per cent royalty basis and undertook to mine on the South Fork below the Hull workings. This was during the late World War when men and materials were almost impossible to secure. They built a crude Ruble Elevator, using pipe for screens, etc,. They installed a pipe line and giants from one of the ditches and finished their plant late in the season and handled 3,000 yards of ground, and their recovery was ~~one~~ $1.330.00, or forty-five cents per yard at the old price of gold ($20.67) with an estimated loss of 25% of the values. While they were setting one of the giants they found an 8½ ounce nugget nine feet from bedrock. These men being subject to the next draft into the Army at that time took off their equipment and lost their lease on the ground.

The Mc Intosh Brothers, while living at the Granite Hill Property had access to the maps and test sheets of the Company which formerly owned the ground.

ECONOMIC NATURAL RESOURCES: The economic natural resources consist of a large flow of water which is 46½ second feet of rights on the North, Middle and South Forks of Louse Creek, the priority rights are as follows;-

North Fork

Priority, 1891 - Nine second feet ditch No. 1, supplementing flow of ditch No 33 for twenty-five second feet.

Priority, 1879 - Twenty-nine second feet for irrigation of twenty acres on Murrey ditch. NE¼ of SE¼ Section 27.

Middle Fork

Priority, 1880 - 2.5 second feet.

Priority, 1891 - Five second feet.

Priority, 1901 - Twenty second feet.

South Fork

Priority, 1891 - Ten second feet, ditches NO. 4 and 5.

There is ample water for dredging nine or ten months of the year. Making use of the reservoir sites, dredging could be conducted the year around. Also, ample water could be furnished the dredge for washing.

SUMMARY OF GEOLOGICAL INTERPRETATIONS:

There is a more or less a regular system of quartz veins, which have a north and south strike and dip into the hills. These have been worked as quartz mines, of which Granite Hill was the principal producer, but in addition to the larger veins there is a vast complex network of quartz stringers, lenses and pockety deposits which cover Granite Hill and the mountains to the North.

The gradual weathering and decomposition of this vast complex of veins has been one of the chief sources of the gold found in the gravels below.

There are a number of other interesting geological features but which do not have an immediate relationship to the interpretation of these gravel deposits, so they are not germane to this report.

I consider the general indications are that there has been a number of successive periods of gold impregnations in and about Granite Hill; from very early geological time up to and probably including a final mineralization during Tertiary times - the corresponding period of enrichment accompanying the Miocene intrusives in California.

SUMMARY:

(1) That the district is one of great geological age and erosion, and gravel concentration has been active through a great period of time.

(2) That Granite Hill forms the center of a zone of intensive gold impregnation, as evidenced by a great number of veins, and that furthermore, there appears to have been a number of different and successive periods of mineralization.

(3) That the great age of the deposit and the evident long period of deposition, erosion and reconcentration make it likely that there is a very general distribution of the gold.

REPORTED VALUES: The Oregon Gold Mines Company; an Arizona Corporation, had sunk test pits upon this property, and their test sheets showed the ground to average fifty cents per cubic yard for an average depth of thirty four feet at the old price of gold.

In one hole sunk to bedrock in the large pit near the upper end of the tunnel, and from which they ran but one-quarter yard of material, they secured $3.50 at the old price of gold. One piece was an eighty cent nugget.

This same Company drove the tunnel 800 feet in length through the slide at the west perimeter of the property, and this averaged fifty cents per cubic yard.

I made no cross-section or survey of this zone, but I think it safe to state that ground averaging 33 feet deep would contain 53,240 cubic yards allowing for places lost in turning an uneven bedrock, can, and should be figured at 50,000 cubic yards to the acre.

I estimate that if an examination of a dredging ground determined the existence of 270 acres of workable ground, 33 feet deep, the contents in cubic yards would be figured at 13,500,000 cubic yards.

A 13½ cubic foot boat would work out 270 acres, 33 feet deep, or, 13,500,000 cubic yards of medium compact gravel in about five years, allowing 80% working time, at an efficiency of 80%, with a bucket speed of 50 feet per minute, at a total operating cost of from 6 to 8 cents per cubic yard.

RECOMMENDATIONS: As a major development in the gold mining industry, the dragline dredge has been perfected for the profitable working of gold bearing gravel.

The dragline dredge, "t he doodlebug", is really not new. It even preceded the large bucketline dredge. In the course of the last decade, however, this type of equipment has been greatly improved. It is now used profitably in California, in other Western States, and even in foreign fields.

It enables persons with limited capital to engage in gold production, and is accredited with opening new sources of placer gold at attractive profits. Under prevailing prices of gold, these profits are often highly gratifying.

A dragline dredge consists of the dragline digging unit on a caterpillar or walker-type mounting and a portable washing plant mounted on a floating barge.

It operates effectively in placers which the pioneer could not work profitably and in deposits too small or too shallow to warrant a large investment in a bucketline dredge. Since it is easily transported and requires a comparatively small quantity of water, it is solveing the problem of placer mining in out-of-the-way and apparently waterless districts.

In general, the dragline dredge should be used to mine the smaller and shallower --often the richer deposits, and the marginal areas of large and deep deposits.

If a deposit is not more than 50 feet deep and otherwise is suitable for a dredging operation, the dragline dredge is the proper equipment to use.

On the other hand, if the deposit is not suitable for dredging, owing to lack of water, to peculiarities of the bedrock, or to the prevelence of many and large boulders, a "dry bank" plant will probably produce the largest profits.

The dragline dredge is the equipment recommended for the operation of the Granite Hill Placer Property, the capacity of which should be 100 yards per hour, and will cost approximately $24.000.00.

The total crew required to operate the dragline (10hours) is four men.

CONCLUSIONS: The endorsement of the project as a whole and the conclusions reached are based upon the following specific facts:-

(1) The structural and geological conditions are sound.

(2) Natural resources, both as to timber and water for operations, rest within the confines of the property.

(3) Profitable value are proved, and no physical conditions need bar its future.

Respectfully,

George H. Mac Donald, E. M.

GEORGE H. MACDONALD

COPY OF AFFIDAVIT # 1

Grants Pass, Oregon
September 21, 1937

I, Turl Leverich of Grants Pass, Oregon, do depose and say that, during the month of June 1936, I sank a shaft to bedrock on the South Fork of Louse Creek, Josephine County, Oregon, the same being on the Granite Hill Mining property.

A cut was made from the bank on the creek for a distance of Ten feet and from that point the shaft was sunk to bedrock. The depth of the shaft was approximately Fourteen feet.

During the course of sinking, the ground was systematically panned for the entire distance and the number of pans recorded. There was one Twenty-five cent nugget obtained and also two smaller pieces of Five and Six cents each, besides the fine Gold.

Totaling the distance and the number of pans and the value of the Gold recovered, my estimate of the value of the ground for the Fourteen feet of the shaft would be One Dollar and Forty Cents per Cubic Yard.

SEAL (signed) Turl Leverich
Turl Leverich.

STATE OF OREGON)
) ss
County of Josephine)

BE IT REMEMBERED, That on this 21st day of September, 1937, before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named Turl Leverich who is known to be the identical individual described in and who executed the within instrument and acknowledged to me that he executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal the day and year last above written.

(signed) Ruth L. Groth
Notary Public for Oregon

SEAL

My commission expires Sept. 27, 1940

Grants Pass, Oregon

September 27, 1937

I, W. D. McIntosh, residing at Wolf Creek, Josephine County, State of Oregon, depose and say that on the 6th day of April A. D. 1936, I wrote Mr. G. W. Wilkinson a letter in regard to my knowledge of the Granite Hill Property.

The statements I made in that letter I believe to be true to the best of my knowledge and belief.

(signed) W. D. McIntosh
W. D. McIntosh

SUBSCRIBED AND SWORN TO before me, this 27th day of September A. D. 1937.

(signed)
E. L. Galbraith
Notary Public for Oregon.
Residing at Grants Pass,
County of Josephine.

SEAL

My Commission Expires
June 4th. A. D. 1938.

ACKNOWLEDGMENTS AND REMARKS

The writer is greatly indebted to George W. Wilkinson of Grants Pass, Oregon, who is the principal owner of the mine, for much of the information contained in the following compilation which is merely a summarization of information gathered from sources above named together with information also gathered from Wm F. Hayden, Consulting Mining Engineer of the staff of mines vocational education

Mr George W. Wilkinson states; The area of ground under consideration for dredging purposes was tested by the Oregon Gold Mines Company, an Arizona Corporation. Their testing showed the ground to average fifty cents per cubic yard in gold content, and that the deposit averaged 34 feet deep, and that there is 270 acres.

Mr Wm F. Hayden, Cunsulting Mining Engineer of the staff of mines vocational education of the University of Oregon, and the Oregon State College, states; The Oregon Gold Mines Company drove a tunnel, 800 feet in length, through the slide at the west end of the property. Mr Hayden correlates the statements made by Mr Wilkinson.

I made no cross-section or survey of this property, but I think it safe to say that ground averaging 33 feet deep would contain 53.240 cubic yards, allowing for places lost in turning an uneven bed-rock, can and should be figured at 13.750.000 cu., yds.,

I estimate that if an examination of a dredging ground determined the existence of 270 acres of workable ground, 33 feet deep, or, 13.750.000 cubic yards of medium vompact gravel

SUMMARIZATION

GRANITE HILL PLACERS

GRANITE HILL MINING DISTRICT

JOSEPHINE COUNTY. OREGON

GEORGE H. MAC DONALD

Submitted Aug 16. 1940

Received Back Feb 17-1941

George H. Mac Donald.
Consulting Mining Engineer
498 Twenty-fifth Street.
Oakland. California.

within a short distance of the mine.

In the opinion of the writer, as soon as this mine goes into operation there would be a sufficient number of employees to warrant asking that the R. F. D. route be extended to the property.

BUILDINGS:

The buildings found upon the property are in only fair livable condition but can be rehabilitated at a very nominal cost.

The buildings consist of a Superintendent's house and several cabins of considerable dimensions - all frame structures. A mess hall consisting of a large kitchen and dining room will have to be constructed, as well as additional bunk houses, when the mine is placed in operation in order to accomodate the large number of men that will be employed.

EQUIPMENT:

The mine was formerly equipped with a complete twenty-stamp mill, as well as exceptionally fine mining equipment, including hoists, etc.

According to the owners, mining equipment consisting of numerous steel mine cars, some 20,000 lineal feet (estimated) of steel rails (underground trackage), a large number of air-hammers, picks, shovels and large costly pumps are still submerged in the underground workings of this mine, much of which will be salvaged when the mine is de-watered and placed in operation.

GENERAL GEOLOGY
OF THE DISTRICT: All the southwestern part of Oregon is geologically speaking, of great age. Weathering and erosion of the rock surface of the mountain ranges has developed on a vast scale and throughout great epochs of time, with the result that large areas of underlying rocks of great age have been discovered by erosion. In other words, the gradual wearing down of the mountains and the levelling off processes and the corresponding filling up of the valleys (constructional) has been going on with less interruption from young or recent mountain building forces and extrusive processes than is the case in California.

There is evidence over considerable areas of Tertiary eruptives, and some later flows of basalt, but over the greater part of southwestern Oregon there is evidence of the eroded end of the Cretaceous Shore Line. The mountain ranges are either a complex of shists with intrusions of granitic rocks, or else the remains of massive Tertiary extrusives.

There has been no detail geological work done in southwestern Oregon and in the short time available, during a rather hasty reconnaissance, I could not possibly do more than make a general observance of the quite complex geological conditions surrounding the base of Granite Hill. I took no geological samples and made no identifications of rock other than megascopic field approximations.

Granite Hill is a mass of very early granitic intrusives, and appears to be distinctive.

There appears to be a fairly strong belt of shists, tentatively, I can correlate the shists as Archean, and the granite is evidently intrusive to the shists, to the north end of Granite Hill the rocks evidently belong to the Paleozoic Era; and to the west there are two large masses of what appears to be a dark highly silicified shistose slate of great age, and highly metamorphosed. I would classify them as a partly eroded roof pendant of what were the overlying rocks at the time of the intrusion. They are very similar to many of the early Paleozoic Sedimentaries. I noticed a great number of fragments of the same rock scattered all through the gravel as far as twelve miles.

BEDROCK: The bedrock under nearly all of the placer is a soft decomposed granite. A greenstone underlies the extreme lower end. This makes ideal dredging or hydraulicing ground.

TRANSPORTATION: The distance to the property is nine miles from Grants Pass, Oregon. There is a good auto road to the property seven miles from the Pacific Highway.

WATER: The property has 46½ second feet of rights on the North, Middle and South Fork of Louse Creek. The priority rights are as follows:

North Fork

Priority, 1891 - Nine second feet, ditch No. 1, supplementing flow of ditch No. 33 for twenty-five second feet.

Priority, 1879 - Twenty-nine second feet for irrigation of twenty acres on Murry ditch. NE¼ of SE¼, Section 27.

Priority, 1879 - Twenty-nine second feet, SE ¼ of NE ¼, Section 27.

Middle Fork

Priority, 1880 - 2.5 second feet.

Priority, 1891 - Five second feet.

Priority, 1901 - Twenty second feet.

South Fork

Priority, 1891 - Ten Second feet, ditches No. 4 and 5.

There is ample water for dredging nine or ten months of the year. Making use of the reservoir

sites, dredging could be conducted the year around. Also, ample water could be furnished the dredge for washing and sluices by gravity, relieving the necessity of using the pumping system for six months of the year.

DREDGE PIT: A large pit, above referred to, washed at the upper end of the tunnel is ample for the construction of the hull of the dredge without requiring excavating a pit. There is a road down to the pit.

TIMBER: The land is deeded land and is covered with good timber. The lumber for the dredge and buildings and other requirements could be cut on the ground for approximately $6.00 per thousand, effecting a large saving.

POWER: The California Power Co. would install electric power on the ground for $2,500.00, which would be returned from monthly bills. Very low rates are obtainable.

By taking advantage of the three and four hundred foot heads from the ditches enough horsepower should be developed for operating the dredge for half of the season. The Power Company's high tension line is about four miles on an air-line from the mine.

SUMMARIZATION

GRANITE HILL PLACERS

GRANITE HILL MINING DISTRICT

JOSEPHINE COUNTY. OREGON

INDEX PAGE.

History # 2.

This Company had sunk numerous pits before buying the ground and the test sheete showed the ground averaged fifty cents per yard for an average depth of twenty-four feet at the old price of gold. In one hole sunk to bed-rock in the large pit near the upper end of the tunnel, from which they ran but one-quarter yard of material, they secured $3.50 at the old price of gold. One piece was an eighty cent nugget.

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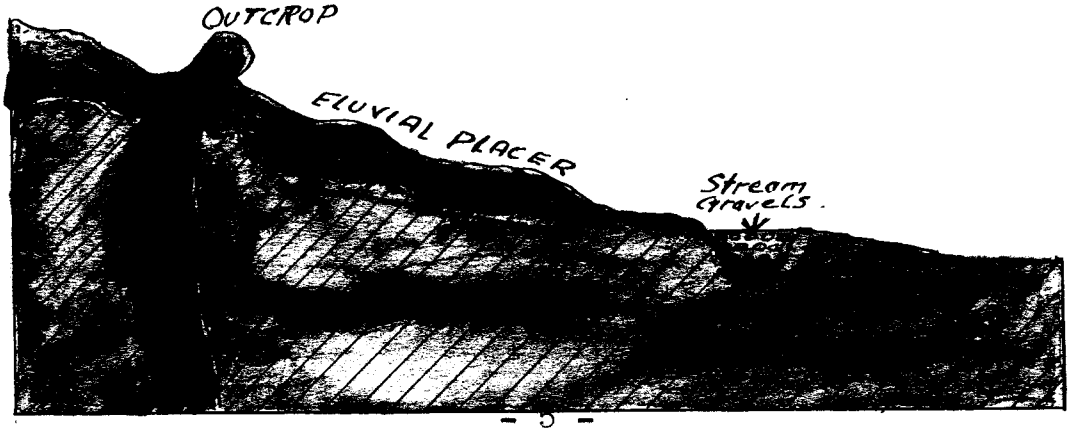
When outcrops of gold-bearing veins are decomposed a gradual concentration of the gold follows, either directly over the primary deposit or on the gentle slopes immediately below.

A typical occurrence of such a development is illustrated by the following diagram:-



PRELIMINARY REPORT

Property

GRANITE HILL PLACER (DREDGING) MINES

GRANITE HILL MINING DISTRICT
JOSEPHINE COUNTY, OREGON

The Granite Hill Placer Mines are located in Sections 25, 26, 34 and 35, Township S., Range 5 W., W. M.

There are approximately four hundred acres - all deeded land.

The property is located on Upper Louse Creek in Josephine County, Oregon and covers nearly two miles on Louse Creek, the North Fork, Middle Fork and South Fork. It is in the heart of a rich mineral belt. The Granite Hill Quartz Mine, Ida Mines, Columbian Mines and Red Jacket virtually surround the placer grounds. The Granite Hill Quartz was a producing mine until flooded out. The other mines have produced and are in a stage of present development. There are numerous ledges on these properties and many rich lenses taken out on the side hills.

Louse Creek has been known for many years for its placer gold and has been mined extensively for a distance of three and four miles below the Granite Hill Placer. Adjoining and below the Granite Hill Placer the Forest Queen Mining Co. has been operating a large hydraulic plant using the Ruble system, which has proved very satisfactory. On the South Fork of Louse Creek above the Granite Hill Placer and on the Red Jacket claim a Mr. Hull mined successfully for years, taking out a large amount of money. It is stated that his returns one year were $93,000.00.

Although the values on the Granite Hill Placers have been known for years, the grade in the creek was small and a large slide near the lower end on the grounds prevented extensive hydraulic mining.

GRANITE HILL MINE DUMP

AND MILL TAILINGS

(Before financing)

To Prove Values and Tonnage----------	$ 5.000.00
Estimated Equipment----------	20.000.00
Total.	$ 25.000.00

GRANITE HILL

(After financing)

135800 tons averaging 4.66 per ton		$647.000.00
100 tons per day---------$468.00		
Cost of treatment per day 100 tons----------	125.00	
Profit per day	$343.00	
135800 tons averaging $4.66 per ton		$647.000.00
Cost of treatment----------		169.000.00
Total Profit.		$478.000.00

GENERAL REPORT

Property

GRANITE HILL DREDGING and QUARTZ MINES

GRANITE HILL MINING DISTRICT

JOSEPHINE COUNTY, OREGON

****

A C K N O W L E D G M E N T S

We are greatly indebted to Mr. George W. Wilkinson, former owner of the property, for furnishing us information in connection with the history of the Granite Hill Mine, which included maps, assay values and other substantiated general information, with special reference to the underground workings of this mine; to W. D. McIntosh and brother for their affidavit which sets out the average values of the testing pits, the records to which they had access, during the period they were connected with the operation of the Granite Hill Mine, which refers particularly to the placer dredging areas (See pages 19a and 19b); to Paul C. Dressel, Metallurgist, for the assays included in this report, for which he accepts responsibility. The wet assay method was used in testing values contained in these ores except 304A which was a fire assay by Paul Roehl and the Ida Mine Assay No. 308A of the High Tariff dump, Granite Hill deposits. Mr. Dressel further assisted in securing considerable information of a technical nature concerning this property for us.

Erle C. Annes, E. M. was the Associate Examining Engineer in the writing of this report. He assisted me particularly in the examination and the preparation of the Geology of the Granite Hill deposits. He also surveyed and prepared the topographic sketch map of the Granite Hill Mine and vicinity. It will be noted in the reading of this

Granite Hill is a mass of very early intrusives - granodiorite, and appears to be distinctive.

tentatively, I can c[illegible]appears to be a fairly strong belt of shists,

GEORGE H. MAC DONALD

GOLD VALUES - Placer Deposits:

The gold content of the gravel areas of the Granite Hill deposits, according to the McIntosh brothers' affidavit, is 50¢ per cubic yard, old price of gold. The value at the present price of gold would be approximately 87½¢ per cubic yard.

ORE RESERVES:

SUPPLEMENTARY REPORT

OF THE

GRANITE HILL DREDGING GROUND

OBJECT OF EXAMINATION: The object of the examination on which this report is based was to make a reconnaissance of the district as a whole, to check to some extent the data already obtained,- but more particularly to collect data from an operating point of view,- also to collect as to the geology and the source of the gold,- and as to the structural conditions of the detrital material as affecting the distribution of gold over such a large area; and generally to express an opinion as to the feasibility and value of the project as a whole and more particularly with respect to dredging operations.

The writer pan-sampled the surface in several places and obtained gold in every pan, other than this no other attempt was made to sample during the present examination, as a sufficient amount of work seems to have been done by other engineers along these lines, to indicate very valuable areas of detrital material, and I would not consideraa limited hand sampling as giving any additional data of immediate value.

ROADS AND TRANSPORTATION:

The road to the mine, part of which is a paved highway, the balance being of a hard-surface construction (to within one and one-half mile of the mine) is in good repair except the last named distance. Our recommendations will include a partial reconstruction of this road, which should require only a nominal amount of funds.

We would consider the road one of the favorable assets of this property. Aside from three or four different locations where the grade of the road is steep, same would be of a grade to accomodate easy motor traffic.

The distance from the mine to the railroad shipping point would be approximately nine miles, which would be Grants Pass, Oregon, a station on the Southern Pacific Railroad.

Low grade ores may be shipped from this point to Tacoma or San Francisco Smelters at a reasonable freight rate, although if it becomes necessary to transport concentrates of high grade quality from this mine, which is more than probable, because of high tariffs charged by railroads for high grade concentrates, the Mining Company could employ the use of their own trucks for delivery of such high grade concentrates to the Smelter.

WATER:

The property owns 46.5 second feet of water rights upon the North Fork, Middle Fork and South Fork of Louse Creek. The priority rights are as follows:

Here the country rock containing small veins of gold and heavily mineralized with pyrite has been completely decomposed from the surface to a depth of 30 feet with a general transition below the 30 foot layer of complete decomposition into unaltered rock 200 to 300 feet below.

The rainfall extremely heavy, about 140 inches, washes the decomposed rock down the sloping ridges which rise only a few hundred feet above the surrounding flat country, with the result that the top of the hill is nearly bare, and the detrital material collects at or near the base in a zone much wider than that of the gold-bearing rock, or vein, this layer, a sort of mushroomed migration of the outcrop is locally called a "manta" or blanket.

Gold placers may be formed by rapid erosion of hard rocks, and such placers are often rich and highly concentrated. In the great placer regions the concentrations has generally been preceded by an epoch of deep secular decay of the surface, the final result is a loose ferruginous detritus easily washed and containing easily recovered gold, the gold consists of grains of rough and irregular form and has a fineness but slightly greater than that of the gold in the primary vein.

Running water is by far the most important agency in the formation of gold placers. The high specific gravity of gold explains many of the puzzling features of the placers. Placer gold is six or seven times as heavy as the most accompanying minerals --feldspar and quartz, and settles to the bottom in flowing water with surprising rapidity. It is almost impossible to lose a partical of gold of the value of one cent in a miners pan, it sinks immediately to the bottom of the gravel and sand after one or two preliminary shakes in water. Once lodged there, at the bottom, it staves there in spite of shaking and rotating. This illustrates the fundamental fact that the gold is mainly on the bed-rock. The rapid settling of the gold accounts for the partial failure of some devices for placer mining, particularly the clamshell and the suction rock pump.

HISTORY: History reports that this property produced seventeen millions from thirty acres, sixty feet deep, average, The reported value of the gravel per cubic yard $14.85.

The property was mined by the application of the Hydraulic method, using #3 monitors to wash the upper benches, later on as this work progressed, the Hendy type of elevators were installed, this property was worked under a pressure head of 275 feet, consequently as they went deeper they ran out of pressure and were compelled to cease mining at that date.

Since that date, many attempts have been made to "mine at" this property, the wrong application has been the contributing cause of failure at nearly all of the unsuccessful placer operations, as well as nearly all the excursions of excavating contracters and sand and gravel men into placer mining, and in nearly all unsuccessful plants some innovation or "home-made" equipment was tried.

One abortive attempt was tried in 1932 resulting in failure, they attempted to mine the property with an improvised "home-made" dry-land dredge (see photograph attached) and they abandoned the property after an operation of 60 days, after an investigation this attempt to mine the property turned out to be a rank promotion, these promoters had organized a corporation in the State of Washington, sold stock without a permit from the Commissioner of Corporations, and had operated in California without registering the corporation, they did not fail because the ground was "hungry, it was a case of ambitious incompetents and the wilful nefarious abuse of a so-called mining company.

Two attempts were made to mine the property by the application of "draglines which also resulted in failure, but, these people were successful in recovering $500 per day until the "gin-pole" broke, these two draglines have been located in the pond of water on the property by the writer.

One block of dirt one hundred and fifty feet wide by three hundred feet long, and thirty five feet deep, was removed in sixty five days by the Eastlick Brothers, and $24.700 was recovered.

Drifting on bedrock (original working) for one hundred and fifty feet paid, $15.000.

These amounts were verified by certificates of the San Francisco Mint.

The placer mining operations confined to this property were worked by elevators, the natural dump being insufficient. The water supply, though considerable in quantity, was under comparatively low pressure for elevator work, so only small areas were washed each season. The elevators had a lift of 25 feet, and was constantly increased, as the direction of the workings was down the channel.

The ground was rich, paying 88 cents to the square foot of bedrock area cleaned, but the disadvantages of working were so serious and were increasing that they were forced to discontinue.

SUMMARY OF GEOLOGICAL INTERPRETATIONS: There is a more or less regular system of quartz veins, which have a north and south strike and dip into the hills. These have been worked as quartz mines, of which Granite Hill was the principal producer, but in addition to the larger veins there is a vast complex network of quartz stringers, lenses and pockety deposits which cover Granite Hill and the mountains to the North.

The gradual weathering and decomposition of this vast network of veins has been one of the chief sources of the gold found in the gravels below.

There are a number of other interesting geological features but which do not have an immediate relationship to the interpretation of these gravel deposits, so they are not germane to this report.

I consider the general indications are that there has been a number of successive periods of gold impregnations in and about Granite Hill; from very early geological time up to and probably including afinal mineralization during Tertiary times -- the corresponding period of enrichment accompanying the Miocene intrusives of California.

SUMMARY:

1. That the district is one of great geological age and erosion, and gravel concentration has been active through a great period of time.

2. That Granite Hill forms the center of a zone of intensive gold impregnation, as evidenced by a great number of veins, and that furthermore, there appears to have been a number of different and successive periods of mineralization.

3. That the great age of the deposit and the evident long period of deposition, erosion and reconcentration make it likely that thethere is a very general distribution of the gold.

REPORTED VALUES: The Oregon Gold Mines Company; an Arizona Corporation, had sunk test holes upon this property, and their test sheets showed the ground to average fifty cents per cubic yard for an average depth of thirty-four feet. (The computation was on the price of $20.67)

In one hole sunk to bed-rock in the large pit near the upper end of the tunnel, and from which they ran but one quarter of a yard of material that recovered $3.50, at the old price of gold. One piece was an eighty cent nugget.

This same Company drove the tunnel 800 feet in length through the slide at the west perimeter of the property, and it averaged fifty-cents per cubic yard at $20.67 per ounce.

I made no cross-section or survey of this zone, but I think it safe to say tha t ground averaging 30 feet deep would contain 48.900 cubic yards ~~allowing for places lost in turning an uneven bedrock,~~ can, ~~and~~ should be figured at 50.000 cubic yards.

A 13½ cubic foot boat would work out 270 acres, 33 feet deep, or 13.500.000 cubic yards of medium compact gravel in about five years, allowing 80% working time, at an efficiency of 80%, with a bucket speed of 50 feet per minute, at a total operating cost of from 6 to 8 cents per cubic yard.

GEORGE H. MAC DONALD

CONCLUSIONS: The endorsement of the project as a whole and the conclusions reached are based upon the following specific facts:-

1. The structural and geological conditions are sound.

2. Natural resources, both as to timber and water for operations, rest within the confines of the property.

3. Profitable values are proven, and no physical conditions need bar its future.

Respectfully,

Geo. H. MacDonald

George H. Mac Donald, E. M.

GEORGE H. MacDONALD

and extensive ore bodies (See assays quartz exposures, pages 22-25). This we believe from the present showings and from assay tests which have proven to be highly commercial, principally in free gold.

The elevation at the collar of the shaft is 2250 feet above sea level and at the crest of the hill it is 2500 feet, providing backs of 250 feet.

It is understood that a cross-cut tunnel at a later date was driven into the mountain-mass in a northeasterly direction near the collar of the main shaft, which conforms with the ideas of the writers, but we are informed this was done (by parties other than the former owners) after the milling equipment had been removed from the mine. This tunnel has been extended probably 200 feet, and, after the portal has been rehabilitated and the timbering caught up, this portion of the same tunnel could be used for the purpose suggested by extending the tunnel as above indicated.

The writer justifies the expense that would be incurred in the driving of such a tunnel from the main shaft upon a northerly course that would involve an underground development of probably 800 feet and which would cross-cut the different vein systems referred to under Geology upon which open cuts or surface developments indicate permanency of these deposits. Further emphasis in this direction may be placed upon the qualifications of this development for the reason that at an elevation of approximately 2500 feet a vein known as the "High Tariff" has been developed, probably in the neighborhood of 100 feet in depth, where it is said that in the bottom of a 45-foot shaft which was sunk at the floor level of a tunnel driven into the hill at a distance of about fifty feet below the highest surface elevation ore to a width of approximately three feet was encountered. At this point the ores are reported to have averaged $20.00 per ton in gold. The writer has found quartz with free gold imbedded therein upon the dump of this development upon several different occasions. The waste dump of this development from which all ores of known value

were first extracted, according to the Ida Mine Company's assay returns, still carry a gold value of $9.00 per ton. Two veins of considerable importance in both width and length should be encountered before reaching the High Tariff vein and a vein approximately 200 feet easterly from the High Tariff, while same is narrow as exposed upon the surface, shows values when panned that would be estimated at approximately $20.00 per ton. We believe this vein will widen as depth is attained. The cross-cut tunnel would attack and prospect these deposits.

Development, Placer Deposits: The development of the placer deposits of the Granite Hill Mine is such that considerable information as to geology and values may be derived from the work which has been done recently upon this section of the mine.

The majority of the tests made in the presence of the signers of this report were by the use of the gold pan and made from faces of gravel deposits averaging as much as thirty feet in depth from shafts that were recently sunk to bedrock and from exposures of faces of gravel over widely removed areas. In each case the values showed from one-half to one to five cents or better in the pan. Some fine gold was evidenced although fine gold in reasonable amounts does exist in these deposits.

Little information can be derived from the dozen or more shafts which were sunk by the old Granite Hill Company except as substantiated by the McIntosh brothers' affidavit as outlined on Pages 19a-19b of this report, as most of these pits, which were sunk to bedrock, are partially filled with water. These shafts at the time proved the extent and value of the dredging deposits of this property to the satisfaction of the Granite Hill Company. This is evidenced for the reason that after these tests the property was purchased by this Company at a very handsome

figure, so we are informed.

Many attempts were made to mine these placer deposits by the hydraulic method. No drainage being available, an attempt to drain the ground was made by driving an approximate 800-foot tunnel for drainage at a point near the lower or westerly perimeters of the property where the large gravel deposits were covered by sediments in the form of a slide from the northerly slopes of the adjoining hills. The grade of the tunnel, however, proved insufficient and at the westerly end or terminal of the 800-foot tunnel the operators found themselves still eight feet above bedrock, but at water level. Their main object, therefore, was not attained, but the value of the deposits was established as it is stated the underground drainage tunnel paid its own way in gold from the gravels removed from this development. At the northerly end of this tunnel a large pit, probably thirty feet in depth, 100 feet in width and 200 feet in length was excavated to permit drainage through the above referred to tunnel. This pit now provides an excellent location for the floating of a dredge (at the exact location where dredging operations should begin) without additional expense to the present owners and further provides an extended face of gravel, probably thirty feet in depth for the testing of the gravels at this point. Panning tests here substantiate values in gold from grass roots to bottom of pit.

The bottom of the pit is still approximately eight feet above bedrock and the McIntosh brothers who formerly tested the dredging sections of this property sank a shaft in the floor of this pit to bedrock, recovering at the rate of $10.50 in gold to the yard, old price of gold, or $18.38 per yard at the present price. It is not expected that such values will be maintained, but it does signify the fact that the bedrock is enriched to this amount in the Granite Hill Dredging areas.

Additional tests of the values of the Granite Hill gravel deposits were witnessed by the

writer on several occasions when hand sluicing of the gravels was carried on for practically a month near the southwest corner of Section 26 (See photograph, Fig. 9 and map, envelope page) where the bank of gravel is exposed near this point. The recoveries from this operation were considered as exceptional since two men would recover as much as $5.00 in a two days run where all of the gravel was shoveled into the sluice line by hand. Therefore, it can be readily seen that the gravels at this point at least, and which were not mined to bedrock, must of a necessity average very close to the tests as outlined in the McIntosh affidavit except that the recoveries here would be still greater than the average tests of the gravel reported.

Yardage: It is estimated there are four million cubic yards of the higher grade placer or dredging gravels contained in this property which would be classed as mineable gravel or dredging deposits with probably an additional million yards as potential gravels if the Granite Hill Extensions are included. The average depth is figured at eleven yards or thirty-three feet though at several locations on the property this depth will be greatly increased while at others a more shallow gravel obtains.

The development program that will be followed by the present Company or owners to determine dfinitely the values in the above described deposits will be - to open and timber all of the caved tunnels, clear out the surface open cuts more completely, sink shafts from tunnel levels and crosscut or drift the quartz deposits at lower levels. The main 430 foot shaft will be de-watered. The present collar, which is now in a bad condition, will be repaired and re-timbering of the shaft will be done where it is found necessary. The cage and shaft equipment is apparently in fair and repairable condition so that operations should be resumed in a very short time after the mine has been de-watered.

The gravel areas will be tested by

drilling with the proper equipment usually employed in making such tests. This drilling program will be continued until the owners are satisfied as to existing values of the ground and if possible obtain a substantiation of former tests.

ASSAY VALUES:

The question of recording or presenting the results of assays made from ore exposures of the Granite Hill Mining property deposits should be received more or less in the light of indications as to the actual values of the deposits at deeper horizons since assay samples, except those taken across the decomposed quartz-diorite materials, are from exposures of the quartz fissures in open pits, surface croppings and shallow tunnels, but unquestionably they are indicative of commercial ores as they extend in depth at the locations where same were taken.

ASSAYS GRANITE HILL MINE
November - 1936

Sample Number	Description	Gold Value
300	Surface exposure, old open stope approximately 30 feet west of main shaft. The deposit here is 24 feet in width. Three composite samples were taken of which No.300 is the first over a width of 10 feet	$ 1.10
301	Composite sample following No. 300, 10 feet across face of pit	2.20
302	Composite sample four feet in width following along face from No. 301	4.50

ASSAYS - GRANITE HILL MINE - Cont'd:

November, 1936.

Sample Number	Description	Gold Value

Note: It is to be noted that the above samples are more or less surface materials. The ore is exposed over a 24-foot width due to caving of an old stope from a tunnel driven under this pit. The records show that at a depth of probably 40 feet below the point at which these samples were taken much high grade, including some "jewel" gold was taken out of this deposit. The operation was under the management of Hull & Beck at that time, Grants Pass mine operators.

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303 - A composite sample taken over a distance of 110 feet across the face of a decomposed material classed as quartz-diorite. This material you will see under Geology comprises practically the entire areas of the northerly deposits of the Granite Hill property and through which there is almost a stockwork of veinlets, small fissure quartz veins and at places quartz veins of considerable width.

The No. 303 sample was taken very carefully in that all of the quartz materials were excluded for the reason that the writers of this report wish to ascertain if this material, aside from quartz stringers, carries commercial values. The return shown by the assay was .....$ 1.00

ASSAYS - GRANITE HILL MINE - Cont'd:

November, 1936.

Sample Number	Description	Gold Value
304 -	Taken over same deposits as No. 303, including the quartz, except that it was taken for a distance of only 50 feet of the westerly section, which included the areas through which the quartz stringers are exposed. Value in gold less than	$ 1.00
304A -	Same as No. 304 - Fire assay by Paul Roehl, Assayer, Grants Pass, Oregon	1.40
305 -	A sample taken on ditch-line at the 2400' contour about 250' southerly and 100' easterly from the High Tariff vein. Sample was taken from a vein exposed in a shallow shaft	46.20
306 -	Sample taken about 100' westerly from No. 205. Apparently an outcrop of the High Tariff vein shown in the shallow shaft at this point. Gold	35.20
307 -	A small stringer 100' westerly from No. 306	Trace
308 -	Outcropping near crest of hill upon the High Tariff development	1.00
308A -	Dump sample reported assayed by Ida Mine Assayer	9.00

ASSAYS - GRANITE HILL MINE - Cont'd:

November, 1936.

Sample Number	Description	Gold Value
309 -	Sample taken from the floor of a tunnel at a vertical distance of 20' below the surface. The width of the vein and inclusions at this point is approximately six feet with no walls showing. This development is located about 200' southerly from the High Tariff vein and strikes northeasterly and should contact the High Tariff vein at about 150' from the point where the High Tariff should contact the main East-West vein upon which the main shaft of the Granite Hill Mine has been sunk.	
	The value shown is	$ 6.65
	(Note: Panning of the ores here indicate a much higher free gold content than is shown by the assays).	

The values of the ores that have been mined from the Granite Hill deposits are reported in Bulletin 546, United States Geological Survey, at approximately $5.00 per ton, free gold stopped on the plates, with a resultant concentrate of $75.00 to $100.00 per ton at a ratio of concentration of 100 tons to the ton of concentrates. The value of the ores would be $8.75 at the present $35.00 value of gold.

consequence there are great probabilities of there being buried old delta gravels or channels of the Cretaceous Island under the present fan-blanket of detritus.

(4) That the great age of the deposit and the evident long period of deposition, erosion and reconcentration, of the detrital material make it likely that there is a very general distribution of the gold, and also that the lower true bed-rock zones should be rich and that it is necessary to explore for these. There is also a great chance of great deposition at the meeting point of the Silva Ranch.

There are a number of other interesting geological features but which do not have an immediate relationship to the interpretations of this residual deposit, so they are not germane to this report.

CONCLUSIONS:

I am personally satisfied that the structial conditions that built out this deposit and the richness and nearness of the sources of the gold, and the long period of detrital material concentration, all indicate a great probability that this ground will be found to be far richer than the average ground that consists of lower river deltas.

But conversely the larger proportion of detrital material, the greater depth, the abundance of water, does not require any considerable amount of engineering constructive effort, to meet conditions not entirely in accord with standard practice.

The endorsement of the project as a whole and the conclusions reached are based upon the following specific facts.

The structural and geological conditions are sound.

Natural resources both as to timber and water for operations, rest within the confines of the property.

Profitable values are proven, and no physical conditions need bar its future.

Respectfully submitted,

Geo. H. McDonald

Consulting Geologist and
Operating Engineer.

November 1933.

Transformer House: About 10x10 feet galvanized roof and sides.

Contains 3 - 150 hp and 2 - 10 hp transformers

GEORGE H. MacDONALD
ENGINEERING GEOLOGIST
MINING ENGINEER

OBJECT OF EXAMINATION: The object of the examination on which this report is based was to make a reconnaissance of the district as a whole, to check to some extent the data already obtained,- but more particularly to collect data from an operating point of view,- also to collect data as to the geology and the source of the gold,- and as to structural conditions of the gravel as affecting the distributing of gold over such a large area; and generally to express an opinion as to the feasibility and value of the project as a whole and more particularly with respect to dredging operations.

The writer pan-sampled the surface in several places and obtained gold in every pan,- other than this no other attempt was made to sample during the present, as a sufficient amount of work seems to have been done by other engineers along these lines, to indicate very valuable areas of gravel, and I would not consider a limited hand sampling as giving any additional data of immediate value. Any further sampling of such a large deposit must be carried out with the proper equipment and in a systematic manner.

LOCATION OF THE AREA UNDER CONSIDERATION: The location of the property is North and a little to the East of Grants Pass, Oregon, in Sections 25 and 26., Township 35.S., Range 5 W of Williamette Meridian, and principally in the Grants Pass quadrangle.

TOPOGRAPHY; CLIMATE; AND GENERAL CONDITIONS: The district is typical of the areas of southwestern Oregon; Granite Hill and Mineral Mountain rise abrubtly from the broad and shallow area. They are bold and deeply eroded mountains, carved out from an extensive area of very early granite intrusions of batholithic proportions. The relief is rugged. The area is drained by the North and Middle forks of Louse Creek. The climatic conditions are favorable for work all the year.

GENERAL GEOLOGY OF THE DISTRICT: All the southwestern part of Oregon is geologically speaking, of great age. Weathering and erosion of the rock surfaces of mountain ranges has developed over a vast scale and thruout great epochs of time, with the result that large areas of underlying rocks of great age have been discovered by erosion. In other words, the gradual wearing down of the mountains and the levelling off processses and corresponding filling up of the valleys (constructional) has been going on with less interuption from young or recent mountain building forces and extrusive processes than is the case in California.

GEORGE H. MACDONALD
ENGINEERING GEOLOGIST
MINING ENGINEER

There is evidence over considerable areas of Tertiary eruptives, and some later flows of basalt, but over the greater part of southwestern Oregon there is evidence of the eroded end of the Cretaceous Shore Line. The mountain ranges are either a complex of schists with intrusions of granit rocks, or else the remains of massive Tertiary extrusives.

There has been no detail geological work done in Southwestern Oregon and in the short time available during a rather hasty reconnaissance I could not possibly do more than make a general observance of the quite complex geological conditions surrounding the base of Granite Hill. I took no geological samples and made no identifications of rock other than megascopic field approximations.

Granite Hill is a mass of very early intrusives,- granite, and appears to be distinctive.

There appears to be a fairly strong belt of schists, tentatively I can co-relate the schists as Archean, the granite is evidently intrusive to the schists, to the north end ~~mk~~ of Granite Hill the rocks evidently belong to the Paleozic Era, and to the west there are two large masses of what appears to be a dark highly silicified schistone slate of great age, highly metamorphosed. I would classify them as a partly eroded roof pendant of what were the overlying rocks at the time of the intrusion. They are similar to many of the early Palezoic Sedimentaries. I noticed a great number of fragments of the same rock scattered all thru the gravel even as far as twelve miles.

There is a more or less system (regular) of quartz veins, which have a north to south strike and dip into the hills. These have been worked as gold quartz mines of which Granite Hill was the principle producer, but in addition to the larger veins there is a vast complex network of quartz stringers, lenses, and pockety deposits, which cover Granite Hill, and particularly Mineral Mountain to the north.

The gradual weathering and decomposition of this vast complex of small gold bearing veins has been the source of the gold in the gravels below.

I consider the general indications are that there has been a number of successive periods of gold impregnations in and about Granite Hill;from very early geological time up

and probably including a final mineralization during Tertiary times,- the corresponding period of enrichment accompanying the Miocene intrusives in California.

TRANSPORT AND LINES OF COMMUNICATION: The distance to the property is nine miles from Grants Pass, Oregon. There is an excellent auto road to the property from the U. S. Highway No 99.

AREA OF CLAIMS AND TITLES: I have not investigated this matter as I have accepted the owners statement that an area up to 400 acres can be delivered with clear title when required.

The land is deeded land and is covered with good timber, the lumber for the dredge and buildings and other requirements could be cut on the ground for approximately $6.00 per thousand feet.

WATER SUPPLY FOR DREDGING: The property has 46½ second feet of rights on the North; Middle and South Forks of Louse Creek, there is ample water for operations.

THE GRAVEL DEPOSITS: Louse Creek has been known for many years for its placer gold and has been mined extensively for a distance of four miles below the Granite Hill Placer. Adjoining and below the Granite Hill property, the Forest Queen Mining Co, has been operating a large hydraulic plant using the Ruble elevator system. On the South Fork of Louse Creek above the Granite Hill property and on the Red Jacket claim a Mr Hull mined successfully for years, taking out a large amounts of gold. It is stated that his returns for one years operation were $92.000.00.

Altho the values on the Granite Hill property have been known for years, the grade in the creek was small and a large slide near the lower end of the ground prevented extensive hydraulic mining. Attempts were made to overcome these handicaps. A long tunnel was driven over 800 feet thru the slide, all in good pay dirt and which paid its own way, and instead of reaching bed-rock it still remainded eight feet above and the drainage sought was not obtained.

In the fall of 1917 Mc Intosh brothers, secured a lease upon a 33 and 1/3rd per cent royalty basis and undertook to mine on the South Fork below the Hull workings. It was during the late World War when men and materials were almost impossible to secure. They built a crude

Ruble Elevator, using pipes for screens, etc,. They installed a pipe line and giants, finishing their plant late in the season and handled 3000 cubic yards of ground. Their recovery was $1.330.00 or 45 cents per yard at the old price of gold with an estimated loss of 25% of the values, while setting one of the giants they found an 8½ ounce nugget nine feet from bed-rock. These men being subject to the next draft into the Army at that time took off their equipment and lost the lease on the ground.

The Mc Intosh Brothers, while living at the Granite Hill property had access to the maps and test sheets of the Company which formerly owned the ground. The company had sunk nemerous test pits before buying and the test sheets showed the ground to average fifty cents per cubic yard for an average depth of twenty four feet at the old price of gold.

They tested different holes, all being satisfactory. In one hole sunk to bed-rock in the large pit near the upper end of the tunnel, from which they ran but one-quarter of a yard of material, they secured $3.50 at the old price of gold from the quarter-yard, one piece was an eighty cent nugget.

Embodied in the four hundred acres are 17 placer claims. The estimated yardage for commercial dredging would be approximately eight million yards. There are no boulders too large for a 7½ cu., ft., bucket to handle. The values are free from the surface to bed-rock. The gold is both coarce and fine, a large per cent shot gold. The ground washes readily and is easily handled, there apparently being no cement or tight gravel present. The percent of clay, if any, would be neglible.

The bed-rock where exposed by former operations is a soft decomposed granite, this makes it ideal for dredging.

A large pit, above referred to, washed at the upper end of the tunnel, and near the westerly perimeter of the property is ample for the construction of the hull of the dredge withuut requiring excavation of a pit. There is a road constructed to the pit.

The California, Oregon Power Co, would install electric power on the ground for $2.500.00, which would be returned from monthly bills. Very low rates are obtainable.

RECOMMENDATIONS: I consider it essential to prove this property by a series of carefully dug shafts down to actual trus-bed-rock, that these should be located by survey and a cross section should also be made, and as far as possible a contour line of the underlying bed-rock be established.

GEORGE H. MACDONALD
ENGINEERING GEOLOGIST
MINING ENGINEER

A consideration of the preliminary information compels me to advise that a further examination of the Granite Hill dredging ground id a sound undertaking.

Respectfully,

Geo H. Mac Donald.

4281 Gilbert Street.
Oakland. California.

IDA MINES CONSOLIDATED GRANTS PASS JOSEPHINE

"General Report Ida Mines Consolidated and History of the Granite Hill Mining District, Josephine County, Oregon" by E.L. MacNaughton

see

Mine report drawer file

NAME Ida Mine | OLD NAMES | PRINCIPAL ORE Gold | MINOR MINERALS

35 South T. 5 West R. 26 S

Josephine ..... COUNTY

Grants Pass
Granite Hill ..... AREA

2200 feet ..... ELEVATION

Highway and gravel ..... ROAD OR HIGHWAY

8½ miles from Grants Pass ..... DISTANCE TO SHIPPING POINT

PRESENT LEGAL OWNER (S) ..... Edwards Mining Company

..... Charles R. Archerd

.....

.....

OPERATOR .....

Name of claims	Area	Pat.	Unpat.
Five unpatented Gold claims in the Ida Group and four in the Little Mac Group.			

EQUIPMENT ON PROPERTY

PUBLISHED REFERENCES

Petrology and Mineral Resources of Jack. & Jose. Counties, Oregon; N.A. Winchell pp. 224

(Oregon Bureau of Mines and Geology)

MISCELLANEOUS RECORDS

Report by E.L. McNaughton on Ida Mines Consolidated (confidential) Grants Pass office.

(For Portland, see mine report drawer file)

Address .....

Grants Pass, Oregon

.....

.....

.....

Name of claims	Area	Pat.	Unpat.

MI-21

Granite Hill Mine. Handbook pg 171
No equipment.

S. W. 1/4 Sec 26 & not 29 as per handbook
20 stamp taken out during War
430 shaft. water to 165 ft.
600 to 700 ft drifts to South on 400 ft level
400 acres in Granit Hill.
60 acres in Red Jackets.

Inez D Wilkinson 104 north 7th St.
Grants Pass.
Ore.

High Tariff MS. 580 Sec 26
Granite Hill. " 577 " 26
Jumbo. " 579 " 26 & 27
} total 2 claims ?

See Vol 38 pg 13-426 Rec.

Red Jacket MS 590 Sec 34 18.18/Ac
Now. inlarged to include
62 of SE 1/4 of NE 1/4 Sec 34.

CRIB MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION
RECORD NO..... M061017
RECORD TYPE..... X1M
COUNTRY/ORGANIZATION. USGS
DEPOSIT NO..... ODGMI 100-202
MAP CODE NO. OF REC..

REPORTER
NAME..... JOHNSON, MAUREEN G.
UPDATED..... 81 02
BY..... FERNS, MARK L. (BROOKS, HOWARD C.)

NAME AND LOCATION
DEPOSIT NAME..... GRANITE HILL MINE

MINING DISTRICT/AREA/SUBDIST. GRANTS PASS

COUNTRY CODE..... US
COUNTRY NAME: UNITED STATES

STATE CODE..... OR
STATE NAME: OREGON

COUNTY..... JOSEPHINE
DRAINAGE AREA..... 17100310 PACIFIC NORTHWEST
PHYSIOGRAPHIC PROV..... 13 KLAMATH MOUNTAINS
LAND CLASSIFICATION..... 01

QUAD SCALE	QUAD NO OR NAME
1: 62500	GRANTS PASS

LATITUDE	LONGITUDE
42-29-41N	123-15-49W

UTM NORTHING	UTM EASTING	UTM ZONE NO
4704538.5	478342.2	+10

TWP..... 35S
RANGE.... 05W
SECTION.. 26
MERIDIAN. W.M.

LOCATION COMMENTS: SW 1/4

COMMODITY INFORMATION
COMMODITIES PRESENT..... AU AG CU PB

OCCURRENCE(S) OR POTENTIAL PRODUCT(S):
POTENTIAL.....
OCCURRENCE..... CU PB

ORE MATERIALS (MINERALS,ROCKS,ETC.):
GOLD, CHALCOPYRITE, PYRITE; GALENA

COMMODITY COMMENTS:
OXIDIZED ORE TO 200 FT SULFIDE CONCENTRATES AVERAGED$75 -$100

EXPLORATION AND DEVELOPMENT
STATUS OF EXPLOR. OR DEV. B

DESCRIPTION OF DEPOSIT

DEPOSIT TYPES:
VEIN *
FORM/SHAPE OF DEPOSIT:

SIZE/DIRECTIONAL DATA
SIZE OF DEPOSIT..... SMALL
MAX LENGTH..... 150 FT
MAX WIDTH..... 14 FT
STRIKE OF OREBODY.... WEST
DIP OF OREBODY..... 70S
DIRECTION OF PLUNGE.. WEST OF SOUTH
COMMENTS(DESCRIPTION OF DEPOSIT):
THREE ORE SHOOTS. MINE FLOODED IN 1908.

DESCRIPTION OF WORKINGS
UNDERGROUND
DEPTH OF WORKINGS BELOW SURFACE. 430 FT
LENGTH OF WORKINGS..... 12000 FT

COMMENTS(DESCRIP. OF WORKINGS):
A 430 FOOT SHAFT AND OVER 12000 FEET OF WORKINGS ON FOUR LEVELS.

PRODUCTION
YES
MEDIUM PRODUCTION

ANNUAL PRODUCTION (ORE,COMMOD.,CONC.,OVERBURD.)

	ITEM	ACC	AMOUNT	THOUS.UNITS	YEAR	GRADE,REMARKS
1	AU	EST	75.000	DOLLARS		ABOUT $5/TON

CUMULATIVE PRODUCTION (ORE,COMMOD.,CONC.,OVERBUR.)

23 ORE, EST 75.000 DOLLARS 1902-1907 0.25 AU (IN 1907)

PRODUCTION YEARS..... 1902-1907

GEOLOGY AND MINERALOGY

AGE OF HOST ROCKS..... QUARTZ
HOST ROCK TYPES..... QUARTZ DIORITE

LOCAL GEOLOGY

SIGNIFICANT ALTERATION:
OXIDATION

GENERAL COMMENTS
RECORD NUMBER (MO13414) HAS BEEN MERGED WITH THIS RECORD AND DELETED FROM THE OREGON FILE.

GENERAL REFERENCES
1) RAMP, L. AND PETERSON, N.V., 1979, GEOLOGY AND MINERAL RESOURCES OF JOSEPHINE COUNTY, OREGON; ODGMI BULL. 100, 45P
2) BROOKS, H.C. AND RAMP, L., 1968, GOLD AND SILVER IN OREGON; ODGMI BULL. 61, P.223
3) OREGON METAL MINES HANDBOOK, 1942, ODGMI BULL. 14-C, VOL. 2, SEC. 1, P.75