

Dixie Meadows Mine ✓

Gold

NAME OLD NAMES PRINCIPAL ORE MINOR MINERALS

11S 33E See.23  
T R S

PUBLISHED REFERENCES

Oregon Metal Mines Handbook 14B:114  
Swartley 14:196  
Parks & Swartley 16:  
Gilluly, Reed & Park 33:88

.....Grant..... COUNTY

.....Quartzburg..... AREA

..... ELEVATION

..... ROAD OR HIGHWAY

.....about.15.mi..Austin..... DISTANCE TO SHIPPING POINT

MISCELLANEOUS RECORDS

PRESENT LEGAL OWNER (S) .Mrs. G.H.Kight..... Address .....

OPERATOR .....

Name of claims	Area	Pat.	Unpat.	Name of claims	Area	Pat.	Unpat.
10 claims		x					

EQUIPMENT ON PROPERTY

REPORTS

*Dixie Meadows Mine - George Jamno E.M. 1/18/1917*

✓

*" " " Bela Low EM 1/31/1912*

✓

Dixie Meadows Mine--By J. Nelson Nevins, Aug. 23, 1911

X

SHIPMENT AND ASSAY RECORDS

MAPS

## DIXIE MEADOWS MINE.

Copy of Report

By George Jamme, E.M.

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The following report covers an examination of the Dixie Meadows Gold Mine, made during the early days of the present month.

This mine has received considerable development and, to some extent, been equipped. The workings have been extended to the state where permanent operations could have been started, but, for some reason, all work ceased and for the past five years it has lain idle. The purpose of the present examination was to size up the general situation and physical conditions surrounding the property and make an estimate as to the probable financial requirements to place it on a going basis.

### LOCATION AND EXTENT:

The property is situated in the Quartzburg District of Grant County, Oregon, on the divide between Dixie and Ruby Creeks, 12 miles distant by good wagon road from the town of Prairie City which is the terminus of the Sumpter Valley Railway. It consists of ten patented claims, which cover a well defined mineralized zone and embraces an area of 181.25 acres.

### TOPOGRAPHY:

The ridge on which the claims are situated is a part of the Blue Mountains which extend from Idaho across the north eastern portion of Oregon. In the immediate vicinity it is rugged, intensely weathered, with deep and sometimes narrow gulches and canyons. The divide between Dixie and Ruby creeks has an elevation of 5500 feet above sea level and 1500 feet above the town of Prairie. The principal workings are on the Ruby creek side where surface contours are such that the mineralized zone can be entered without much dead work and at the same time give several hundred feet of backs. Ruby creek heads in a basin which affords fair facilities for camps, etc. Both it and Dixie creek are rapid flowing, each carrying, at normal times, perhaps 10 sec.ft. of water. Pine timber, suitable for all mining purposes, is abundant on the claims and in the immediate vicinity.

### GEOLOGY AND MINERALOGY:

The rocks, composing the higher portion of the ridge on which the claims are located, are principally granite, granodiorite, diorite, diabase and porphyry. They represent the remnants of what was probably the core of a Paleozoic intrusive, and are very much older than the Columbian or surrounding lava beds.

The mineralized zone on these claims lies along the contact plane of the granodiorite and diorite; it may properly be called a vein. Within the workings and as far as can be judged from the surface, while it is lenticular in

form, it is apparently unbroken for at least a considerable distance. Its strike is northeast and southwest - which corresponds to the general vein system of the whole mountain range, including Idaho - and dips at angles varying from 40 degrees to near the vertical. Where uncovered on the surface and in the workings, the vein has a width ranging from 12 to possibly 80 feet; with an average exceeding 30 feet. The point of contact between the vein matter and grandodiorite hanging wall is clear and well defined. In places the wall rock shows plainly the effects of vertical movements. On the footwall side there is little definition; the diorite merging gradually with the vein matter. The vein stuff itself is a white and grey quartz, intermixed, towards the footwall side, with the tale and decomposed material from the diorite. Decomposition has been intense and has softened the vein rocks generally. Pyrite, arsenopyrite, galena, and spalerite were observed as the principal metallic minerals. Gold undoubtedly occurs free as it is found in placers throughout the beds of both Dixie and Ruby creeks and evidence at hand shows that about 20% of the returns from milling operations was recovered on the plates. The principal association, however, is in the sulphides; which corresponds with the general history of the district. The pyrite occurs as small crystals and seems to be well disseminated throughout the entire vein matter. It is found also in the diorite footwall, but probably not in sufficient quantity to make mining worth while. Uniform dissemination does not occur throughout for masses and bunches are found at frequent intervals. These occur chiefly towards the central portion of the vein. The free gold probably occurs in the harder quartz towards the hanging wall side.

#### DEVELOPMENT:

From the general information and data available, it is evident that the policy of the parties who originally financed this undertaking after they had become satisfied that the ore bodies were extensive and carried sufficient value to work profitably - was to uncover a large volume of ore before equipping and attempting to operate on anything like a large scale. With occasional exceptions this policy seems to have been carried out in an intelligent and comprehensive way. Many of the maps and reports, and some of the correspondence had at the time, are available now, and from them, in conjunction with what may be seen on the ground, a very good idea of actual conditions may be had.

The ore body has been entered at a number of places, principally by four levels spaced about 70 feet apart. Three of these levels have each been driven about 700 feet directly on the vein. On each of them, at intervals from 40 to 60 feet, cross-cut drifts have been run from wall to wall for the purpose of sampling and ascertaining the width. Intermediate levels and upraises and shafts and winzes have been driven; so that practically the entire vein mass, within the outer boundaries of the workings, is inter-connected and measurable. Altogether, in the neighborhood of 4000 feet of drifting on the vein itself has been done. Each level is entered from the surface by a cross-cut adit through the country rock. A total approximating 5000 feet of development work has thus been accomplished. With the exception of a small area no stoping has been done. Apparently the surveying, mapping, sampling and assaying were carried on simultaneously with the work and evidently was done by trained men.

#### AVAILABLE ORE:

The ore body, as exposed within the workings above the present mill level, is a mass of irregular outline approximately 700 feet long by 250 feet high and varying from 12 to 80 feet in width. In a report to the old company, under date of August 23rd, 1911, N. Jelson Nevius, their consulting engineer, shows, after having divided the ore into a series of measuring blocks, that this portion contained 176,253 tons as being blocked out. His calculations were based on exact superficial measurements, an average width of 24.5 feet, and 12 cubic feet to equal one ton. Roughly the writer is able to make an estimate, based on dimensions of 400 feet long by 200 feet high and 20 feet wide, and taking 14 cubic feet as a unit of density, of 114,000 tons of higher grade ore as being blocked out. This estimate to be taken as conservative, but sufficiently high for the purpose of this report. It is the writer's opinion that the Nevius estimate is about correct, and the above is given as a check.

So far as future ore is concerned, surface prospects have exposed the vein 1000 feet beyond the workings in one direction and 800 feet in another. The Ruby level, which has tapped the vein 120 feet below the present mill level, makes possible an added ore mass approximately 250,000 tons.

From data gathered as to the workings of other mines in the region, which are in the same age of rocks, and taking into consideration the nature and character of this deposit, it would seem fair to anticipate that pay ore will continue to a depth of 800 feet below the present mill level.

#### VALUE OF THE ORE:

The sampling of an ore body as well developed and having as much superficial exposure as this one would require at least six weeks of careful work on the part of four to six men. The writer has made no attempt of this nature, simply took a few samples at certain points for purposes of check or to give some desired information.

A perusal of the Nevius report and study of the assay map accompanying it leaves the strong impression that his work was carefully and conscientiously carried out; and inasmuch as the sampling was done by the present holders, as well as the writer, tend to confirm his results, it would seem not out of place at this time to assume his figures as correct.

Nevius assumed an area in the middle portion of the vein - 24.5 feet wide - as being sufficiently rich to work profitably. It was this body he sampled, and, as a result of his work, states that it will average \$7.90 per ton. He shows that all the vein matter outside of this area carries values, but, not having given it the extended sampling he did the other portion, could not set an average value. He simply infers that it does not come up to the \$5.00 limit set as the lowest grade to be worked. The writer took a composite sample along the middle area on each level which yielded \$11.44; also four samples at different points near the footwall side, which ran from \$2.90 to \$8.08. The question of how much of the outer vein matter is milling

millings operations for  
is two or three, the  
present crushing and/or

ore will depend on the cost of operations; the lower the cost the more of this can be worked. In the light of more modern mill practice, it would seem that the \$5.00 limit set by Nevius could be reduced some, making possible the working of a lower grade ore than he figured on.

No mention is made by Nevius of the concentrating ratio. However, in a report by Frank B. Montgomery - apparently of an earlier date - it is stated that the ore concentrates 9 to 1. This would make a \$70.00 concentrate. Data taken from some of the books show the concentrates to have carried values ranging from \$30.00 to \$350.00. There seems to be no specific information as to what was the average of the total concentrates produced. The writer took samples of concentrates left over in one of the boxes in the mill which yielded \$303.40 gold and \$19.20 silver. Coming from the bottom of the box, this cannot be taken as a fair sample for it very likely contained considerable concentrated free gold; but it serves as a check.

On the basis of the above unit valuation and considering the various estimates for ore blocked out as ranging between 100,000 and 150,000 tons, the gross value of the ore now available should not be less than \$800,000.00 and possibly as much as \$1,200,000.00.

#### EQUIPMENT:

The mine is well equipped with 12# steel rails, cars, air and ventilating pipes, etc., three machine drills, two sinking pumps, a small hoist, and apparently an abundance of tool steel. Also a good blacksmith outfit. With the possible exception of timber it could be put in operation for an output of 100 tons daily with very little further outlay.

The present mill consists of a gyratory and roller jaw crushers; two batteries of 5, 1200# stamps; and four Standard concentrating tables. A 100 HP boiler furnishes steam to an automatic engine which drives the mill; also to a Rand compressor and small electric light plant. A suitable laboratory outfit includes three crushers, a grinder, furnaces, balances and probably all other necessary accessories.

The camp comprises six small houses for office and staff; two large bunk houses; mess house; two store houses and a stable. It has accommodations for 80 persons, is well located and built, and with the exception of several roofs damaged by snow, is in good condition.

#### OPERATING CONDITIONS:

Because of the width of the present ore body and also because of its being somewhat soft in places, it will probably be necessary to use considerable timber in mining. Actual digging is not difficult, and probably a minimum of powder is required. Water is present in all the workings, but not enough to cause inconvenience.

In dressing the ore the ordinary practice of wet crushing and table concentration has been used. Apparently some difficulties were experienced in the early stages of the milling operations for three different types of mills have been tried. First two sets of rolls, then a Huntington mill, and now stamps. In each case primary crushing was done in the gyratory and roller-jaw crushers, which delivered the ore to the fine grinders up to possibly one half inch mesh.

Rolls are not suited to this character of ore and it is easy to understand why they were discarded. The Huntington Mill no doubt gave results so far as fine grinding was concerned, but undoubtedly the stamps were more satisfactory. The physical make up of the ore is such that the fine grinding can best be done in a ball type of mill, and if one were introduced either in place of the stamps or immediately following, a finer and much more uniformly sized pulp would be delivered at the tables. Also the capacity, as compared to the present HP requirements, would very likely be considerably increased.

The tables used are the bumping type. They work but are not nearly so efficient as many other makes. Later on it will probably be advisable to change them.

As the present power is derived from Wood-fired return tubular boiler which provides steam for both the mill engines and air compressor. Probably the actual average load when running is in the neighborhood of 80 HP; and very likely equally divided between the engines and compressors. From the records it appears that 7.5 cords of wood were required daily and the cost \$3.50 per cord; which, with attendance, would make cost of about one and seven tenths (1.7¢) per HP. This figure, on a basis of 100 tons milled per day, is not an excessive one, but should the mill capacity be greatly increased it may be advisable to look about for some other source of power. No doubt one of the electric companies, who have their lines within 12 miles, may be able to make lower rates.

With the exception of renewal of shoes and dies to the stamps, new covers for the table decks, and the cleaning up that is always necessary when machinery has been idle, the mill apparently is in shape to run.

The water used has been taken from small streamlets which empty into Ruby creek. This, together with what comes from the mine, will probably furnish all the supply necessary for the present needs.

At the time of the previous operations, the concentrates were shipped to the smelter at Sumpter, 27 miles by wagon and 20 miles by rail. The cost was \$6.75 per ton. At the present the railway is within 12 miles and it is very likely a short cut will be constructed which will bring the rails within four miles on the Ruby creek side and thereby shorten the distance to Sumpter about 20 miles. No doubt when this is completed and the mine is going on a fair tonnage basis, that the transportation cost may materially be lessened.

#### PROBABLE COSTS:

The following is an estimate of the probable operating costs based on an output of 100 tons per day:-

Mining-including timber and development	\$ 1.50
Milling and concentrating	.50
Transportation	.50
Tailings Treatment	.70
Treatment	.60
Maintenance	.40
Administration	.25
Amortization	.25
	<u>\$4.70</u>

The writer has no knowledge whatever of the amount of purchase price or of the terms and conditions under which the present holders have secured the property. Hence no figure is given in the above estimate as an interest charge to liquidate any payments due.

#### FINANCIAL REQUIREMENTS:

The matter of financial requirements resolves itself to a question of policy. It is possible with the present conditions and equipment, to start operations and in a short time have an output of 100 tons per day, which would bring in a revenue sufficient to cover expenses, allow possibly for some further development, and still leave a small profit. Or it may be decided to continue development on a scale already undertaken with the idea in view of uncovering a greater body of ore and later on build a mill of larger capacity which would yield a very much greater proportionate return. Or, also, it may be decided to undertake something along the lines of both. In the writer's opinion, the property warrants the latter being given careful consideration.

On the basis of beginning operations with the present equipment and continuing development somewhat on a scale already done, or in conformity with whatever mining system may be used, and preparing for a mill of 500 tons capacity, the following estimate will give an idea of funds required:-

Repairs, additional equipment for mill, stores, supplies, etc., cleaning up	\$ 5,000.00
Labor-30 men at \$4.00 for 100 days	12,000.00
Development-4000 feet principally on the Ruby tunnel	20,000.00
Mill - 500 tons capacity	<u>100,000.00</u>
	\$ 137,000.00

If it is decided to operate only on the first plan, or at least to run along for a while on that basis, about \$30,000.00 as working capital will probably be sufficient to carry the matter through, for, during the first 100 days period there should have been some 3000 tons of ore milled on which the gross returns - less transportation and smelting charges - should be in the neighborhood of \$20,000.00, which will nearly offset the original outlay. Thereafter, continuing on the same basis, 2500 tons per month should be milled on which the net returns should be about \$5,000.00.

#### SUMMARY AND CONCLUSIONS:

From the foregoing statements it may be seen that this property contains an extensive and well developed ore body which, under the conditions of loci and genesis, may be only a part of a still greater body. That the developed portion contains upwards of 250,000 tons of blocked out ore, of which 100,000 tons may be considered as having a gross value in excess of \$800,000.00 and the remaining 150,000 tons, while not being definitely known, probably carries a considerable portion which may be milled profitably. That the property is equipped with a mill capable of crushing and concentrating in the neighborhood of 70 tons daily which could with very little added equipment, be brought to a capacity of 100 tons. Also, it was further stated that the cost of operations on the 100 ton basis, would be about \$4.70 per ton, which would yield a net profit in the neighborhood of \$3.00.



In summarizing the situation it may be suggested that while it will be profitable to operate with the present mill on the basis outlined, inasmuch as further development will probably uncover increase volumes of ore, it would be proper to have in view the building of the larger mill which would permit the extraction of the lower grade ore also. Having this general plan in mind, the capital necessary to carry the enterprise through successfully would probably not exceed \$200,000.00, which amount, if the ore holds out as it is at present, should be returned annually in profits.

Therefore, considering the general conditions of the whole proposition, as above outlined, it is concluded that with a reasonable amount of capital to start out with and with good management, this property will pay a good profit over and above its operating costs.

(signed) Geo. Jammie

Mining Engineer

Seattle, Washington,  
September 18, 1917.

REPORT ON

DIXIE MEADOWS MINE

-by-

BELA LOW, E. M.

NEW YORK, January 31, 1912

To the BOARD OF DIRECTORS of the  
DIXIE MEADOWS MINING COMPANY,  
#42 Broadway, NEW YORK CITY.

GENTLEMEN:-

#### INTRODUCTORY REMARKS

In accordance with your instructions I proceeded to the Dixie Meadows Mine and made a thorough examination of the property with the primary object of determining the average grade of the ore that we have developed.

As you are familiar with the general conditions of the property, it is unnecessary to give a description of the geology, equipment, underground workings, etc. I shall, therefore, confine myself to a detailed description of the methods employed and results obtained in establishing the grade of the ore, adding much other information as is important for placing a valuation on the property.

#### MOIL SAMPLING

As one means to determine the average grade the mine was carefully sampled by moil in 5 ft. sections as far as this was possible due to underground conditions. For the individual results of each moil sample I herewith refer you to Exhibit A" and assay map, attached herewith. The samples, which weighed about 5 lbs. per ft., were taken in the usual manner by cutting a continuous groove across the ore body which in this case meant that where the ore body was opened by crosscuts one side of the crosscut was sampled and drift samples only taken in those cases where crosscuts had not yet been run to determine the width of the ore body. Part of the samples were assayed at the mine jointly by two assayers who checked each other, part of them, on account of the congestion of the mine laboratory, by the Union Assay Office at Salt Lake. After I had convinced myself that our sampler did good and accurate work I confined myself to pointing out to him the location of the samples and the manner in which they had to be taken and to seeing after completion that the work was properly done, but did not continuously supervise the sampling process as I had to give my time and attention chiefly to the mill test which I considered of more weight in determining the average value of the ore.

#### MILL TEST

The mill test was conducted in the small 10-stamp mill which had been remodelled for the purpose. In mining for the mill test, that portion of the ore body was taken in each working which was considered to represent commercial ore, and as far as possible a foot was sliced off from the sides of the crosscuts. Due to varying underground conditions, timbering, hardness of rock, etc., the tonnage extracted per foot length from the various workings was not always the same, but extreme care has been taken to cut an equal portion over the whole length

included from each respective working. As the mill test determined the value of each working separately this discrepancy between the tonnages extracted from various workings does no harm, as in figuring the average, not the tonnage, but the width of the ore body is taken into consideration.

The ore broken from each working was then trammed out of the mine and each lot was separately filled into the mill bin. The headings were sampled by an automatic device at the Challenge Feeder before the ore entered the battery. This device cut approximately every 7 minutes a portion across the whole stream of ore for about 6 seconds, which made a sample weighing about 1/70th of the weight of the ore that was milled. This heading sample was crushed to 1/4 inch, one-half of it rejected for a large composite sample and the other half divided into two parts and a pulp taken from each of these two parts by further crushing and quartering on a Jones sampler. By referring to the mill test record, you will see that in no case the assays of the two pulps vary more than by 40¢, proving that the heading sample was properly quartered down.

The plate tailings were sampled by taking a small can full every 15 minutes from the pipe where they enter the concentrating tables as heads. The general tailings were sampled from their launder by taking a small can full every 15 minutes. The concentrates were sampled from sacks with a pipe, and the concentrates produced from each working were naturally sampled separately. All samples were assayed in duplicate and by two assayers checking each other.

Moisture samples were taken from the heads by taking a few handfuls from the car, with the concentrates the sample which was used for assaying was also used for moisture sample. The headings as well as the concentrates were weighed on scales.

#### RESULT OF MILL TEST

By referring to the record of mill test you will see that 572.053 dry tons have been milled, averaging \$4.08 in gold and .41¢ in silver (gold at \$20.00 and silver at 50¢ per oz.)

The recovery in amalgamation is figured by taking the difference between the heading and plate tailing sample, and amounts to 188¢ per ton of ore or 19.6%, the total gold and silver in the bullion being theoretically \$505.08.

After completion of the test the plates were thoroughly cleaned and the bullion shipped to the mint amounted to 30.88 oz. containing \$385.04. This difference of \$120.04 is probably due partly to absorption of the plates, partly to amalgam lost in little cracks in the wood and somewhere where it cannot easily be recovered unless by pulling out the plates and sweating them and thus making a more thorough clean-up.

50.963 dry tons of concentrates were produced, averaging \$21.79 in gold and \$1.62 in silver per ton, and containing \$1192.82

in gold and silver, showing a recovery in concentration of \$2.09 or 46.5% per ton of ore.

Smelter returns on these concentrates show 50.207 dry tons, averaging 1.007 oz. gold and 3.17 oz. silver, containing 50.567 oz. gold and 159.24 oz. silver. According to mine calculation 50.742 tons of concentrates of the 50.963 tons produced were shipped containing 55.309 oz. gold and 164.40 oz. silver. The total difference of 4.742 oz. gold and 516 oz. silver and .535 tons of concentrates is probably due to part of the moist concentrates adhering to the sacks and therefore not accounted for by the smelter.

The total recovery made in amalgamation and concentration was therefore \$2.97 or 66.2% per ton of ore.

The calculated dry weight of the tailings amounts to 521,090 tons which averaged \$1.46 in gold and .29¢ in silver, containing \$914.69 in gold and silver and showing a loss of \$1.60 or 35.7% per ton of ore.

Theoretically the total recovery plus the loss in tailings should naturally amount to 100%. In our case it amounts to 101.9% indicating an error of 1.9% in the mill test, though in the individual lots the error is occasionally larger, the difference balancing, however, partly. In view of this small error one can depend that the mill test showed the value of the ore accurately.

On account of the fact pointed out above, that due to conditions it was not always possible to mine per foot length of each crosscut the same tonnage in the respective workings, the average of the ore milled is not exactly the average of the ore exposed. By referring to the calculation of tonnage and values in the Exhibits you will see that in figuring the average grade of the ore the value of each working established by the mill test is used separately in connection with its width.

#### RESULTS OF MOIL SAMPLING

Each individual sample is plotted on the assay map with its width and value--gold figured at \$20.00 per ounce and silver at 50¢ per oz. In figuring from the small section the average of each working, the usual foot-dollar method has been employed, and by referring to the list of moil samples in the Exhibit you will see in which manner this calculation has been made in each individual case.

#### DISCUSSION OF RESULTS

The following tabulation shows a comparison of the result of each working obtained by mill test and by moil sampling with results previously obtained by Mr. Noble, those used in Mr. Nevius's valuation, and where comparison is possible the values obtained during the original examinations have been added.

NOTE: SEE TABULATION ON FOLLOWING PAGE

You will notice that the results of the mill test do not always check close with the result of the moil sampling, the total average, however, checks within 12%. This undoubtedly is due to the extreme irregular distribution of values in the ore. In such cases where there are discrepancies between the two results I would consider the result of the mill test as more reliable than that of the moil sampling.

The experiment made in sampling by Mr. Burch shows conclusively that due to the irregularity of the ore a groove which is cut for instance near the roof might give an entirely different result than one cut a little further down at the same exposure; these discrepancies, however, as you see, are balanced more or less by averaging all the results.

We can, therefore, be reasonable assured that our total ore exposures, which correspond approximately to those included in Mr. Nevius's report will average:

\$3.65 according to moil sampling, or  
\$3.77 according to the mill test.

Due to the irregular distribution of values in our property the ore might prove upon milling to be somewhat different in value than the faces exposed would indicate, but present knowledge of mining knows no other means to establish the grade of the ore than by establishing the grade of the exposed faces.

#### COMPARISON BETWEEN PRESENT AND PREVIOUS RESULTS

The recent examination has therefore shown that Mr. Noble's valuation has been corroborated and that the ore included in Mr. Nevius's estimate is less than 50% of his figure. Such a large discrepancy should not occur and there seems to be no other explanation but a wilful misrepresentation of the property during the past year on the part of our Manager and assayer, Mr. Nevius, quite naturally, accepting largely the mine sampling and entirely the mine assaying and therefore being unable to detect this. Although there is absolutely no proof of any fraud having been committed, it is incomprehensible that such a condition should not have been made to determine the true status of affairs.

The fact, that where comparison is possible, the places which have been sampled previous to the purchase of the property have considerable dropped in value, is hardly explainable. In these cases previously fraud seems extremely improbable, considering the extreme precautions which I personally have taken during my first examination and the fact that numerous engineers, like J. Nelson Nevius, Dr. Chauvenet, Jehn Treweek, Burbridge and myself arrived at a similar and higher valuation. Possible higher grade bunches were accidentally included which were not sampled now, as due to changes in the underground workings the same grooves with one exception could not be re-sampled.

A theory that the values in the exposed faces were leached out was advanced and investigated, but as an analysis of mine water was proven to contain no solvent of gold nor even the minutest quantities of gold, it cannot be entertained.

#### TONNAGE AND VALUES

In estimating the tonnage the ore is divided into "PROBABLE" and "POSSIBLE" ore. I call "Probable" ore that ore which is opened between two levels and the width of which is exposed by crosscuts. I also include as "Probable" ore such blocks as one would expect to exist between two levels where one level extends into one direction further than another level in ore. I do not call this ore "POSITIVE" because crosscutting has not been done at regular intervals, because more raises would have to be put through and on account of the irregular distribution of values which make it difficult to call anything positive in this mine. I think, however, that one would have every right to expect this tonnage and value to actually exist if one would mine and mill the orebody.

I call "POSSIBLE" ore such ore which is exposed only at one level, but where the continuation to a certain point was proven either by raises or winzes, the chances that such ore exists in these locations are good.

There are further possibilities of opening up more ore and new shoots, all of them, however, are too uncertain and therefore have not been taken into consideration.

By referring to the Exhibits and the vertical projection map, you will see the methods employed in calculating tonnage and values.

On next page follows Summary of Results obtained.

### DISCUSSION OF TONNAGE AND VALUES:

The difference in the grade of the ore according to moil sampling and the mill test has been explained above. The difference of tonnage according to moil sampling and according to the mill test is due to the fact that in a few cases moil samples have been taken where it was not commendable to mine anything for the mill test, and that the width sampled by moil is not always the same as used for the mill test.

In figuring the average the 50 ft. level was omitted, as it would include a section which has not been opened up at such length as on the 94 ft. level, and the upper intermediate level was considered too close to the lower intermediate to be included. These levels have nevertheless been sampled and tested in order to get a complete comparison of previous and present results.

By excluding Blocks C & F there is a tonnage as follows:-

According to moil sampling 101.726 tons, average \$4.39

According to mill test 112,006 " " \$4.53

### FURTHER DEVELOPMENT

In case one could find a possibility of a profit with such grade of ore and it would be decided to do some further development work, I would advise by all means to make a thorough geological study first in order to determine the character of the ore deposit and the best method of procedure. From present indications it seems that the following course would be advisable.

Some good ore is contained in block "A" and the 94 ft. level should therefore be continued in both directions and crosscuts put in at regular intervals, by which the tonnage could probably be largely increased. Also it would be advisable to start a new level, somewhere about 70' above the 94 ft. level and to drive in both directions.

It would not seem advisable to continue the Ruby Adit. It is to be regretted that this expensive tunnel has been put in, as it only gains 47 ft. of depth below the present bottom of the winze from the lower level and it would have been far better to continue the winze to this point and to do some crosscutting in order to determine, first, whether the good ore contained the so-called hanging wall stope extends to depth, and then drive a lower tunnel.

Whether any ore can be recovered where it is lost at the south of our levels must be determined by an experienced geologist. It is not certain whether the dyke that has been shattered and mineralized is broken up in that location, or whether another rock has been intruded and either faulted the ore body or temporarily cut off the mineralization, or whether mineralization ceases at those points, where considerable depth is gained.



Inasmuch as there are other surface showings along the outcrops, as at the Tiger, Kyuse and Gladys, it seems as if the mineralized dyke continued beyond our south faces of the drifts. It seems, however, doubtful whether pay ore could be developed there, as indications point to the fact that we have to deal with a zone of secondary enrichment. At the Dixie Meadows Mine the outcrops are usually of low-grade and whenever the drifts and raises approach the surface the values are low.

On the other hand where the drifts, especially by extending to the south, gain considerable depth and at the lower level the values are apparently considerable lower than the average. It seems therefore that there is a shallow zone of enrichment which, as stated above, would average from the ore that is exposed so far approximately \$4.50. Whether with a proper understanding of the geology considerable quantities of ore of such grade could be opened up, could not be determined by a thorough examination made by an expert in this line.

#### METHODS OF MINING

While it is true that some of the moil samples show considerably higher values than the average, I see no possibility of doing any selective mining. In the so-called hanging wall stope there may be a small tonnage which is difficult to estimate, about say 500 tons of \$20 ore could be mined and crosscutting from the winze may increase this tonnage. With this exception I see no case where one could go with any amount of certainty and mine higher grade ore. The higher grade ores occur in bunches and not in any defined streaks which could be followed and if one would for instance try to extract good ore from a crosscut where one or two sections of samples indicate good values, it is quite possible that in breaking beyond the sample face, the situation would change entirely and lower grade ore again be encountered. With this type of deposit I see no other possibility but to mine the ore body as a whole.

#### TREATMENT

The mill test indicates a recovery in amalgamation of about 20%. The concentration of the remainder apparently would not offer any serious difficulty. The low extraction made in our mill cannot be considered as a criterion of what can be done, as the Standard tables are not adapted to such class of work, as we had no means of classifications and no tables for recovering the slimes and fines which contain most of the values lost in the tailings, inspection shows that grinding through even 50 mesh liberates the particles of pyrite completely from the gangue and with proper arrangements there seems little doubt that a high recovery can be made in concentration and probably clean enough to allow one to discard the tailings.

As the hauling, freight and smelting charges on the concentrates are absolutely prohibitive on low-grade concentrates like ours, the matter of treatment of concentrates was investigated by the writer though in a crude and unscientific way. Among the exhibits you will note results obtained by cyanide tests on raw and roasted concentrates,

as well as of an experiment made by cutting out the lead streak and cyaniding the remainder and a rough test for barrel chlorination. A maximum recovery of 73% was obtained by a process that would be very expensive, but inasmuch as frequent analyses have shown that the concentrates contain no deleterious substances such as bismuth, arsenic, antimony, tellurium and very small quantities of copper and zinc, it seems at least possible that a satisfactory treatment process of the concentrates could be devised if this was thoroughly studied by an expert in this line. All tests made were rather crude, as proper apparatus, time and special talent required were not available.

#### COST & PROFIT

With what we know of the grade, the tonnage exposed and the treatment possibilities at present, there would be no profit in working the mine. There is a remote possibility of making a profit under the following conditions:-

1.) If a geological examination would show a good chance of opening up an extremely large tonnage of say \$4.50 ore which would allow one to operate with the utmost economy and on a very large scale and at the same time give a sufficient tonnage to repay even with the small margin of profit the money expended in the past and what still would have to be expended in the future.

2.) If a comparatively simple process could be devised which would give a substantial recover at low cost and leave a profit on such grade of ore.

With what we know at present of the treatment methods which could be employed, and assuming advisability of cutting out amalgamation, further, an 80% recovery by concentration and (not judging from experience with our ore but from properties wher cyaniding of concentrates, is now successful) a 95% recovery in cyaniding concentrates, there might be a profit in working on a very large scale as follows:

Average--say		\$4.50
Loss in concentration	20%	.90
Recovery in concentration		<u>\$3.60</u>
Loss in cyaniding concentrates	5%	.28
		<u>\$3.42</u>
Mining	\$1.25	
General Expense	.25	
Milling including possible aerial transportation	.75	
Cyaniding \$5 per ton any ratio 10 to 1	.50	
Profit		<u>\$ .67</u>

Please note that I do not say that this profit can be obtained, but that by the most possible favorable conditions as to average value, recovery, cost and tonnage it may be obtained.

The above estimate of cost furthermore does not include amortization and depreciation and would require an enormous tonnage, not only in order to reduce costs to that point but to yield a sufficiently high total profit in order to repay past and possible future expenditures.

Naturally if a more simple process than concentration and cyaniding the concentrates could be developed the profit could be increased.

### C O N C L U S I O N S

With the present tonnage developed and the grade of ore established and the present knowledge of treatment, the mine cannot possibly be operated at a profit. Inasmuch as considerable money is involved it seems advisable to have a geological examination made in order to determine whether by intelligent development an extremely large tonnage of 4.30 ore could be developed and to have a preliminary investigation of the treatment possibilities made in order to determine whether there is any chance on such grade. All this should be postponed, however, until Spring and it should be borne in mind that the chances of a favorable outcome are remote and that the enterprise at its best would be highly speculative.

Respectfully submitted,

24 ft. LEVEL

NO.	WIDTH	VALUE	MULTIPLE	REMARKS
1	8'	\$9.51	76.08	
3	9'	5.57	50.13	
5	7.5'	11.96	89.70	
6	6'	8.69	52.14	
7	5'	4.19	20.95	
8	4.5'	3.94	17.73	
(9		2.00		9 re-sampled
(43		6.00		aver. bet. 9 & 43
(Aver.	6.5'	4.00	26.00	
10	6'	5.50	33.00	
11	6.5'	2.93	19.05	
12	2.5'	1.88	4.70	
13	2'	9.02	18.04	
25	5'	3.60	18.00	
26	3.5'	2.52	8.82	
	<u>72'</u>		<u>434.34</u>	

Average width--72' : 13--5.5'

Average value--434.34 : 72-- \$6.03

50 ft. LEVEL

(14		3.00		
(48		2.32		14 re-sampled
(Aver.	5'	2.66	13.30	Aver. 14 & 48
(15		3.09		
(49		3.07		15 re-sampled
(Aver.	5'	3.08	15.40	Aver. 15 & 49
16		33.54		Exclude
50	3'	11.31	33.93	16 re-sampled
46	7'	4.07	28.49	
(47a		39.62		
(47b		44.36		47a re-sampled
(Aver.	2'	42.00	84.00	Aver. 47 a & b
44	4.5'	3.77	16.96	
45	5'	2.41	12.05	
	<u>31.5'</u>		<u>204.13</u>	

Average width-- 31.5' : 4-- 7.88'

Average value-- 204.13 : 31.5'--\$6.48

UPPER LEVEL - SOUTH - RAISE #2

65	5'	2.58	
66	5'	.80	
67	5'	1.00	
	<u>15'</u>	<u>4.38</u>	

Average value 4.38 : 3-- \$1.46

Width-- 15'

NO.                      WIDTH                      VALUE                      MULTIPLE                      REMARKS

UPPER LEVEL NORTH c.c. #2

404	5'	.47	2.35
405	6'	.60	3.60
	<u>11'</u>		<u>5.95</u>

WIDTH                      --11'

AVERAGE VALUE-- 5.95 : 11 -- \$0.54

UPPER LEVEL NORTH c.c. #1

61	5'	\$14.69	73.45
62	5'	8.03	40.15
63	5'	5.13	25.65
64	4'	2.56	10.24
	<u>19'</u>		<u>149.49</u>

WIDTH                      --                      19'

AVERAGE VALUE -- 149.49 : 19 -- \$7.87

UPPER LEVEL AT CORTA VETA

701	5'	.48
702	5'	1.30
703	5'	14.43
704	5'	6.45
	<u>20'</u>	<u>22.66</u>

WIDTH                      --20' : \$5.66

AVERAGE VALUE -- 22.66 : 4 --  
 Excluding 701 & 702, width-- 10' @ \$10.44

UPPER LEVEL SOUTH c.c. #1

(78	3.5'	28.50	
(166	3.5'	9.85	78 re-sampled
(Aver.	3.5'	19.17	Aver. 78 & 166
410	5'	.20	Exclude
411	5'	trace	"
412	5'	"	"

WIDTH                      -- 3.5'

AVERAGE VALUE                      -- \$19.17

UPPER LEVEL SOUTH c.c. #2

117 $\frac{1}{2}$	5'	3.57	17.85
118	5'	3.55	17.75
119	4'	6.45	25.80
	<u>14'</u>		<u>61.40</u>

WIDTH                      -- 14'

AVERAGE VALUE -- 61.40 : 14 -- \$4.39

NO.	WIDTH	VALUE	MULTIPLE	REMARKS
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UPPER LEVEL SOUTH c.c. #3

159	5'	2.95	14.75	
160	5'	4.15	20.75	
161	5'	5.00	25.00	
162	6'	3.22	19.32	
	<u>21'</u>		<u>79.82</u>	
		WIDTH		-- 21'
		AVERAGE VALUE	-- 79.82	: 21 -- <u>\$3.80</u>

UPPER LEVEL SOUTH c.c. #4

51	5'	1.30	6.50	
52	5'	.52	2.60	
53	5'	1.06	5.30	
54	5'	2.85	14.25	
55	5'	5.42	27.10	
56	2'	8.24	16.48	
57	2'	5.65	11.30	
58	2'	3.87	7.74	
59	5'	2.84	14.20	
60	2'	2.92	5.84	
	<u>38'</u>		<u>111.31</u>	
		WIDTH		-- 38'
		AVERAGE VALUE	1 -- 111.31	: 38 -- <u>\$2.93</u>

UPPER LEVEL SOUTH c.c. #4

RE-SAMPLED

120	5'	1.62	8.10	
121	5'	1.37	6.85	
122	5'	0.70	3.50	
123	5'	2.00	10.00	
124	5'	5.05	25.25	
125	5'	6.32	31.60	
126	5'	3.00	15.00	
127	5'	1.65	6.60	
			<u>106.90</u>	
		WIDTH		-- 39'
		AVERAGE VALUE	-- 106.90	: 39 -- <u>\$2.74</u>

UPPER LEVEL SOUTH c.c. #5

40	5'	2.70	13.50	
38	5'	2.74	13.70	
21	5'	3.36	16.80	
22	5'	3.68	18.40	
23	5'	2.65	13.25	
24	7'	3.34	23.38	
39	5'	1.58	7.90	
	<u>37'</u>		<u>106.93</u>	
		WIDTH		-- 37'
		AVERAGE VALUE	-- 106.93	: 37 -- <u>\$2.89</u>

NO.	WIDTH	VALUE	MULTIPLE	REMARKS
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UPPER LEVEL SOUTH c.c. #5 $\frac{1}{2}$

41	5'	1.49	
19	5'	2.95	
20	5'	11.65	
	<u>15'</u>	<u>16.09</u>	

WIDTH -- 15'

AVERAGE VALUE -- 16.09 : 3 -- \$5.36

UPPER LEVEL SOUTH c.c. #6

17	5'	1.60	8.00
18	4'	1.78	7.12
42	5'	.40	2.00
	<u>14'</u>		<u>17.12</u>

WIDTH -- 14'

AVERAGE VALUE -- 17.12 : 14 -- \$1.22

ABOVE RE-SAMPLED

401	5'	5.47	
402	5'	4.62	
403	5'	4.70	
	<u>15'</u>	<u>12.79</u>	

WIDTH -- 15'

AVERAGE VALUE -- 12.79 : 3 -- \$4.26

UPPER INTERMEDIATE NORTH c.c. #2

68	5'	.90	
69	5'	6.13	
70	5'	.90	
71	5'	2.90	
72	5'	.90	
		<u>11.73</u>	

WIDTH -- 25'

AVERAGE VALUE -- 11.72 : 5 -- \$2.34

UPPER INTERMEDIATE NORTH c.c. #1

73	5'	2.25	11.25
74	5'	3.57	17.85
75	5'	12.14	60.70
76	5'	6.03	30.15
77	6'	1.90	11.40
	<u>26'</u>		<u>131.35</u>

WIDTH -- 26'

AVERAGE VALUE -- 131.35 : 26 -- \$5.05

NO.	WIDTH	VALUE	MULTIPLE	REMARKS
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UPPER INTERMEDIATE SOUTH c.c. #1

101	5'	1.35	6.75
102	5'	2.85	<u>11.40</u>
			18.15

WIDTH -- 9'

AVERAGE VALUE -- 18.15 : 9 -- \$2.02

UPPER INTERMEDIATE SOUTH c.c. #2

163	5'	2.10	
164	5'	1.40	
165	5'	1.45	

WIDTH -- 15'

AVERAGE VALUE -- 4.95 : 3 -- \$1.65

LOWER INTERMEDIATE NORTH c.c. #2

116	5'	2.65	13.25
117	5'	2.37	<u>14.22</u>
			27.47

WIDTH -- 11'

AVERAGE VALUE -- 27.47 : 11 -- \$2.50

LOWER INTERMEDIATE NORTH c.c. #1

111	5'	1.65	8.25
112	5'	.50	2.50
113	5'	3.27	16.35
114	5'	2.37	11.85
115	6'	1.10	<u>6.60</u>
	<u>26'</u>		45.55

WIDTH -- 26'

AVERAGE VALUE -- 45.55 : 26' -- \$1.75

98	5'	2.00	10.00
99	5'	2.00	10.00
99 $\frac{1}{2}$	5'	1.20	6.00
100	2'	1.75	<u>3.50</u>
			29.50

WIDTH -- 17'

AVERAGE VALUE -- 29.50 : 17 -- \$1.74



NO.                      WIDTH                      VALUE                      MULTIPLE                      REMARKS

LOWER INTERMEDIATE SOUTH c.c. #1

103	5'	.50	2.50
104	5'	.75	3.75
105	5'	2.05	10.25
106	5'	1.90	9.50
107	4'	1.85	7.40
			<u>33.40</u>

WIDTH                      --    24'

AVERAGE VALUE    --    33.40    --                      \$1.39

LOWER INTERMEDIATE SOUTH c.c. #2

108	5'	3.55	17.75
109	5'	2.80	14.00
110	6'	2.95	17.70
	<u>16'</u>		<u>49.45</u>

WIDTH                      --    16'

AVERAGE VALUE    --    49.45    --                      \$3.09

LOWER INTERMEDIATE SOUTH c.c. #3

27	5'	1.13
28	5'	.91
29	5'	8.77
30	5'	9.00
31	5'	3.70
32	5'	1.88
33	5'	1.20
34	5'	3.96
35	5'	3.20
36	5'	9.48
37	5'	3.77
	<u>55'</u>	<u>47.00</u>

WIDTH                      --    55'

AVERAGE VALUE    --    47.00    :    11    --                      \$4.27

LOWER INTERMEDIATE SOUTH c.c. #4

83 $\frac{1}{2}$	4'	4.50	18.00
84	5'	6.55	32.75
85	5'	6.70	33.50
86	5'	3.42	17.10
87	5'	3.42	17.10
88	5'	1.60	8.00
89	5'	2.50	12.50
90	5'	1.90	9.50
91	5'	1.50	7.50
92	5'	1.87	9.35
93	5'	3.42	17.10
94	5'	3.00	15.00
95	5'	2.70	13.50
		0.00	4.50

NO.                      WIDTH                      VALUE                      MULTIPLE                      REMARKS

LOWER INTERMEDIATE SOUTH c.c. #4

(continued)

97	69 <u>4'</u> 73'	0.72	215.40 <u>2.88</u> 218.28	
		WIDTH		-- 73'
		AVERAGE VALUE	-- 218.28	: 75 -- <u>\$2.99</u>

LOWER INTERMEDIATE SOUTH c.c. #4 1/2

83	4 1/2'	2.43		
		WIDTH		-- 4 1/2'
		VALUE		-- <u>\$2.45</u>

LOWER LEVEL DRIFT FROM HANGING WALL RAISE

136	5'	10.75	53.75	
137	5'	.47	2.35	
138	<u>2.5'</u>	.65	<u>1.63</u>	
	12.5'		57.73	
		WIDTH		-- 12 1/2'
		AVERAGE VALUE	-- 57.73	: 12.5 -- <u>\$4.62</u>

LOWER LEVEL SOUTH HANGING WALL STOPE

133	(5'	7.10	35.50	
133	(5'	8.40	42.00	
134	6'	13.50	81.00	
135	<u>4'</u>	86.30	<u>345.20</u>	
	20'		503.70	
		WIDTH	--20 : 3	--6.6'
		AVERAGE VALUE	-- 503.70	: 20 -- <u>\$25.19</u>

LOWER LEVEL NORTH c.c. #2

151	5'	.30		
152	5'	.40		
153	5'	--		
154	5'	--		
155	5'	.15		
156	5'	--		
157	5'	--		
158	<u>5'</u>	<u>.50</u>		
	40'	1.35		
		WIDTH		-- 40'
		AVERAGE VALUE	-- 1.35	: 8 -- <u>\$0.17</u>

NO.                      WIDTH                      VALUE                      MULTIPLE                      REMARKS

---

LOWER LEVEL NORTH c.c. #1

146	5'	.40	
147	5'	.40	
148	5'	.20	
149	5'	.80	
150	5'	1.00	
	<u>25'</u>	<u>2.80</u>	

WIDTH                      --    25'

AVERAGE VALUE -- 2.80 : 5 -- \$0.56

---

LOWER LEVEL SOUTH c.c. #1

141	5'	2.10	
142	5'	2.80	
143	5'	1.32	
144	5'	.90	
145	5'	1.05	
	<u>25'</u>	<u>8.17</u>	

WIDTH                      --    27'

AVERAGE VALUE -- 8.17 : 5 -- \$1.63

---

LOWER LEVEL SOUTH c.c. #2

345	5'	1.32	
346	5'	4.97	
347	5'	4.61	
348	5'	4.49	
349	5'	4.09	
350	5'	3.91	
351	5'	3.08	
352	5'	4.25	
353	5'	2.31	
	<u>45'</u>	<u>33.03</u>	

WIDTH                      --    45'

AVERAGE VALUE -- 33.03 : 9 -- \$3.67

---

LOWER LEVEL SOUTH c.c. #3

128	5'	3.12	15.60
129	5'	4.25	21.25
130	5'	1.75	8.75
131	5'	0.50	2.50
132	3'	0.70	2.10
	<u>23'</u>		<u>50.20</u>

WIDTH                      --    23'

AVERAGE VALUE -- 50.20 : 23 -- \$2.18

NO.	WIDTH	VALUE	MULTIPLE	REMARKS
<u>LOWER LEVEL SOUTH c.c. #3 WEST</u>				
139	5'	2.35	11.75	
140	2'	2.45	4.90	
	<u>7'</u>		<u>16.65</u>	
WIDTH				-- 7'
AVERAGE VALUE				-- 16.65 : 7 -- <u>\$2.38</u>

<u>BOTTOM OF SHAFT</u>				
771	6.5'	0.40	2.60	
772	<u>3.0'</u>	2.87	<u>8.61</u>	
	9.5'		<u>11.21</u>	
WIDTH				-- 9.5'
AVERAGE VALUE				-- 11.21 : 9.5 -- <u>\$1.19</u>

<u>SAMPLES IN SHAFT</u>				
773	2.5'	1.65		
774	3.5'	2.46		
775	4.5'	1.17		

<u>SAMPLES NEAR N. FACE OF DRIFT FROM RUBY ADIT</u>				
501	0.5	6.90		
502	6.0'	0.40		

CALCULATION OF TONNAGE AND VALUES

based on results of

MILL TEST

BLOCK "A"

Upper Level	c.c. #6 S	15'	\$3.48	52.20
"	c.c. #5 $\frac{1}{2}$ S	15'	4.34	65.10
"	c.c. #5 S	37'	3.23	119.51
"	c.c. #4 S	37'	4.26	157.72
		<u>104'</u>		<u>394.43</u>

Width --104 + 4 -- 26' Value-- 394.43 + 104 -- \$3.79

150' length Upper Level	26' @ 3.79	98.54
94 ft. level	<u>5.5' 8.07</u>	<u>44.38</u>
	31.5	142.92

Average width -- 31.5 + 2 -- 15.75 Av. Value--142.92 + 31.5--\$4.54

BLOCK "A" -- 150 x 90 x 15.75 -- 212,625 cu. ft.--17,719 Tons @ \$4.54

BLOCK "B"

Upper Level	c.c. #6 S	15'	\$3.48	52.20
"	c.c. #5 $\frac{1}{2}$ S	15'	4.24	65.10
"	c.c. #5 S	37'	3.23	119.51
"	c.c. #4 S	37'	4.26	156.62
"	c.c. #3 S	21'	4.50	94.50
"	c.c. #2 S	14'	3.19	44.66
"	Corta Veta	20'	3.65	73.00
"	c.c. #1 N	15'	13.10	196.50
		<u>174'</u>		<u>803.09</u>

Width -- 174 + 8 -- 21.8' Value -- 803.09 + 174 -- \$4.62

Lower Inter.	C.C. #4 $\frac{1}{2}$ S	4.5'	\$2.53	11.39
"	c.c. #4 S	73'	2.97	216.81
"	c.c. #3 S	55'	5.13	282.15
"	c.c. #2 S	16'	3.48	55.68
"	c.c. #1 S	26'	2.07	53.82
"	c.c. #1 A N	17'	2.77	47.09
"	c.c. #1 N	28'	2.23	62.44
"	c.c. #2 N	11'	3.75	41.25
		<u>230.5'</u>		<u>770.63</u>

Width -- 230.5 + 8 -- 28.8' Value 770.63 + 230.5 -- \$3.34

Aver. Width both levels -- 174 + 230.5 -- 404.5 + 16 -- 25.28

Aver. Value both levels 803.09 + 770.63 -- 1573.72 + 404.5 -- \$3.98

BLOCK "B" --  $\frac{1}{2}$  (500 + 400) x 70 x 25.28 -- 796,320 cu. ft.  
-- 66,360 Tons @ \$3.89

BLOCK "C"

Lower Level c.c. #3 S	23'	\$2.08	\$ 47.84
" c.c. #2 S	36'	3.39	122.04
" c.c. #1 S	25'	1.62	40.50
" c.c. #1 N	25'	.42	10.50
	<u>109'</u>		<u>220.88</u>

Width -- 109 : 4 -- 27.25' Value -- 220.88 : 109 -- \$2.03

Av. Width Lower & Lower Int. levels--  
109 + 230.5 -- 339.5 : 12 -- 28.29'

Av. Value Lower & Lower Int. levels--  
220.88 770.63 -- 991.51 + 339.5 -- \$2.92

BLOCK "C" --  $\frac{1}{2}$  (400 + 250) x 70 x 28.29 -- 643,598 cu. ft.  
-- 53,633 Tons @ \$2.92

BLOCK "D"

Upper Level c.c. #3 S	21'	\$4.50	\$ 4.50
" c.c. #2 S	14'	3.19	44.66
" Corta Veta	20'	3.65	73.00
" c.c. #1 N	15'	13.10	196.50
	<u>70'</u>		<u>408.66</u>

*Original figure 413.66  
Correct figure 318.66*

Width -- 70 : 4 -- 17.5' Value -- 408.66 : 70 -- \$5.84

BLOCK "D" -- 350 x 50 x 17.5 -- 306,250 cu. ft.  
-- 25,521 Tons @ \$5.84

BLOCK "E"

94 ft. Level average 5.5' @ \$3.07

BLOCK "E" --  $\frac{1}{2}$  x 150 x 70 x 5.5 --- 28,875 cu. ft.

-- 2,406 Tons @ \$3.07

BLOCK "F"

LOWER LEVEL average 27.25' @ \$2.03

BLOCK "F" --  $\frac{1}{2}$  x 250 x 80 x 27.25 -- 272,500 cu. ft.

-- 22,708 Tons @ \$2.03

CALCULATION OF TONNAGE AND VALUES

based on results of

MOIL SAMPLING

BLOCK "A"

Upper Level	c.c. #6 S	15'	4.26	63.90
"	c.c. #5½ S	15'	5.36	80.40
"	c.c. #5 S	37'	2.89	106.93
"	c.c. #4 S	38.5'	2.84	109.34
		<u>105.5'</u>		<u>360.57</u>

Width -- 105.5 : 4 -- 26.4' Value -- 360.57 : 105.5 -- \$3.42

150' length of Upper Level	26.4'	@ 3.42	90.29
94 ft. level	5.5'	@ 6.03	33.16
	<u>31.9</u>		<u>123.45</u>

Aver. Width -- 31.9 : 2 -- 15.95' Aver Value-- 123.45 : 31.9 -- \$3.87

BLOCK "A" -- 150 x 90 x 14.95 -- 215,325 cu. ft.  
-- 17,943.75 Tons @ \$3.87

BLOCK "B"

Upper Level	c.c. #6 S	15'	\$4.26	\$63.90
"	c.c. #5½ S	15'	5.36	80.40
"	c.c. #5 S	37'	2.89	106.93
"	c.c. #4 S	38.5'	2.84	109.34
"	c.c. #3 S	21'	3.80	79.88
"	c.c. #2 S	14'	4.39	61.46
"	c.c. #1 S	3.5'	19.17	67.10
"	Corta Veta	10'	10.44	104.40
"	c.c. #1 N	19'	7.87	149.53
		<u>173'</u>		<u>822.86</u>

Width -- 173 : 9 -- 19.2' Value -- 822.86 : 173 -- \$4.76

Lower Inter.	c.c. #4½ S	4.5'	\$2.45	11.03
"	c.c. #4 S	73'	2.99	218.27
"	c.c. #3 S	55'	4.27	234.85
"	c.c. #2 S	16'	3.09	49.44
"	c.c. #1 S	24'	1.39	33.36
"	c.c. #1 A N	17'	1.74	29.58
"	c.c. #1 N	26'	1.75	45.50
"	c.c. #2 N	11'	2.50	27.50
		<u>265.5'</u>		<u>649.53</u>

Width -- 226.5 : 8 -- 28.3' Value-- 649.53 : 226.5 -- \$2.87

Aver. width both levels -- 175 - 226.5 -- 399.5 : 17 -- 23.5'

Aver. Value both levels -- 822.86 + 649.53 -- 1472.39 : 399.5 -- \$3.69

BLOCK "B" ½ (500 + 400) x 70 x 23.5-- 740,250 cu. ft.

-- 61,688 Tons @ \$3.69

BLOCK "C"

Lower Level	c.c.	#3 W	7'	\$2.38	16.66
"	c.c.	#3 S	23'	2.18	50.14
"	c.c.	#2 S	45'	3.67	165.15
"	c.c.	#1 S	25'	1.63	40.75
"	c.c.	#1 N	25'	.56	14.00
					<u>286.70</u>

Width 125 : 5 -- 25' Value 286.70 : 125 -- \$2.29

Aver. width both levels  $226.5 + 125$  : 13 -- 27.0'

Aver Value both levels  $649.53 + 286.70$  -- 938.23 : 351.5 -- \$2.67

BLOCK "C" --  $\frac{1}{2} (400 + 250) \times 70 \times 27.0$  -- 614,250 cu. ft.

-- 51,188 Tons @ \$2.67

BLOCK "D"

Upper Level	c.c.	#3 S	21'	\$ 3.80	79.80
"	c.c.	#2 S	14'	4.39	61.46
"	c.c.	#1 S	8.5'	19.17	67.10
"	Corta Veta		10'	10.44	104.40
"	c.c.	#1 N	19'	7.87	149.53
					<u>462.29</u>
					67.5'

Width -- 67.5' : 5 -- 13.5' Value 462.29 : 67.5 -- \$6.85

BLOCK "D" --  $350 \times 50 \times 13.5$  -- 236,250 cu. ft.

-- 19,687.5 Tons @ \$6.85

BLOCK "E"

94 ft. Level average 5.5' @ \$6.03

BLOCK "E" --  $\frac{1}{2} \times 150 \times 70 \times 515$  -- 28,875 cu. ft.

-- 2,406 Tons @ \$6.03

BLOCK "F"

LOWER LEVEL average 25' @ \$2.29

BLOCK "F" --  $\frac{1}{2} \times 250 \times 80 \times 25$  -- 250,000 cu. ft.

-- 20,833.3 Tons @ \$2.29



AGITATION CYANIDE TEST ON RAW CONCENTRATES

Test on Size of Mesh

4.7% solution, 24 hours leach, 2 assay tons, 100 c.c. alkaline.

Concentrates assayed before leaching:

Gold	Silver
\$20.60	\$1.34

After leaching the residue assayed as follows:-

No. Mesh	Gold	Silver
40	\$17.20	\$1.31
80	15.70	1.24
120	13.90	1.17
150	12.90	1.13
200	14.40	1.10

Although the 150 mesh gave a better result than the 200 mesh, this was supposed to be erratic inasmuch as formerly 200 mesh always gave better extraction; further tests were made with 200 mesh.

Test on Strength of Solution

200 mesh, 24 hours leach, 2 assay tons, 200 c.c. alkaline.  
Concentrates assayed before leaching:

Gold	Silver
\$21.20	\$1.39

Residues assayed as follows:-

SOLUTION	GOLD	SILVER
.075%	\$16.80	\$1.26
.1%	16.80	1.22
.2%	16.40	1.27
.3%	16.00	1.20
.5%	15.60	1.19
.7%	14.40	1.04
1.0%	12.80	1.12
2.5%	13.60	1.02
5.0%	12.00	1.02

The 5% solution having given the best extraction, this strength was used for further tests.

Test on Duration of Leach

200 mesh, 5% solution, 200c.c., 2 assay tons, Alkaline. Concentrates before leaching assayed:

Gold-- 21.80      Silver \$1.42

Residue assayed after leaching as follows:-

<u>Duration of Leach</u>	<u>Gold</u>	<u>Silver</u>
3 hours	\$11.20	\$1.02
6 hours	12.00	1.16
12 hours	12.80	.88
24 hours	12.80	.68
48 hours	12.00	.78
72 hours	14.40	.64

By using 200 mesh, 5% solution and 3 hours leaching a maximum recovery can be obtained amounting to 48.6%. No test was made on consumption of cyanide.

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AGITATION CYANIDE TEST ON ROASTED CONCENTRATES

Test on Size of Mesh

.4% solution, 24 hours leach, 2 assay tons, 100 c.c. alkaling. Roasted concentrates before leaching assayed:

Gold	Silver
\$28.70	\$1.83

being the same concentrates which were used in the test on raw concentrates. After leaching the residue assayed as follows:-

No. of Mesh	Gold	Silver
40	\$18.80	\$1.48
60	19.20	1.76
80	22.90	1.62
100	16.80	1.62
120	16.30	1.56

Due to easy crushing of roasted concentrates, it was found that all the concentrates which had been passed through the 120 mesh also passed through 200 mesh.

The finest mesh having given the best extraction, further tests were made with the 200 mesh size.

Test on Strength of Solution

200 mesh, 2 assay tons, 200 c.c. 24 hours leach alkaline. Concentrates assayed before leaching.

Gold	Silver
\$30.00	\$1.89

Residue assayed after leach as follows:-

Solution	Gold	Silver
.075%	\$26.80	\$1.99
.1%	18.40	1.53
.2%	14.80	1.49
.3%	12.80	1.48
.5%	10.00	1.43
1.0%	8.00	1.41
2.5%	7.20	1.37
5.0%	6.40	1.34

The 5% solution having given the best extraction, further tests were made with this strength.

Test on Duration of Leach

200 mesh, 5% solution, 2 assay tons, 200 c.c. alkaline. Concentrates assayed before leaching:

Gold	Silver
\$34.00	\$1.88

Residue assayed after leaching as follows:-

Duration of Leach	Gold	Silver
3 hours	\$9.20	\$1.55
6 "	9.60	1.53
12 "	10.80	1.53
24 "	10.80	1.47
48 "	9.40	1.54
72 "	10.80	1.47

Results are somewhat erratic. Under tests on duration of leach a 5% solution gave for 24 hours an extraction of 68.3%, while same strength of solution and duration of leach gave under tests on strength of solution an extraction of 78.7%. The various assays on the various parts of the sample before leaching don't check too well either.

A rough test was made on consumption of cyanide showing the following:

Consumption without washing	8.4 lbs.
Consumption after washing with water	6.4 lbs.
Consumption after washing with water then adding NaOH	7.2 lbs.

Apparently a maximum recovery can be obtained of about 72.9% by roasting, grinding to 200 mesh, 5% solution, 3 hours leach.

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CYANIDE TEST MADE AFTER LEAD STREAK HAD BEEN TAKEN OUT OF CONCENTRATES

A product including as much as possible of the lead streak was cut off from the other concentrates in milling lots 5, 6 and 7. From these lots 10,039 tons of concentrates containing \$207.89 gold and silver were produced, and .459 tons of a high grade product containing the lead streak and \$30.21 in gold and silver. These high grade concentrates were then re-concentrated the result being a galena product assaying 51% lead, \$520.80 gold and \$22.40 in silver.

The sample of the galena concentrates contained some gold pyrites which were screened out and assayed \$740.80 gold and \$14.80 silver; the tailings from this run consisting of concentrates as free as possible from galena assayed \$44.00 gold and \$3.04 silver; the ratio of concentration was thus about 25.4 : 1, giving about 36.1 pounds of lead concentrates containing \$9.80 in gold and silver.

These lead concentrates thus contained approximately 4.1% of the precious metals contained in the whole concentrates; according to previous analysis our concentrates contain about 1/2% of lead. The

concentrates used for this test therefore contained about 100 lbs. of lead; the galena concentrates consisting of 36.1 lbs. assaying 51% lead therefore contained 18.4% indicating a recovery of lead of approximately 18.4%

Inasmuch as with proper tables a much better recovery of lead should be obtained, this test would indicate that by separating the lead product a very high grade shipping product may be made which may contain a fair percentage of the values of our concentrates.

It was thought that after taking out the lead streak the residue might be more amenable to cyaniding and the following two cyanide tests on raw and roasted residue of concentrates were made under such conditions which in previous tests had given the best recovery.

The raw concentrates assayed before leaching:

Gold	Silver
\$17.20	\$0.92

200 mesh, 2 assay tons, 5% solution, 3 hour leach. The residue assayed:-

Gold	Silver
\$12.00	\$0.90

showing an extraction in gold amounting to 30%.

The same concentrates were then roasted, assaying before leaching:

Gold	Silver
\$22.20	\$1.47

200 mesh, 5% solution, 2 assay tons, 200 c.c., 3 hours leach.

The residue assayed :-

Gold	Silver
\$12.00	\$1.08

showing an extraction in gold amounting to 45.9%.

The results of this test were therefore negative, indicating in contradiction of some test which has been made previously that a better extraction in cyaniding cannot be obtained by taking out the lead streak.

#### CHLORINATION TEST ON CONCENTRATION

Intended to indicate possibilities of barrel chlorination.

Used to 100 grammes of ore, 70 c.c. of water, 2½ grammes calcium chloride, 5 c.c. sulphuric acid. Agitated for three hours in a tight jar.

Roasted concentrates assayed before chlorination:

Gold	Silver
\$34.00	\$1.88

Residue assayed:-

Gold	Silver
\$9.40	\$1.79

showing an extraction of 72.4% in gold.

This report must be properly executed and filed with the Corporation Commissioner on or before July 1, 1930, in order to entitle a corporation mining for any of the precious metals, coal, or prospecting or operating for oil, or operating an oil well, to pay a license fee of only \$10. If not so filed, such corporation must pay the same license fees as are required to be paid by other corporations for gain.—Section 6890, Oregon Laws.

# Annual Report to the Corporation Department

FOR THE YEAR ENDING JUNE 30, ~~1930~~ 1937

Of DIXIE MEADOWS INDEPENDENCE MINES CO.  
(Give legal name in full)

a corporation organized and existing under and pursuant to the laws of the State of Oregon.

The location of its principal office is at No. \_\_\_\_\_ Street,  
in the city of Prairie City, in the state of Oregon

The names and addresses of principal officers, with the postoffice address of each, are as follows:

NAMES	OFFICE	BUSINESS ADDRESS
A. D. Coulter	President	1208 - 1411 4th Ave. Bldg. (Seattle?)
E. C. Kilbourne	Secretary	Seattle, Wn.
do	Treasurer	do

The date of the annual election of officers is 1st Monday in January

The date of the annual election of directors is do

	Common With Par Value	Common No Par Value	Preferred
Amount of authorized capital stock . . . . .	\$ 600,000.00	Shares	\$
Number of shares of authorized capital stock . . . . .	600,000		
Par value of each share . . . . .	\$ 1.00	XXXXXX	\$
Amount of capital stock subscribed . . . . .	\$ 600,000.00	Shares	\$
Amount of capital stock issued . . . . .	\$ 420,000.00	Shares	\$
Amount of capital stock paid up . . . . .	\$ 420,000.00	Shares	\$
Price at which no par value stock issued . . . . .	XXXXXX	\$	XXXXXX

State amount of capital, represented by stock of no par value, with which  
the corporation began business . . . . . \$ nil

Total amount of its properties in Oregon (name of claims, lodes, or placers) \_\_\_\_\_  
10 patented claims and one unpatented claim

The location of its properties Grant County, Oregon

The amount of work done thereon and improvements made thereon since the time of filing  
last report \_\_\_\_\_

The amount of output or products of the mines or wells of such corporation from January 1,  
~~1935~~ <sup>1936</sup> to December 31, ~~1935~~ <sup>1936</sup>, inclusive, nil

The value of output or products of the mines or wells of such corporation from January 1,  
~~1935~~ <sup>1936</sup> to December 31, ~~1935~~ <sup>1936</sup>, \$ nil

IN WITNESS WHEREOF, I, A. D. Coulter, President

of said corporation, have signed this report, this

[CORPORATE SEAL]

14th day of June, A. D. 1937

(signed) A. D. Coulter

STATE OF OREGON,

County of \_\_\_\_\_

} ss.

# DIXIE MEADOWS MINE

QUARTZBURG  
DISTRICT  
GOLD-QTZ.  
VEINS

*Dixie Meadows Mine.*—Three miles north of the properties just mentioned upon the headwaters of Ruby creek, which flows northward into the Middle fork of the John Day river, is the Dixie Meadows mine. This mine has been quite extensively developed and has a small mill upon the ground. The vein is a large one, much of it decomposed country rock containing considerable gold-bearing pyrite and arsenopyrite.

The ore body, although a large one, is quite spotted and its soft condition makes difficult the extraction of the higher grade bunches. These higher grade bunches are much less in evidence in the lower levels. There is difficulty in concentrating this ore, at least with the present equipment, so as to have much margin above transportation and treatment charges. If the entire body of ore could be treated cheaply upon the ground perhaps this property could be successfully worked. Leasers during the winter of 1913-14 extracted and milled some of the higher grade ore, but ceased operations about the middle of the year.

R C Reese - Prairie City

Kleinmudt - Oplis (Equity group)

Kleever boys

June 12, 1934

Examination: With J. B. Eldridge of Boise, Idaho. Eldridge holds option on the mine from the owner, Geo. H. Kight of Prairie City.

Conclusion: That this looks like a mighty good mining property on the basis of data given on available maps, and from all information I can obtain, that it is a property containing an important lens of base ore all blocked out, and running of the order of \$13. new price of gold, and that the tonnage now indicated, of the order of 160 to 175 thousand may be increased by check sampling, and later by diamond drilling the downward projection of the ore body. Terms are not prohibitive.

Action Taken: Asked option holder for right of refusal, which I did not get in writing, but have his promise that he will do nothing with the property for the time, while we have a chance to make a decision. I asked for at least 2 or 3 weeks to go into the economics of the mine operation. Succeeded in getting a statement from the owner and his wife, that they would be willing to spread payments over a longer period than the 3 years called for in option. Left both Eldridge and Kight with the statement that we might, after making our estimates, have to ask them to ease their terms, and have a feeling that they will be reasonable. Believe we will be able to get an arrangement (discussed with the owner) whereby he would receive minimum royalties, after June 1, 1935, of between \$10,000. and \$15,000. per year (and regular royalties to apply on purchase), instead of the two yearly payments of \$32,500. called for in option.

Title: Now in Geo. H. Kight and wife on order of the Court after default on the part of former holders - A. D. Coulter interests.

History: Refer to excerpt from U. S. G. S. Bulletin #846-A, by James Gilluly, and others, dated 1933. This covers both history and geology, so I will make only remarks covering my own observations.

The history of the mine is essentially that of the mill: First they put in two sets of Sturdevant Centrifugal rolls, which worked not at all; then a Huntington mill, which worked but little better; then they put in a stamp mill, which it seems, recovered about 25% of the gold.

J. Nelson Nevius, working in a consulting capacity for the company in 1911, we understand, made a formal report on the mine. We did not have a copy of his report, but we have a copy of his map and assays and tonnage estimates. From this data we have prepared plan maps, cross-sections, and a longitudinal section, the latter carrying all the assays. We do not have plan maps with assays shown thereon, so the cross-sections may not show the ore exactly in its proper location on the levels, but the ore thicknesses should be right on the several levels, and the ore outlines essentially correct.

In 1917, George Jamme, E. M., made a check report on Nevius' work and we have a copy of Jamme's report. Jamme's report is entirely confirmatory.

The various levels of the mine were open until a few years ago, when the Coulter interest stopped keeping up assessment work, and did nothing further with the property. Now, only the lowest adit, the Ruby level is accessible, although it would be no great job to reopen enough of the upper workings so that a complete re-check of sampling could be done. This work seem to me to be eminently justified.

Observations: The property is located at an elevation of 5000 feet, about 12 miles north of Prairie City, on an ordinary mountain road. It contains a thick lens - mineralized zone - of base ore in siliceous gangue. Apparently it is an ordinary flotation proposition. The orebody dips at about 60° to the southeast, strikes

about N35 E and has a rake or pitch to the east of about 30° to 50°. The foot and hanging walls, judging by cross-cuts in the Ruby level, are both very definite, and are marked by well-defined heavy clay gouges. The country rock on both sides is hard and should stand well for stoping. The ore itself is perhaps 1/5 or 1/4 quartz, the remainder recrystallized and siliceous, and carries much disseminated pyrite and other sulphides. The U. S. G. S. bulletin mentions that both pyrrhotite and tourmaline, also metamorphic biotite, are present, but I failed to identify any of these in the ruby tunnel. My examination was cursory, and these minerals are probably present. The inference of course, is that the origin of the mineralizing solutions is deep seated and that the deposition of the gold values is probably by thermal, ascending waters. This condition, if true, would augur toward the probability of the values going to great depth, although, of course, the distribution of the values in ore shoots may be such as to preclude profitable mining beyond reasonable projections of the present ore-body.

The main drawback of the mine, is that there is insufficient water for milling at the mine. It would be necessary to build a tram about two miles long and locate the mill on a large stream, which, it is said, would also furnish considerable water power. There appears to be enough timber along the course of the tram, to build it from trees cut to clear the way.

I have no reason to doubt the assays given in the accompanying longitudinal section, yet, the workings are now inaccessible. In my opinion, the chances of being able to increase the tonnage previously estimated on account of the present price of gold, and also on account of possibly being able to lower the value-limit of "merchandise ore" on account of present day milling costs and recovery, easily justify the expenditure of doing some reopening in the upper levels for the purpose of check sampling.

Doubtless some of the drifts are caved in places and the caves would have to be caught up and the sluff mucked and trammed out. We think that a complete job of reopening sufficient to do a thorough job of resampling, would cost from \$3,000. to \$5,000., but it would be possible to open the Upper Level adit, get into the old workings and probably down some of the raises, and do enough sampling so that we would know whether the larger job of sampling would be justified.

It is impossible to merely look at the ore and estimate its value, in fact the ore boundaries are assay-contacts. I noted the great thickness of the mineralized zone in the Ruby level - which is not indicated as being in the orebody. The inside 300 or 400 feet of the Ruby level was driven since any report was made, which accounts for there being no assays. I am inclined to think that the main orebody carries right down to the Ruby level, but the latter is meagerly explored by cross-cuts and the true conditions are not known. I suspect that the ore conditions in the Ruby level are less favorable than on the levels above, however, I am willing to prophesy that it will be found advisable to do some diamond drilling to explore the downward continuation of the great ore shoot shown on the longitudinal section.

Plan Suggested: If you agree that this is a property worthy of further attention, and I recommend that it is, I suggest that you notify the man holding the option (or authorize me to do it) that you are prepared to go ahead with the examination and check-sampling, (1) he will give you a 6-months option on the property; provided (2) he and the owners will allow you to apply all shifts of labor done prior to September 1st against the required shifts after that date (I have discussed this with Eldridge and the owners, and feel certain they will agree to this); provided (3) payments of 10% royalty shall apply to the purchase price to the owner, that the minimum royalty after June 1st, 1935, (we can't change the \$10,000 payment called for on this date) shall be not more than \$15,000 yearly (instead of the two payments of \$32,500. I called their attention to income tax losses on



3 - Dixie Meadows Mine

such payments, and feel that they will spread out these payments over 4 or 5 years. They intimated that they would do this), and provided (4) the promoter, Mr. Eldridge will take his commission - of \$25,000. in royalty at the rate of 2½%, payments to start when production starts. I think Eldridge will do this, although I do not think he will come down in his total figure. However, I told both Eldridge and Kight that both of them were high in their terms, and might have to come down. Eldridge is an old timer, knows what it is all about, and knows pretty well what the mine is worth. He is chairman of the executive board of the Idaho Mining Association - has been for many years, and is in close touch with mining properties. He is also a mighty fine fellow.

I should first take a few days and sample the cross-cuts in the Ruby level where the ore is accessible. I am not sure that the mineralized zone here is of interesting grade. There are no assays. I took one sample of what looked like good material to me.

Then I would take 3 or 4 men and open up the portal of the Upper Level adit. I think this would take about a week or ten days. This done, I think we could do something in the way of sampling of the ore in a few cross-cuts on this Upper level. This preliminary work would cost probably \$250 or \$300 and should give us some line on further work. This much, I think is justified. Conditions are sufficiently uncertain, that I might have to ask for more money, however, before being able to give you a sane idea of Nevius' assay work.

I can't think that this assay map is a hoax, but of course, stranger things have happened. This preliminary work will give us an idea.

It is my impression that we have here, assuming Nevius' assays are okay, a property which may make a very profitable operation over a period of years. It looks very good to me.

October 11, 1934

Beginning at W. end of Dixie Meadows group of claims:- Found trenches about 100' long on a So. slope near west end Gladys claim. Trenches were shallow and 4'-6'± deep and dump shows some hematite gossan. Country rock apparently argillite.

Main working on Gladys is old shaft 50' deep--now caved to within about 12'-14' of collar. Exposes blue-grey cherty argillite with some sulfide oxidation. Kight claims pit had vein 7'-8' thick averaging \$2.00-\$3.00 (old price). Vein consisted of 2'-4' of quartzose hard rock on foot, and remainder of mineralized argillite. Panned well. Find resillified, pyritiferous cherty argillite in dump, which probably was vein.

Sample #491--grab sample of partly oxidized gossan from trench "n. end of Gladys (from dump). \$70

Crosscut tunnel on Kyuse claim near SW corner, 200' long showing considerable heavily mineralized quartzose material on dump. Mouth of tunnel somewhat caved and water backed up. Claimed 4 foot vein of \$4.00 (old price) material. Country rock on dump is a black schistose, fine-grained rock which could be either basalt or argillite.

Sample #492--Kyuse claim--mineralized vein material composite of dump. \$7.00

Sample #496--Independence claim--sample of dump--Au. .14 \$4.90

November 11, 1934

In inside crosscut SE in Ruby level--Kight and Frindle cut 4 samples in S. rib. Drilled pops and cut a channel about one foot deep. Samples ran from 800 to 900 pounds each. Samples were brought to portal, placed on board platforms and quartered down to about 250-300 pounds each.

In the drift samples were blasted down on plank floors.

Samples are numbered from x-cut to face, 1, 2, 3, and 4. #1, 2, and 3 are each 10 foot samples; #4 is 7½ feet.

#1 - First 10' = #503  
#2 - 2nd 10' = #504  
#3 - 3rd 10' = #505  
#4 - next 7½' = #506

Au. <u>.36</u>	Ag. <u>.24</u>
Au. <u>.10</u>	Ag. <u>.22</u>
Au. <u>.11</u>	Ag. <u>.88</u>
Au. <u>.01</u>	Ag. <u>2.82</u>
(face sample)	

SAMPLES

	<u>Baker</u>		<u>Dairy Farm</u>		
	<u>Al.</u>	<u>Ag.</u>	<u>Al.</u>	<u>Recheck</u>	
#496	4.90	.14	5.95		
#497	Tr.	Tr.	.70		
#498	Tr.	.32	1.05		
#499	Tr.	None	.70	.70	(3)
#500	.35	None	1.05		
#501	Tr.	None	.35		
#502			2.45	2.45	
#503	12.60	.24	.52	.52	(1)
#504	3.50	.22	2.10	2.10	
#505	3.85	.88	4.20	4.20	(2)
#506	.35	2.82	1.20		

Kight's  
14'

(1) and (2) = Samples out from 150# samples.

(3) = Extra bag of dump sample taken by Lake.

The following to accompany letter of July 5, 1934, to Gold Operators, Inc.:

Claimed that bearing of crop of vein for long distance according to survey is N 22 E.

The only locality in Ruby Level looking like mill grade ore is against hanging wall in inside crosscut = part of sample #458.

Where main drift from portal first cuts vein it has a thickness of about 20' and is poorly mineralized except a little on footwall. Here, on foot, the contact shows a little clay gouge and apparently is a fault. Major structure may be as follows: Looking SW.

DIXIE MEADOWS

Projected Costs as Compiled by E. K. Nixon

100 ton Mill	\$130,000
Diesel plant 250 HP	22,500
Exploration	20,000
Reopening	7,500
Sampling & Preliminary	2,500
Tramway	25,000
Roads	7,500
Compressor, drill sharpener, shop tools, machine shop equipment	15,000
Warehouse supplies	8,000
Assay outfit	3,000
Fire Protection	3,000
Power line & trans. sta.	5,000
Rails, ties, air lines, etc. underground equipment	800
Surface buildings, office, warehouse, shops, change house, boarding house, etc.	<u>20,000</u>
Total	\$269,800