

Ochoco Mine	Mayflower	Au	Mn
NAME	OLD NAMES	PRINCIPAL ORE	MINOR MINERALS

13 S 20 E 29 - 30
 T R S

..... Crook COUNTY
 AREA
 Portal 4300' ELEVATION
 On US 28 ROAD OR HIGHWAY
 DISTANCE TO SHIPPING POINT

PUBLISHED REFERENCES

Parks & Swartley - Mineral Resources of Oregon. Vol 2, No. 4
 Gilluly, Reed & Par, U.S.G.S. Gull 846 - A

MISCELLANEOUS RECORDS

Assorted smelter receipts, maps & original patent survey plat in possession of owner.

PRESENT LEGAL OWNER (S) .. L. A. Houston

Address ... Prineville

OPERATOR

Name of claims	Area	Pat.	Unpat.

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EQUIPMENT ON PROPERTY

Ochoco Mine

Mayflower Group

Ochoco District

Crook County

See report in Mine Report file drawer.

Kimberlin - Report

State of Oregon
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
702 Woodlark Building
Portland, Oregon

History and Geologist's Report of The Mayflower Group of Mines.

H. B. Kimerlin, Geologist
Berkeley, California

September 4, 1926.
Prineville, Oregon

Errors in spelling and obvious omission of words are as per
the photostatic copy of the report from which this copy was taken.

OPHIR MAYFLOWER MINE
Ochoco National Forest,
between Prineville and
Mitchell, Oregon.
(along Ochoco Highway).

Report on this mine obtained from Mrs. Elizabeth
Davenport Kilgore, and sent to Quinn, November 1937.

DKM

See also Gulluly, Reed & Park

C. W. ELKINS CLAIMS
Address C. W. Elkins,
Prineville, Oregon.

There are two claims which join the Mayflower on the
southeast. Shaft 60 feet deep and tunnel about 280 feet long
together with several open pits, represent development to date.
Last operated in 1934. 10 days milling yielded 28 oz. of gold.
They treated two tons a day with a little Medford mill.

This property was first worked in 1872 and since then has
produced from time to time, some \$10,000 worth of gold in all.

State Department of Geology and Mineral Industries

Ochoco Mine (Au)

12/1/48
702 Woodlark Building
Portland 5, Oregon

Crook County

Old Names: Ophir Mayflower, Mayflower.

Owner: L. A. Houston, Prineville, Oregon.

Location: T.13 S., R. 20 E., Sections 29-30. This is on the Ochoco Highway (U.S. 28) about 25 miles east of Prineville.

Area: 20 or so claims are included in the property. Most of these are quartz claims although some few are placer. All are unpatented although a group comprised of the Susie, Oriental, Susannah, Pett, Blue, Mayflower and Ophir were surveyed for patent in December, 1900. Patent requirements were never completed, but the present owner is currently engaged in an attempt to have these and other claims patented.

History and Geology: The region in the immediate vicinity of the mine was placered during the late 1800's. According to Parks and Swartley much of this placer was almost of the residual type. Hard rock mining followed the placer operations. Production was made both from numerous small pits scattered over a wide area and also from a more extensive series of underground workings. While much of the production thus came from small pockets, an appreciable tonnage of shipping grade ore was developed. Recovery was effected by both a small stamp mill situated on the property and by shipping highgrade direct to a smelter. The total value of gold produced, according to all available records, is \$79,885 (Gilluly, Reed and Park). Smelter payments were reportedly made for

~~for~~ manganese and sometimes for lead. No significant production has been made since around 1918. The history and geology of this mine and of the entire Gold Hill region are comprehensively presented in the Gilluly, Reed and Park report. Reference is made thereto accordingly ^{since} said report constitutes the most significant and up-to-date information available for the area.

General: This report was occasioned as the result of an examination requested by the owner who believed he had encountered cobalt ore. This belief reportedly originated from disclosure of a cobalt content in a sample of refinery slag which the owner had assayed. Examination revealed the mineralization in question to be arsenical pyrite. Assays of samples of this mineralization and also of the slag taken during this examination and assayed by this department gave cobalt returns of nil.

Report by: N.S.W.

Date of exam: 11-6-48

Informant: Mr. L. A. Houston

Samples taken and assayed: IB-249, 250, 251, 252, 253 and 254.

Reports referred to: Mineral resources of Ore., Vol. 2, No. 4, Parks and Swartley.

U.S.G.S. Bull, 846-A, Some Mining Districts of Eastern Oregon, Gilluly, Reed and Park.

Exam made on request: Handled thru Portland office.

HISTORY AND GEOLOGIST'S REPORT OF THE MAYFLOWER GROUP OF MINES

SUMMARY

The Mayflower group of mining claims are situated in the Ochoco Mining District, Crook County, Oregon and have a recorded production of over \$2,000,000 in gold and silver bullion. The mines were actively worked over 40 years ago and a great part of the gold production was the result of placer mining.

The property consists of 6 placer claims and 11 lode claims.

In later years the mines to leasers, who have shipped over \$80,000.00 in high-grade gold taken from very near the surface.

No attempt has ever been made to mill or mine the immense tonnage of medium grade ore which was developed as the result of the work necessary to uncover the high-grade shoots of ore.

The Mayflower property is developed at depth by crosscut tunnel 1400 feet long and by two drifts each over 100 feet. All these workings are in ore of a milling grade, the tonnage blocked out being well over 3,000,000 tons. This ore is positively developed on three sides and is an auriferous pyrite, occurring in wide shattered zones in porphyry. The high-grade occurs along a dacite intrusion.

The values persist in depth and the mineralized ore has an even greater extent than the surface.

Assays of the country rock out of the crosscut tunnel, for a distance of 1400 feet show good values in gold over the entire distance. The two drifts driven at right angles to this tunnel, crosscut the mineralized area for over 250 feet, without a lessening of values.

The oxidized area of the surface covers an area practically 4,000 feet long by 3,000 feet wide, carries good gold values. At places primary sulphides outcrop, but nearly all the ore is "free milling". Depth of oxidization averages 10 feet.

Ore proved and developed on surface, by cuts, trenches, short adits and shallow shafts, is approximately 1,500,000 tons and will average better than \$5.00 per ton.

Total tonnage ore developed, both on surface and at depth, will approximate 4,500,000 tons of better than \$3.00 grade. The sulphides average 4 per cent in iron pyrites and contains no copper, zinc, antimony or arsenic, but does carry a small amount of galena. Oxidized ores contain some galena, pyrolusite and rhodochrosite. Ratio of concentration of representative samples of sulphide ore is 20 to 1, with concentrates averaging \$55.00 per ton in gold and silver.

There is no doubt in my mind that there are rich pockets of ore that can be opened up with carefully worked out plan of development. As the ore from the large pockets was all very high grade, the general tenor of the total ore values would be considerably enriched.

Location and Description of Properties

The Ochoco mining district is located in approximately the geographical center of Oregon and the Mayflower group is 27.9 miles N. W. of Prineville, the county-seat of Crook county, and its nearest railroad and supply point.

Railroad surveys have been made recently and when built, will be but a few miles west of the mine. This road is to tap one of the heaviest timbered sections of the state.

The district is in the confines of the Ochoco National forest and is located on one of the spurs of the Blue Mountains, Ochoco Creek and Ochoco State automobile highway. This highway passes through the property about 500 feet from the mill.

The elevation is about 4200 feet at the lowest mine workings and the topography is typical of a mountainous country. Elevation at highest point on the claims is close to 5000 feet.

Ochoco and Scissors Creek have ample running water at all seasons of the year, for all mining and milling purposes. Ochoco reservoir, built by the early placer miners, covers 21 acres and is 4 miles from the mine. The high-line ditch from the reservoir runs in a southerly direction across the Mayflower property and over 500 feet head can be utilized for power purposes. The sole right to use this water is vested in the owners of the Mayflower mining property.

These claims contain over 3,000,000 of very fine timber composed of tamarack, yellow pine and fir. Climatic conditions are favorable for mining during the entire year, due to the very mild winters in this region.

History and Production

The first mining, about 1873 was all placer and over \$500,000.00 in gold was taken from this creek alone in a period lasting until 1883. In 1883 the high-graders and pocket-hunters started to work, as the placers had been depleted. Arrastras were installed and up to 1893 a production of record was made of over \$100,000.00. While the values persisted, the ore became pyritic at depth and practically all mining ceased. In the early days here it was necessary to have at least \$150.00 to make a profit.

Many years later a long crosscut tunnel was started on the Ochoco Creek side and the ore was shipped by wagon team to the Dalles, and from thence to Tacoma, Washington, a distance in all of over 350 miles.

At a point 330 feet from the mouth of this crosscut tunnel, the Mayflower shoot of ore was found and \$222,000.00, in base ore was shipped by leasers in five years.

The only production in recent years was from 1915 to 1918 when leasers shipped \$80,000.00, of gold and silver ore from what is known as the Swank stope on the Mayflower claims. There is some placering done every year, but the production is small and variable.

Scissors Creek was placered to Ochoco Creek junction and paid \$1.50 per yard, average depth 20 feet. Width 150 to 200 feet.

Other placers on this property were worked and averaged \$2.00 to \$2.50 per yard. One gulch was placered clear to the top of the hill (1800) feet and yielded an average of from \$3.00 to \$4.00 per yard.

Many other draws and gulches yielded rich placer. Ochoco Creek has never been placered as it was considered too deep to bedrock.

Only the high grade ore was mined and shipped, as the very high cost of transportation, in the old days, precluded any shipment except that of high-grade ore.

Equipment

The Mayflower property has a five stamp mill, plates and concentrating table. The mill is driven by water-power, derived from a 500 foot head, from the middle ditch.

The buildings are all in fair shape and consist of a blacksmith shop, timbered-shed, store building, cook and bunk-house and two cottages.

The mine workings, although very old, have been left in good repair by the various lessors and practically all the deep workings are accessible, except the Swank stope and winze, which were allowed to cave. The Mayflower winze has 30 feet of water in it, but as this is all surface water, it can easily be dried out.

The track in the 1400 foot tunnel is in good shape, a gasoline hoist, complete with drum and good cable is installed on the Frasier winze.

The mill was built in 1905 and over 2000 tons were treated. An attempt was made to cyanide the concentrates, but owing to lack of fine grinding, it was not very successful. The concentrates, taken from the rejects of the old miners, were shipped and averaged \$150.00 per ton at the price of gold, (20.67) per ounce.

The Mayflower property ore bodies, as a rule, occupy wide fractured zones. The degree of fracture is variable. In some places the wall-rock has been cut by an irregular network of fractures, without much displacement, while at other localities, the porphories, which constitute the country rock, have been intruded by dacite dykes. It is along these dykes that the heaviest mineralization occurs. Both the dacite and the porphyry are strongly fissured, the stringers filling them vary from one inch or less to two and one-half feet. They pass without a break into the porphyry out of the dacite, and some of them can be traced for over 300 feet in width. At depth the fracturing is not so intense and the fault movement less discernible. The relations show conclusively that the mineralization was later than the system of the intrusion of the dacite dykes.

The mineralization is of two types; one showing pyrite exclusively, and the other showing galena, sphalerite, subordinate, pyrite, pyrolusite and rhodochrosite. There is little intermingling of the two types.

The depth of oxidization varies from 5 to 15 feet, although at many places, the primary sulphides outcrop at the surface. In the oxidized zones practically all the values are in gold. The gold is mostly in "free" state. The ore with depth, becomes pyritic and this auriferous pyrite that furnished most of the high-grade ore.

There is no oxide zone where the dykes outcrop, the sulphides appearing at the surface and almost without exception, the dykes are impregnated with pyrite, varying from two to thirty per cent in amount.

The disseminated mineralization in the porphyry, has no doubt been accomplished by metasomatic replacement, metallic sulphides being deposited, which was initiated along a network of irregular fractures, forming stockworks.

The ore appears to have practically no gangue, but it is associated with tiny calcite stringers, at some places, which enclose scattered grains of pyrite. Gold bearing quartz is entirely absent.

The main shattered and sheared zone is approximately 3200 feet in width and 1500 feet in length, and the elevation, at the highest point is 700 feet above Ochoco Creek. The depth of the oxidized zone varies from 5 to 15 feet.

Description of the Workings

Mayflower Stope.

Practically the only working at depth, is the Mayflower, crosscut tunnel, which cuts the Mayflower vein at a distance of 335 feet, from the portal of this tunnel was driven in to tap the Mayflower shoot at a vertical depth of 210 feet. This shoot of ore has been stoped to the surface. Stopping ground averages 60 feet in length and about 5 feet in width. The high-grade ore occurred in a chimney, which is 30 feet from the dacite contact. It was a very irregular mass of high-grade pyrite galena, some blende and pyrolusite. Ore stringers are found closely interwoven, in both walls, especially on the hanging side. No attempt was made to reach the true hanging wall, as the high-grade began to cut out when the formation became less fractured.

Frasier Winze.

This winze was sunk on the Mayflower ore to total depth of 112 feet. A drift, on the 60 foot level, was driven north of a distance 112 feet and short intermediate drifts were driven on the ore at other points in the winze. A second winze 35 feet deep, was sunk from a short drift running south.

Mayflower Winze.

This winze was sunk at a point on the crosscut tunnel and 30 feet east of the Frasier winze. It has the dacite dyke for a hanging wall and is reported to be 30 feet deep, but owing to its being full of water, I could make no examination.

A car (do tons) of high-grade, was mined from a 20 foot stope running north from this winze, and the high-grade ore averaged, according to reports, 4 feet in width. The walls are nearly vertical.

North Drift.

This drift was driven north from 335 station for 150 feet and was the working tunnel for the Mayflower stope and the Frasier winze. A hoist station has been cut out on the drift and directly opposite the Frasier winze.

South Drift.

This drift was driven southerly 180 feet from the dacite dyke. At a point 150 feet from the cross-cut tunnel, the Swank shoot of ore was found along the hanging wall of the dyke.

Swank Stope and Winze.

The Swank high-grade was stoped to the surface, but on account of both the winze and stope being caved, due to the pulling of the timbers by leasers, no examination could be made. According to reports, the winze was sunk 90 feet on the ore-shoot and drift driven north 23 feet and south 100 feet. The stopes extended 32 feet below the drift level and the ore averaged (high-grade) 3 feet in width.

The vertical distance from the surface from the drift is 230 feet.

Blue Bucker Tunnel.

This tunnel was driven into the Mayflower vein at a point 500 feet north-east and 360 feet above the Mayflower tunnel and is 40 feet in length. The tunnel was caved and no examination could be made. The country rock at this point is bird's eye porphyry.

Numerous cuts and shot tunnels have been driven at a great many points on the surface on both groups, but no extensive work has been done. This work was done mostly, leasers in an attempt to locate shoots of high-grade ore. The results have been to develop, at least on the surface, and enormous quantity of milling grade ore.

Description and Results of Sampling.

Underground sampling was started at the mouth of the Mayflower cross-cut tunnel. Samples were taken along the walls every 20 feet of the Mayflower tunnel, the north and south drifts, most of them cut with a mull. The assay maps show the following values.

Samples were taken in the old mine workings. Values given determined on gold at \$20.67 per ounce and silver at 62¢ per ounce.

<u>No. of Samples</u>	<u>Value per ton, gold and silver</u>	<u>Remarks</u>
1	\$ 3.40	Mayflower stope.
2	16.20	" "
3	8.40	" "
4	9.60	" along hanging wall.
5	4.20	" " foot wall.
6	114.20	" high-grade seam.
7	42.40	" stope along foot wall.
8	34.40	" hanging wall.
9	78.20	" 3 inch seam.
10	74.40	" 2 inch stope.
11	114.80	" over north drift.
12	4.20	Frazier Winze 60 level.
13	2.10	" " " "
14	2.20	" " " "
15	4.40	" " " "
16	3.20	" " " "
17	2.40	" " 90 "

18	1.80	Frazier Winze 90 level.
19	3.60	" " " "
20	4.20	" " " "
21	2.40	" " " "
22	2.80	Swank drift top of sump.
23	14.40	" " " " "
24	32.20	" " 20 inch seam.

Surface Samples.

Samples were taken on the surface and were screened through one-half mesh before assaying, a practice which would be followed in milling. A large proportion of the samples taken were of much finer material.

The surface samples were taken over an area of 4,000 feet in length and 3000 feet in width. The area of the Mayflower is in along its entire length, as the assays show, is well mineralized. This mineralization extends south and east a distance of 2,000 feet, down Scissors Creek. The samples were all representative ones and their general average is approximately \$2.30 per ton. The tonnage is enormous and there is approximately 1,500,000 tons of this grade of oxidized, free milling ore on the surface.

In calculating the above tonnage, an average of 10 feet was taken as the depth of oxidisation. Only a few of the above samples showed sulphide and were present, an assay was made on both the oxidized portion and a representative sulphide sample. The assay showed no appreciable difference in value.

Underground, the samples taken and assayed along the Mayflower crosscut tunnel, and the north and south drifts, showed a general average of \$1.90.

The samples represent and prove at least a tonnage of 3,200,000 tons, the slope of the hill being taken at 22 degrees. The oxidized ore is not included in this tonnage.

Attention is called to the persistent gold values in the deepest workings, showing that the values go down without a lessening of value.

The sulphide ore carries off 4 per cent iron pyrites and concentrates, made by panning, several representative samples of this ore, gave a recovery of about 89 per cent of the values (total).

Ratio of concentration was 20 to 1 and value of concentrate was \$20.40 to \$32.00 and \$25.00 per ton gold and silver. The ore was crushed to 60 mesh. Fifty pound samples were taken, and the tailings were not repanned.

Dated September 4, 1926
Prineville, Oregon

Ratio silver to gold,
1 to 3.3 by weight
Gold at \$20.67 Silver at 62 cents.

(Signed)

H. B. Kimerlin, Geologist
Berkeley, California

State of Oregon
Department of Geology and Mineral Industries
702 Woodlark Building
Portland, Oregon

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Summary

The Mayflower group of Mining Claims are situated in the Ochoco Mining District, Crook County, Oregon and have a recorded production of over \$2,000,000. in gold and silver bullion. The mines were actively worked over 40 years ago and a great part of the gold production was the result of placer mining.

The property consists of 6 placer claims and 11 lode claims.

In later years the mines to leasers, who have shipped over \$80,000, in high grade gold ore taken from very near the surface.

No attempt has ever been made to mill or mine the immense tonnage of medium grade ore which was developed as the result of the work necessary to uncover the high-grade shoots of ore.

The Mayflower property is developed at depth by a cross-cut tunnel 1400 feet long and by drifts each over 100 feet. All these workings are in ore of a milling grade, the tonnage blocked out being well over 3,000,000. tons. This ore is positively developed on three sides and is an auriferous pyrite, occurring in wide shattered zones in porphyry. The high-grade occurs along a dacite intrusion.

The values persist in depth and the mineralized area has even greater extent than near the surface.

Assays of the country rock out of the crosscut tunnel, for a distance of 1400 feet show good values in gold over the entire distance. The two drifts driven at right angles to this tunnel, cross-cut the mineralized area for over 250 feet, without a lessening of values.

The oxidized area of the surface covers an area practically 4,000 feet long by 3,000 feet wide, all of which, carries good gold values. At places primary sulphides out crop, but nearly all the ore is "free milling". Depth of oxidation averages 10 feet.

Ore, proved and developed on surface, but cuts, trenches, short adits and shallow shafts, is approximately 1,500,000, tons and will average better than \$5. per ton.

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This report was written at the old gold standard in 1926

opened up with a carefully worked out plan of development. As the ore from the large pockets was all very high grade, the general tenor of the total ore values would be considerably enriched.

Location and description of Properties.

The Ochoco mining district is located in approximately the geographical center of Oregon and the Mayflower group is 27.9 miles N.E. of Prineville, the county-seat of Crook county and is its nearest railroad and supply point.

Railroad surveys have been made recently and when built, will be but a few miles west of the mine. This road is to tap one of the heaviest timbered sections of the state.

The district is in the confines of the Ochoco National forest and is located on one of the spurs of the Blue Mountain, Ochoco Creek and Ochoco State Automobile highway. This highway passes through the property about 500 feet from the mill.

The elevation is about 4200 feet at the lowest mine workings and the topography is typical of a mountainous country. Elevation at highest point on the claims is close to 5000 feet.

Ochoco and Scissors creek have ample running water at all seasons of the year, for all mining and milling purposes. Ochoco reservoir, built by the early placer miners, cover 21 acres and is 4 miles from the mine. The high-line ditch from this reservoir runs in a southerly direction across the Mayflower property and over 500 feet head can be utilized for power purposes. The sole right to use this water is vested in the owners of the Mayflower mining property.

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Many others draws and gulches yielded rich placer. Ochoco creek has never been placered as it was considered too deep to bedrock.

The Mayflower production has almost exclusively, been done by leasers and

Systematic exploration or development has ever been attempted.

Only the highgrade ore was mined and shipped, as the very high cost of transportation, in the old days, precluded any shipment except that of highgrade ore.

Equipment.

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The Swank high-grade was stoped to the surface, but on account of both the winze and stope being caved, due to the pulling of the timbers by leasers, no examination could be made. According to reports, the winze was sunk 90 feet on the ore-shoot and drift driven north 23 feet and south 100 feet. The stopes extended 32 feet below the drift level and the ore averaged (high-grade) 3 feet in width.

The vertical distance from the surface from the drift is 230 feet.

Blue Bucket Tunnel.

This tunnel was driven into the Mayflower vein at a point 500 feet north-east and 360 feet above the Mayflower tunnel and is 40 feet in length. The tunnel was caved and no examination could be made. The country rock at this point is bird's eye porphory.

Numerous cuts and short tunnels have been driven at a great many points on the surface on both groups, but no extensive work has been done. This work was done mostly, by leasers in an attempt to locate shoots of high-grade ore. The result has been to develope, at least on the surface, and enormous quantity of milling grade ore.

Description and results of sampling.

Underground sampling was started at the mouth of the Mayflower cross-cut tunnel. Samples were taken along the walls every 20 feet of the Mayflower tunnel, the north and south drifts, most of them cut with a moil. The assay maps show the following values.

Samples were taken in the old mine workings.

Values given were determined on gold at \$20.67 per ounce and silver at 62 per ounce.

<u>No. of Samples.</u>	<u>Value per ton, Gold and silver.</u>	<u>Remarks.</u>
1	\$ 3.40	Mayflower stope.
2	16.20	" "
3	8.40	" "
4	9.60	" along hanging wall
5	4.20	" " foot wall
6	114.20	" " high grade seam
7	42.60	" stope along foot wall
8	34.40	" hanging wall
9	78.20	" 3" seam
10	74.40	" 2" stope
11	114.80	" over north drift
12	4.20	Frazier winze 60 level.
13	2.10	" " " "
14	2.20	" " " "
15	4.40	" " " "
16	3.20	" " " "
17	2.40	" " 90 "
18	1.80	Frazier Winze 90 level
19	3.60	" " "
20	4.20	" " "
21	2.40	" " "
22	2.80	Swank drift top of sump
23	14.40	" " " "
24	32.20	" " 20 inch seam

Surface Samples.

Samples were taken on the surface and were screened through one-half mesh before assaying, a practice which would be followed in milling. A large proportion of the samples taken were of much finer material.

The surface samples were taken over an area of 4,000 feet in length and 3000 feet in width. The area of the Mayflower is in along its entire length, as the assays show, is well mineralized. This mineralization extends south and east a distance of 2,000 feet, down Scissors creek. The samples were all representative ones and their general average is approximately \$2.30 per ton. The tonnage is enormous and there is approximately 1,500,000 tons of this grade of oxidized, free milling ore on the surface.

In calculating the above tonnage, an average of 10 feet was taken as the depth of oxidization. Only a few of the above samples showed sulphide and were present, an assay was made on both the oxidized portion and a representative sulphide sample. The assay showed no appreciable difference in value.

Underground, the samples taken and assayed along the Mayflower cross-cut tunnel, and the north and south drifts, showed a general average of \$1.90.

The samples represent and prove at least a tonnage of 3,200,000 tons, the slope

of the hill being taken at 22 degrees. The oxidized ore is not included in this tonnage.

Attention is called to the persistent gold values in the deepest workings, showing that the values go down without a lessening of value.

The sulphide ore carries of 4 per cent iron pyrites and concentrates, made by panning, several representative samples of this ore, gave a recovery of about 85 per cent of the values (total).

Ratio of concentration was 20 to 1 and value of concentrate was \$20.40 to 32.00 and \$25.60 per ton gold and silver. The ore was crushed to 60 mesh. Fifty pound samples were taken, and the tailings were not repanned.

Ratio silver to gold, 1 to 3.3 by weight . Gold at 30.67 Silver at 62 cents