

W.A. No.

NAME WOOLSEY (STANKITE, REGAL SILVER, SUBFLAKE)

SUBJECT REPORTS

82-1003-07
PROPERTY FILE

005124

COPY

82N/4W

82N-3

F.W. Guernsey,
736 Granville Street,
Vancouver, B.C.

November 30, 1930.

A.S. MacCulloch, Esq.,
Regal Silver Mines Limited,
Standard Bank Bldg.,
Vancouver, B.C.

Dear Sir:-

Regarding the ore available in the working of the
Regal Mines Limited.

My opinion is that there has been enough work done
to warrant the erection of a mill for the treatment of such
ore. Sufficient openings have been made so that a production
of one hundred tons per day can be maintained for a number
of years.

I am also of the opinion that the values as shown on
No. 3 and No. 2 levels are of a grade so that the treatment will
show a profit, even at the present prices of metals, and
great consideration should be given to the fact that if the
construction of a mill is started in the near future, at the
time such mill is completed and ready for operation, the
quotations for metals will be higher than at present, with
a consequent increase in profits.

Yours truly,

"F.W. Guernsey."

PROPERTY FILE

REGAL SILVER MINES LIMITED
19 MINERAL CLAIMS

-LOCATION-

British Columbia, Revelstoke Mining Division, nine miles from Albert Canyon Station on the Canadian Pacific Railway, and eight miles from Silver Creek Siding, from which point a good trail, wide enough to permit the use of carts or sleighs, leads to the lower camp.

The property extends from the West slope of the East Fork of Silver Creek, across the intervening ridge to the North Fork of the Illecillawet River. Map No. 1.

Deposits The area of the property upon which the greater portion of the work has been done is underlain by black carbonaceous slates with minor beds of black quartzite. These rocks are classed as belonging to the Selkirk series of the Pre-Cambrian Era, and the lode deposits are believed to have been formed by solutions which came from the Magma of the granitic intrusions, possibly the granite which is exposed on the trail between the Railway and the property.

The lode deposits are represented by a series of quartz veins the outcrop of which appear on the wet slope of the East Fork of Silver Creek.

Surface prospecting has shown that several of these Veins carry amounts of silver, lead and zinc as sulphides, in the form of galena and sphalerite, and underground work on the adjoining property - the Snowflake - led to the discovery of tin in the form of stannite.

Refer to Map No. 1.

The underground work undertaken has been for the purpose of furthering prospecting and exploring the lodes, and consists of a main crosscut - No. 3 - with drifts on No. 5 and No. 6 veins. A Raise on No. 5 vein to the intermediate level and a raise on No. 6 vein, Drifting on No. 5 vein.

Description On the "May" claim on the West slope of the Creek at an elevation of 4455 feet above sea level, a crosscut tunnel - No. 3 was started to cut the downward extension of the known outcrops.

Refer to Map No. 2.

At two hundred and seventy-two feet from the portal a vein designated as No. 2 - was encountered, and as it did not show any values no work was done on it.

At eight hundred feet from the portal a number of stringers of quartz were cut not showing any values and this group of stringers has been called the No. 3 vein.

At eight hundred and sixty feet No. 4 vein was cut. Samples from here only gave low values.

At a point nine hundred and forty feet from the portal No. 5 vein was reached. A section along the crosscut shows five feet of quartz called the upper No. 5 vein, then a slate parting of 3 feet, and then seven feet of quartz called the lower No. 5 vein.

A drift was started to the West -No. 5 West- and continued on the footwall side for a distance of one hundred feet, where a crosscut raise was driven to the North, showing a total width of vein of twelve feet. At this point a raise - Raise "A" - was started up the dip. The drift was continued on in the footwall and at a point of hundred and fifty feet from the main crosscut a raise to the North exposes a width of five feet of vein.

At the two hundred foot point another crosscut was driven North showing a thickness of vein of one foot. Farther on bunches of pyrite are shown on the left side of the drift but very little galena mineralization is apparent.

The drift was continued on for fifty feet, and the face only shows a four inch streak of quartz. A crosscut was driven North with the hope of cutting No. 4 vein and a diamond drill hole run further North but nothing of importance was exposed.

From the main crosscut a drift was turned East - No. 5 East and driven on the vein, the walls not being shown. At the fifteen foot point a short crosscut was driven South, but the footwall of the vein was not reached. Here the vein shows pyrite disseminated throughout the quartz and sparse galena.

The sampling shows that for a distance of one hundred and fifty feet West of the main crosscut this vein has an average width of six feet and an average content of Silver 7.6 oz; Lead 6.6%; Zinc 2.6% and Tin a trace. Beyond this point the vein narrows and splits, the assay values being low, until the face only a four inch streak is shown, with no values.

East of the crosscut for ninety feet the average width is seven and one half feet, and the content, Silver 5.2 oz; Lead 5.3%; Zinc 0.5%; Tin 0.2%. Where the fissure fault is reached the quartz narrows the values are low, and at the face the width of vein is only two feet.

Raise "A", driven up the dip for a distance of two hundred and eight feet, shows width of vein varying from six feet to one foot. At the point one hundred and eight feet up a station was cut and the intermediate level started.

The sampling in the raise shows a low metal content. The average being Silver 1.5 oz; Lead 1%; Zinc a trace; tin trace. The highest result was Silver 5.02 oz; Lead 1.5%; Zinc 0.45%; Tin 0.43%.

The raise has been driven on the footwall of the lower No. 5 vein, and this may account for the low results of the sampling.

No. 6 vein is cut by the main crosscut about eleven hundred and forty feet from the portal, and two hundred feet beyond No. 5 vein. A section along the crosscut shows eight feet of vein laminated quartz

slate. Drifts were turned East and West running on the foot side of the vein.

To the West at forty feet, the drift - No. 6 West - cuts the fault shown in No. 5 East. Here also quartz fills the fault fissure. The drift was continued on for seventy-five feet in the slates, then turned to the left to crosscut the extension of the vein thrown by the fault fissure. The throw here is about seventy-five feet. The drift at first shows only a small seam of quartz which later widens, but, does not contain values. At a point two hundred and fifty feet from the crosscut bad ground is encountered with no values showing. The drift continues for one hundred and sixty feet further in broken up ground, and the face only shows seams of barren quartz.

East of the main crosscut the drift is driven on the footwall side of the vein. At a point thirty feet from the crosscut a raise, Raise "B" - was started. At seventy feet a crosscut - No. 1 North shows ten feet of vein. The drift continues on, and at one hundred and fifteen feet crosscut No. 2 North shows five feet of vein. At a point two hundred feet from the main crosscut, crosscut No. 3 North shows eight feet of vein rather banded with heavy pyrites on the hanging. At three hundred feet crosscut No. 4 North, exposes ten feet of vein, and at four hundred feet crosscut No. 5 North shows ten feet of vein rather good looking. One Hundred feet further on Crosscut No. 6 shows eight feet of vein. The vein apparently narrows here, and where exposed in the face five hundred and sixty feet from the main crosscut three and one half feet of quartz with a slate parting is shown.

An analysis of the sampling of No. 6 vein shows the following: Eight feet of vein where the drift - No. 6 West - turns off gives low values. The drift is in the footwall up to the fault fissure, and the vein cannot be sampled. Beyond the fault fissure the vein is represented by small seams with the exception of at one point where a small crosscut shows a lens of quartz with only low values.

East of the crosscut - drift No. 6 East - the average width as shown by crosscutting is eight feet. The values are, however low, the average being about Silver 3.0 oz., Lead 1.5%, Zinc 0.9%, Tin 0.5%. At one point about four hundred and eight feet from the crosscut two samples gave: Tin 2.9% but generally speaking the tin values are low. From a point four hundred and forty feet from the crosscut to the end of the drift - one hundred and twenty feet the metallic contents are somewhat higher, the average being: Silver 5.2 oz, Lead 4.1%, Zinc 1.2%, Tin 0.4%.

Raise "B" was driven up the dip from No. 6 East for a distance of two hundred feet. The width of vein shown averages four and one half feet, and the face carries pyrite and galena in fair amount.

The average of all assays gives; Silver 2.4 oz. Lead 2.7%, Zinc 1.5%, Tin 0.5% for a width of 4.5 feet.

At a point one hundred and fifteen feet above the level a value of Silver 8.4 oz., Lead 3.2% is shown and at one hundred and ninety feet above the level a value of Silver 7.7 oz., Lead 11.1% is given. The general average is, however, low.

On the intermediate level one hundred and seven feet above No. 5 Level, the drift to the West of the Raise "A" has not disclosed any commercial ore. The vein is not particularly well defined, being a series of short lenses and narrow seams of quartz. At the face of the West drift five hundred and forty feet from the raise, there is a ten inch seam of quartz.

On the intermediate level the ground is more or less disturbed in this area to the West and there is no inducement to do any further work here.

East of the - raise, the drift, shows the vein to have a width of from two to three feet, with low values. At a distance of about 80 feet from the raise the vein pinches and disappears into the hanging. On the assumption that the drift was on the lower vein, a crosscut was driven North without disclosing anything. At about 80 feet the drift turns slightly to the North, and at a point 260 feet from the raise another crosscut was driven north without any result. The drift continued and at about the 380 foot point a small seam was encountered. This is rather well mineralized, but only has a maximum width of 10 inches. The drift continues until the face is reached about 540 feet from the raise.

The vein of this level does not show the widths one would expect from what is shown below, and it is a question whether the work has been done on the main vein. Crosscuts have failed to find it to the North, and it may be that this horizon is in a narrow portion of the vein. However, from an examination of the drift, and the map, it looks as if the work had been done in the hanging, and there is a possibility that a crosscut south about the 150 foot point would locate the lost vein. This work, however, is not recommended at the present.

At an elevation of 4958 feet above sea-level, on the "Helena" claim No. 2 tunnel was started in the footwall of a prominent outcrop of quartz, presumably of No. 5 vein.

At a distance of 75 feet a crosscut - No. 1 North was driven showing a width of vein of 15 feet. At 115 feet crosscut No. 2 North was driven, exposing 15 feet of vein. At this point a crosscut - No. 1 South - was driven 40 feet, cutting a parallel vein $1\frac{1}{2}$ to 4 feet in width.

The main drift continues on, and at 175 feet crosscut No. 3 North was driven, exposing 18 feet of vein. At about the 250 feet point the drift cuts the vein, and at the 275 feet a small stope was started. In this stope is exposed on the hanging wall of the vein about 2 feet of quartz heavily mineralized with galena, a sample of which assayed: Silver 40.0 oz., Lead 40.0%, Zinc 4.5%, Tin 1.3%. The balance of the vein, 13 feet, being quartz with a scattered pyrite, and a little galena.

At 330 feet from the portal, a raise, Raise "C" was started, and at the 350 foot Point a pre-mineral fault is cut, which evidently has had an influence on the fissure, as beyond this a considerable roll is noticeable, and the vein narrows to a mere seam.

The exploration on this level has been continued on for 740 feet,

and three crosscuts made. What quartz is exposed is in the form of narrow seams and short lenses and the sampling shows only low values. The country has been much disturbed with evidence of minor faulting, and the opinion is that the numerous small fissures tend to diffuse what mineralization there may have been over too great a territory, so that the chances are poor of finding a concentration of values which might be called economic.

An analysis of the sampling shows that for a distance of 350 feet, the average of all samples are: Silver 5.0 oz., Lead 5.0%, Zinc 1.2%, Tin 0.1%.

No. 1, No. 2 and No. 3 crosscuts North, show the vein to have an average width of 16 feet and channel samples cut across these average: Silver 5.0 oz., Lead 4.2%, Zinc 1.5%, Tin a trace.

From a point 230 feet from the portal to where the vein is deflected by the fault fissure a distance of 120 feet, the average width of sample is $5\frac{3}{4}$ feet, with Silver 5.7 oz., Lead 5.8%, Zinc 1.4%, Tin 0.1%.

The average of the 15 feet of the vein at the stope is about: Silver 8.0 oz., Lead 7.0%, Zinc 1.6%, Tin 0.3%.

$110-30=40/130$ $105-80=25=2-$ $24-9=15$ $4.8-1.6=3.2=0.17$
Wherever the vein has been crosscut the upper portion appears to carry more mineral than the lower portion, although the samples taken on the upper 6 feet do not show any material increase in the value.

The parallel vein cut by crosscut No. 1 South was drifted on for a distance of 150 feet, exposing a width of from $1\frac{1}{2}$ to 4 feet. At several points a quantity of pyrite is shown with scattered galena, and a sample of 3 feet at the face assayed: Silver 5.7 oz., Lead 8.4%, Zinc 3.1%, Tin a trace.

The Raise "C" now up 132 feet, is driven on the foot side of the vein. It has quartz in the back all the way, and shows the lower portion of the vein to be sparsely mineralized with pyrite and some galena.

The average of all the assays here shows: Silver 5.0 oz., Lead 4.2%, Zinc 1.0%, Tin 0.14%.

From a point 25 feet above the level to a point 88 feet, the values are somewhat better, averaging: Silver 7.5 oz., Lead 6.9%, Zinc 1.1%, Tin 0.2%.

Above the portal of No. 2 tunnel an open cut has been made, exposing the hanging of the vein. Here a 12 inch streak heavily mineralized with galena is shown. A shipment of sorted ore was made from this open cut.

On the "Alice" claim, at an elevation of 5,248 feet above sea-level, No. 1 tunnel was driven. The outcrop here shows 10 feet of quartz with slate parting. The original prospecting drift was driven on a small seam on the hanging of the main vein. This was

continued for eighty-five feet, the face showing a 10 inch seam with sparse mineralization.

At a point 60 feet from the portal a crosscut was started, and the main vein cut diagonally. The hanging of this carried the major portion of the mineralization. The foot side being only sparsely mineralized. Drifting was continued practically in the footwall for a distance of 45 feet, where a turn to the right was made again crosscutting the vein. A sample cut in the first crosscut covering 6 feet of the hanging side of the vein gave: Silver 2.6 oz., Lead 3.0%, Zinc 2.3%, Tin a trace.

Farther up the hill, at an elevation of 5,610 feet, there is an outcrop showing galena. This is definitely a continuation of the "Snowflake" vein No. 1, on the "Alice" ground, and presumably an outcrop of the lower No. 5 vein of the "Regal."

Drifting from the "Snowflake" workings started 14 feet east of the "Snowflake" raise to the East for a distance of 272 feet. Crosscut No. 1 East was started 70 feet from the raise, and driven to the North for 49 feet, cutting a vein between 2 and 3 feet in width. Crosscut No. 2 East was started 256 feet from the raise, and driven 39 feet to the North, cutting a vein 9 feet in width.

The drift shows the vein to vary from $1\frac{1}{2}$ feet to $3\frac{1}{2}$ feet in width, with low values the greater part of the way; the average content being: Silver 3.0 oz., Lead 0.4%, Zinc 1.5%, Tin 0.5%.

From the start of the work up to a point of 74 feet from the raise - 60 feet - the average content was: Silver 8.0 oz., Lead 0.5%, Zinc 1.5%, Tin 1.3%. Stannite was noticed about 50 feet from the raise, and at a point 220 feet from the raise, a sample of an 8-inch streak here gave: Silver 6.90 oz., Lead 0.3%, Tin 1.4%.

Crosscut No. 2 East cut this vein where it was 9 feet wide, a section from foot to hanging being $4\frac{1}{2}$ feet of quartz banded with 2 narrow partings of slate, and with seams of galena on the foot and hanging, and galena disseminated throughout the centre band of quartz, and $4\frac{1}{2}$ feet of mixed quartz and slate with practically no mineral.

Samples from where the crosscuts cut the vein gave: Footside 4.5 feet, Silver 5.3 oz., Lead 5.9%, Zinc 2.2%, Tin 0.12%.

Hanging side 4.5 feet, Silver 0.8 oz., Lead 0.8%, Zinc 1.2%, Tin 0.1%.

Drifting is being proceeded with on this vein to the East and a sample of the face assayed: 4.5 feet, Silver 7.4 oz., Lead 8.8%, Zinc 3.4%, Tin 0.2%.

Stannite has not been recognized in any samples from this vein, the presence of tin being shown by analysis. The face of the drift, with the seams of galena, has a very favourable appearance, resembling faces exposed while the raise was being driven, on the "Snowflake" vein.

It is estimated that by driving 350 feet on this vein the surface will be reached at a point below the outcrop mentioned on the "Alice" ground.

GENERAL REVIEW

From the foregoing it will be noted that on No. 3 level there has been developed in No. 5 vein a shoot 240 feet in length, which will average $6\frac{1}{2}$ feet in width, and in contents: Silver 6.7 oz., Lead 6.1%, Zinc 1.8%, Tin 0.5%.

With Silver at 34¢ per ounce, the Montreal price of lead at 5.3¢ per lb., zinc at 5¢ per lb. and tin at 30¢ per lb. the gross value of this will be \$10.83 per ton.

(Here it may be as well to point out that the losses in treatment and deductions in prices will reduce this to about \$6.50 per ton, and in comparison, if silver was 50¢ per ounce, lead 6¢ per lb., zinc 6¢ per lb., and tin 40¢ per lb. the gross value would be \$13.23 and after losses and deductions the value would be around \$9.00 per ton).

While the development in Raise "A" and on the intermediate level does not give any data to allow an estimate of even possible tonnage, it is the opinion that quite a respectable tonnage will be developed, which will return a profit on treatment.

The work on No. 6 vein has exposed a shoot 525 feet in length, with an average width of 8 feet, and a content of Silver 3.0 oz., Lead 1.5%, Zinc 0.9%, Tin 0.5% a gross value of \$6.50 per ton.

Taking into account the rather higher values in the raise "B" the average is increased to \$6.90 per ton. Losses and deductions will reduce this to \$4.25, which would not be profitable to work except at a period of higher prices of metals.

On the No. 2 level, there is a shoot 350 feet long, with an average width of 15 feet and content of Silver 5.0 oz., Lead 5.0%, Zinc 1.2%, Tin 0.1%. This gives a gross value of \$8.80 per ton. Losses and deductions would reduce this to \$5.50 per ton.

Raise "C" has shown this shoot to continue upwards and the great width of vein would indicate a very substantial tonnage available for treatment.

While the results of the sampling in No. 1 tunnel are low there has not been enough work to determine either the width or contents of the vein. There is no reason to doubt however that the shoot exposed in No. 2 will be found on the No. 1 level.

As mentioned, all the development to the West on each level shows a very much disturbed area. This has also been the experience in the "Snowflake" ground where the drift to the West encountered ground very much disturbed and twisted, and hard to hold. On the surface it is considered this area is indicated by a loose slaty formation shown on the ridge between the two properties, and by the path of a slide which passes near the "Snowflake" camp. The continuation of this on the Northeast side of the ridge is shown crossing the Northerly portion of the "Alice", the "Helena" and the "May" claims.

From surface observation it is deduced that this disturbed belt is from 200 to 300 feet wide, and it is considered that no further underground work should be contemplated at present in the Western area.

The development has shown that the favourable area lies within 500 feet of the surface of the hillside.

The elevation of No. 2 tunnel being about 850 feet below the "Snowflake" workings and approximately halfway between the No. 3 level of the "Regal" and "Snowflake" is the logical point to base further work on. More development should be done on No. 1 level, and the work of drifting on the vein from the "Snowflake" workings continued.

Further work on No. 3 level and the search for No. 5 vein on the above the intermediate level may be deferred, as the development above No. 2 level will make a tonnage available, which will be sufficient to supply a mill of one hundred tons capacity for a number of years.

"F.W. Guernsey."

C O P Y

82N/4W
82N-3,4

DIAMOND DRILLING AND SAMPLING AT REGAL
SILVER AND SNOWFLAKE PROPERTIES NEAR
ALBERT CANYON, BRITISH COLUMBIA.

by

C. S. LORD
GEOLOGICAL SURVEY

OTTAWA, CANADA,
FEBRUARY 26, 1943.

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ILLUSTRATIONS

- Figure 1. Snowflake and Regal Silver Mines, Albert Canyon, B.C., (Plan of workings).
- Figure 2. Plan of 5 level, Regal Silver Mine. (Shows diamond drill holes and channel samples on 5 level).
- Figure 3. Assays from drill holes from 5 level, Regal Silver mine.
- Figure 4. Assay plan, part of Snowflake level, Snowflake - Regal Silver mines. (Assay results from channel samples cut in vicinity of tin shoot for mill test).
- Figure 5. Possible drill holes from surface to explore downward extension of Snowflake-level tin shoot.

Logs of diamond drill holes Nos. 1 to 8 (inclusive), with analyses, accompany this report.

INTRODUCTION

This report describes diamond drilling and sampling done at Regal Silver and Snowflake properties, British Columbia, under instructions received from the Director, Mines and Geology Branch, Dept. of Mines and Resources, Ottawa. The object of the work was to obtain further data on the tin content of the quartz veins on Snowflake level and 5 level. The writer did not attempt to make a complete geological examination of the property.

Regal Silver mine is about 6 miles north of Albert Canyon, which is on the main line of the Canadian Pacific Railway about 21 miles east of Revelstoke. Silver Creek siding is on the railway about 2 miles west of Albert Canyon and a tractor road, 7 miles long, connects the siding and the mine camp. The Snowflake property adjoins the Regal Silver on the west. No work was being done at either property when visited by the writer. Slopes near the workings average about 26 degrees. Snowslides are said to be common during the winter and spring. Silver Creek siding, Regal Silver camp, and Snowflake camp are about 2,200 feet, 4,455 feet, and 5,545 feet respectively, above sea level.

Both properties are underlain by black graphitic siliceous slates that strike about northwest and dip 30 to 60 degrees northeast. They are of Precambrian age. Insofar as known no igneous rocks occur in the vicinity of the workings. A series of quartz veins lie parallel or nearly parallel to the slate beds. In places these veins contain abundant pyrite. Other minerals noted or reported include

galena, sphalerite, stannite, scheelite, wolframite, fluorite, chalcopyrite, and cassiterite. The principal known occurrence of stannite is in the drift on Snowflake level/southeast of the main cross-cut, and in the raise therefrom. This occurrence lies partly on Snowflake property and partly on Regal Silver property. The veins have been explored by five adits between elevations of 4,455 feet and 5,248 feet on the Regal Silver property, and by two adits at elevations of 5,545 feet and 5,685 feet on Snowflake property. A little scheelite concentrate is reported to have been recovered with an underground mill on the Regal property.

On October 22, 1942, the writer received word from the Director, to carry out the following instructions:

1. "The purpose of the diamond drilling is to determine if on the level of No. 5 adit, Regal Silver ground, there exists one or more veins additional to and parallel with (No. 5) and (No. 5-A) veins and, if such veins do exist to secure samples from them in order to be able to form some idea of their tin content."

2. "---sampling is to be done on the ---Snowflake level and along the raise from this level---in the tin bearing parts of the vein or veins---in order that representative material may be available for a mill test."

Diamond drilling was started on November 8, and all drilling and sampling was completed by December 1, 1942. Operations on 5 level (See Figures 2 and 3) comprised: 1,061 feet of diamond drilling, collecting 66 core and sludge samples, and cutting 43 channel samples. All drill core is stored in 5 adit at survey station 1B. Seventy-two channel samples were cut in Snowflake adit and raise therefrom (See Figure 4).

All samples were assayed by the Bureau of Mines, Department of Mines and Resources, Ottawa. Snow rendered surface examination impracticable. Underground workings, other than 5 and Snowflake adits, were only casually inspected.

Five drawings, ~~listed below~~, accompany this report. With the exception of Figure 2 they are based on drawings supplied by Col. A.S. MacCulloch. Figure 2 (of 5 level) is based on a transit and tape survey by the writer.

DIAMOND DRILLING AND SAMPLING ON 5 LEVEL

(See Figures 2 and 3, and drill logs).

Eight holes, aggregating 1,061 feet, were drilled from the adit on 5 level with the object of gaining further information on the tin content of veins on that level.

Drilling was done by Boyles Bros. Drilling Company, Ltd., and was entirely satisfactory. The machine used gave a core approximately 15/16 inch in diameter. Nearly all core was recovered. Cuttings were lost in many of the holes and, because of the good core recovery, they were collected only when they were available without recourse to casing or cementing of holes. Core was laid to scale. Thus a core tray with a capacity of 35 feet contains core from 35 feet of hole and any core lost is represented in that box by lengths of wooden rod placed in the tray at places corresponding to the depths at which the losses occurred. Core for assay was split and the unused half was left in the core trays. Sludge was assayed when available and desirable. Sludge that was collected but not assayed was discarded. Holes were spotted and pointed with a transit and the writer was on hand to check the alignment of each hole as it was collared. Holes were not surveyed at depth. All holes are flat and were drilled approximately normal to the strike of the veins.

The veins dip about 50 degrees northeast. In the drill logs, and in the following discussion, the length of a vein intersection refers to the length as measured on the core. To obtain true widths (as given on Figure 3) each length must be reduced to allow for the oblique intersection of vein and drill hole.

Hole No. 1 cut 1.6 feet of vein material, containing 0.62 per cent tin, at a depth of 160 feet. Sludge was not available to check this tin assay. No stannite was seen.

Hole No. 2 did not intersect anything of importance.

Hole No. 3 intersected 9.4 feet of quartz between 24 and 36.4 feet. This contained one lump of stannite about $\frac{1}{2}$ inch in diameter, several smaller grains of stannite, and a little pyrite, galena, and sphalerite. The four-foot section of quartz containing the stannite assayed 0.15 per cent tin.

Hole No. 4 cut mainly quartz between 11.5 and 17.7 feet but this contained negligible quantities of tin and lead and no zinc. Four and one-half feet of nearly barren quartz was intersected at 142.5 feet. This may be No. 6 vein that outcrops on the trail about 200 feet south by east of 5 portal.

Holes Nos. 5 and 6 did not intersect anything of importance.

Hole No. 7 was drilled to get further information on the vein cut by hole No. 1. About 3.75 feet of nearly barren quartz was intersected at a depth of 131.2 feet but no vein was found that could be correlated with that found in hole No. 1.

Hole No. 8 was drilled to probe the southeast extension of the stannite-bearing vein cut in hole No. 3. This is probably represented by the 2.75 feet of nearly barren quartz found at a depth of 39.7 feet.

Forty-three channel samples were cut from 5, 5-A, and nearby veins (1), to supplement samples obtained by drilling and (2), to check tin assays shown on an assay compiled by the Company. None contained significant amounts of tin. No samples were taken between the portal and survey station 9 because veins exposed there had been sampled recently by Dr. V. Dolmage and reported to contain only very small amounts of tin.

A faulted zone exposed in the drift between survey stations 7 and 9 cuts 5 vein and presumably cuts 5-A and 6 veins. Although faulting within this zone seems to have sliced the veins into several blocks it is doubtful if the net lateral displacement within the zone, measured perpendicular to the strike of the veins, amounts to more than a few feet.

SAMPLING ON SNOWFLAKE LEVEL

(See Figure 4)

Stannite (a tin-bearing mineral) occurs in the quartz vein exposed in the main drift on Snowflake level southeast of the crosscut from the portal. Pyrite and sphalerite are abundant in places and galena occurs in smaller amounts. A survey plug, in the back of the drift where it joins the crosscut from the portal, was used to locate the samples. All vein material in the drift was sampled by channel samples, cut at intervals of about 5 feet, from a point 3 feet northwest of the plug to a point 265 feet southeast of the plug. The weight of individual samples is estimated to average ten pounds. The average dip of that part of the vein sampled is 53 degrees northeast.

From 3 feet northwest of the plug to 150 feet southeast of the plug the vein is mainly quartz and metallic minerals but contains minor partings of slate. Samples from this part

of the drift (Nos. 1651 to 1681, inclusive) include quartz and slate partings, and only one channel was cut at each 5-foot interval.

The vein splits at a point about 150 feet southeast of the plug, and from there to a point about 200 feet from the plug comprises two quartz veins separated by about 2 feet of slate. Samples from this part of the drift (Nos. 1682 to 1700, inclusive) were cut across quartz only, so that at each 5-foot interval two channels were taken: samples 1683, 1685, 1687, 1689, 1691, 1693, 1696, 1698 and 1700 are from the hanging wall vein and contain most of the tin; samples 1682, 1684, 1686, 1688, 1690, 1692, 1694, 1695, 1697 and 1699 are from the footwall vein and contain only minor amounts of tin. Only the samples from the hanging wall vein were used in computing the averages given below.

From 200 to 265 feet from the plug the vein comprises quartz and one or more partings of slate. Throughout this length (except at 240 feet) only one sample was cut at each 5-foot interval. Thus samples 1701 to 1707 inclusive, and samples 1710 to 1714 inclusive, include quartz and slate partings.

Sampling and assaying indicated the following:

(1) A shoot of tin-bearing material, 185.5 feet long and averaging 1.79 feet wide, lies from 47 to 232.5 feet southeast of the plug. It contains 5.50 ounces of silver a ton, 0.64 per cent lead, 2.15 per cent zinc, and 0.71 per cent tin.

(2) That part of the shoot lying from 47 to 126.5 feet southeast of the plug (approximately that portion lying within Snowflake ground) is 79.5 feet long, averages 1.94 feet wide, and contains 9.40 ounces silver, 1.17 per cent lead, 2.00 per cent zinc, and 1.13 per cent tin.

(3) That portion of the shoot lying from 126.5 to 232.5 feet southeast of the plug (approximately that portion lying within Regal Silver ground) is 106 feet long, averages 1.69 feet wide, and contains 2.30 ounces of silver a ton, 0.20 per cent lead, 2.28 per cent zinc, and 0.35 per cent tin.

Stannite also occurs in the same vein where exposed in the raise from the Snowflake drift. Only the lower 40 feet of the raise was considered safe and only this part was sampled. Samples were out at intervals of about 5 feet. This 40 feet of vein averages 2.34 feet wide and contains 10.54 ounces of silver a ton, 2.35 per cent lead, 1.72 per cent zinc, and 1.53 per cent tin. Most of the stannite occurs in the upper ten feet of the section sampled.

It is noted that the silver content of vein, where sampled, varies almost directly as the tin content.

CONCLUSIONS

1. No tin-bearing material of any importance was found on 5 level.
2. Snowflake and 5 levels are too far apart (about 800 feet measured parallel to the dip of the veins) to permit correlation of veins on 5 level with those of Snowflake level.
3. The tin-bearing shoot and vein exposed on Snowflake level remains unexplored at depth. The small amount of diamond drilling done on 5 level, about 800 feet down the dip from Snowflake level, gave no information relative to the possible downward extension of the tin-bearing vein and shoot.
4. The tin-bearing shoot (See Figure 4) exposed on Snowflake level, southeast of the main crosscut, is 185.5 feet long, averages 1.79 feet wide, and contains 5.50 ounces

silver a ton, 0.64 per cent lead, 2.15 per cent zinc, and 0.71 per cent tin. The northwest part of this shoot, probably lying on Snowflake property, is 79.5 feet long and 1.94 feet wide, and contains 9.40 ounces silver a ton, 1.17 per cent lead, 2.00 per cent zinc, and 1.13 per cent tin. The southeast part of the shoot, probably lying on Regal Silver property, is 106 feet long and 1.69 feet wide, and contains 2.30 ounces silver a ton, 0.20 per cent lead, 2.28 per cent zinc, and 0.35 per cent tin.

RECOMMENDATIONS

1. The following samples should be used if a mill test is made on material collected from Snowflake level: Nos. 1661 to 1681 (inclusive), 1683, 1685, 1687, 1689, 1691, 1693, 1696, 1698, 1700 to 1706 (inclusive), and 1715 to 1722 (inclusive).
2. If warranted by the current demand for tin, the ground between Snowflake drift and 5 adit should be probed by diamond drill holes from the surface (See Figure (5) with the object of (1), exploring the Snowflake tin-bearing shoot below Snowflake level and (2), locating any other tin-bearing bodies that may exist in the same vein or in nearby veins. Five preliminary holes should be spotted so as to cut the tin-bearing vein a short distance below the shoot exposed on Snowflake level. Subsequent holes should be spotted according to results obtained in the preliminary holes, keeping in mind the possibility of the existence of more than one tin-bearing shoot. Such a program might involve ten to twenty holes averaging 500 to 600 feet in length. The drilling should be done in the spring or early summer.

Level 5, Regal Silver Mine.
 Started - Nov. 8, 1942
 Finished - Nov. 13, (4p.m.) 1942
 Depth - 201' (Nov. 13.)
 Coordinates of collar - N 10,648.1, E 10,863.3
 Bearing of hole - S 55°10' W
 Dip of hole - flat
 Logged by - C. S. Lord.

Depth	Remarks	Sample		Analysis		
		No.	Length	SN	PB	ZN
0-10.5	Black slate and a little disseminated pyrite. Cave at 7 ft.					
10.5 - 11	Black and grey thin-banded slate with 15% disseminated pyrite	1251	0.6	nil	nil	nil
11 - 15	Black and grey thin bedded slate	1252	0.85	nil	nil	nil
15 - 16	Crumpled slate and films of quartz. A little pyrite in quartz.					
16 - 18	Slate and a few quartz seams with pyrite.					
18 - 23.5	$\frac{1}{2}$ " slate, quartz, and pyrite at 18 ft. Remainder slate with a few $\frac{1}{4}$ " - $\frac{1}{16}$ " seams of quartz and pyrite.					
23.5 - 25	Slate and quartz seams with pyrite. 25% quartz.	1253	1.3	nil	nil	nil
25 - 32	Thin bedded slate, and quartz seams mostly less than $\frac{1}{8}$ " wide.					
32 - 34	Slate					
34	0.3 feet barren white quartz.					
34 - 35	Slate					
35 - 35.5	2" quartz with 30% pyrite; remainder slate.	1254	0.35	nil	nil	nil
35.5 - 67	Slate.					
67 - 85	Slate and quartz seams.					
85 - 85.5	Crumpled slate; and 20% quartz with pyrite.	1255	0.45	nil	nil	nil
85.5 - 90	Slate					
90 - 91	Slate, 50% quartz, and a little pyrite	1256	1.0	nil	nil	nil
91 - 94	Slate, 10% quartz stringers and a little pyrite.					
94 - 95	Slate, a little quartz & pyrite					
95 - 98	Slate.					
98 - 101	Slate, 25% quartz seams, and a little pyrite	1257	3.0	nil	nil	nil
101 - 105	Only 3 ft. of core recovered. Slate and 20% white quartz in seams to 2" wide.					

LOG D. D. #1 (cont'd)

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	PB	ZN
105 - 109	Slate, and 20% white quartz in seams to 2".					
109 - 120	Slate, and 15% white quartz in seams to 2", and a very little pyrite in some quartz.					
120 - 122	Slate.					
122 - 123	Slate and disseminated pyrite					
123 - 124	Slate; 1-1" and 1-3" seam white quartz.					
124 - 129	Slate.					
129 - 132	Slate. Also 5 seams white quartz, 1" to 3" wide.					
132 - 136	Slate.					
136 - 143	Slate.					
143	1" seam of quartz & pyrite					
143 - 160	Slate; very little quartz					
160 - 162	75% quartz. 0.2' at 160 is white quartz and 60% sulphides, including pyrite, galena, sphalerite. Remainder of quartz in sample contains only a little of these sulphides.	1258	1.6	0.62	0.95	0.41
162 - 168	Slate.					
168 - 169	Crumpled slate with a little quartz and pyrite.					
169 - 171	Slate.					
171 - 192	Thin bedded black slate, with numerous thread-like seams of white quartz. A little disseminated pyrite. Crumpled in places. 1-1" seam white quartz at 179 ft.					
192 - 192.5	Includes 1½" white quartz with pyrite and galena (?). Remainder is slate cut by seams of quartz and pyrite.	1259	0.4	nil	nil	nil
192.5 - 197	Slate with a little disseminated pyrite.					
197 - 197.5	Slate with a 2" seam of quartz and pyrite and a ½" seam of quartz and pyrite.	1260	0.45	nil	nil	nil
197.5 - 198.5	Slate					
198.5 - 200	1-1" seam quartz and pyrite at 198.5 and 1-2" seams quartz & pyrite at 200; remainder slate, threads of quartz and a little disseminated pyrite.	1261	1.6	0.05	nil	0.05
200 - 201	Slate. Hole bottomed at 201					

NOTE: All core examined under ultra-violet light. No scheelite noted.

LOG D.D. #2

Level 5, Regal Silver Mine, Albert Canyon, B. C.
 Started - Nov. 13, 1942
 Finished - Nov. 16, 1942 (5:30 P.M.)
 Depth - 201 ft. (Nov. 16)
 Coordinates of collar - N 10,776.8, E 11,031.7
 Bearing of hole - N 47° 10' E
 Dip of hole - flat
 Logged by - C. S. Lord

Depth (feet)	Remarks	Sample		Analysis		
		No	length feet	SN	PB	ZN
0-10	Thin-bedded black slate & 3-1" white quartz seams. About 8" of core lost.					
10-10.5	75% quartz. 2" qtz. at 10.5 contains abundant pyrite.	1262	0.55	0.05	nil	0.05
10.5-14	slate					
14	50% quartz with pyrite. Quartz as seams in crumpled slate.	1263	0.3	nil	0.54	nil
14-30	slate, with a few 1/16" to 1/8" seams of quartz & pyrite					
30	0.4 ft. barren white qtz.					
30-35	slate					
35-44.5	slate					
44.5-45	40% qtz. with pyrite and a little brown material (sphalerite ??)	1264	0.5	nil	0.09	0.05
45-48	40% white qtz. with a few grains of pyrite & a very little brownish material (sphalerite ??)	1265	3.0	nil	nil	0.05
48-57.7	slate with a little barren qtz.					
57.7-60	slate, and 50% white qtz with a very few grains of pyrite					
60-64	slate					
64-69	crumpled slate & 30% qtz					
69-70	slate					
70-72	slate					
72	3" white qtz.					
72-82	slate					
82-83	0.7 ft. white qtz					
83-85	slate					
85-87	slate with 30% qtz seams up to 1/2"					

LOG D.D. 2 (Cont'd)

Depth	Remarks	Sample		Analysis		
		No	length	SN	PB	ZN
87-88	slate, and 0.7 ft. white qtz. with a little pale greenish micaceous mineral or partings					
88-95	slate, & 15% qtz. as seams 1/32" to 1/4" wide.					
95-96.5	50% qtz as irregular patches and seams.					
96.5-102	slate					
102	1/4" seam qtz. & pyrite					
102-103.5	slate					
103.5-105	slate. 1-1/8" qtz. seam at 103.5 with a few grains of pyrite					
105-130.5	slate with a few white quartz seams up to 2" wide.					
130.5	2" qtz. & pyrite					
130.5-133	slate					
133-135	slate and a little (15%) irregular qtz.					
135-135.5	white qtz. with a little greenish micaceous mineral					
135.5-136	slate					
136-137	slate, pyrite, & a little qtz.	1266	0.4	nil	0.11	0.20
137-140	slate					
140-	2" qtz. & pyrite					
140-143.5	slate					
143.5-144	white quartz with a very little pyrite, sphalerite (??) galena and a pale greenish micaceous mineral.	1267	0.7	nil	nil	nil
144-146	slate					
146	2" quartzitic rk. with abundant f.g. pyrite					
146-168	slate					
168-171	slate, & 30% qtz, & a very little pyrite.					
171-171.5	white quartz and a little pale greenish micaceous mineral.					
171.5-173.5	slate					
173.5-175	slate, & 15% qtz.					
175-178.5	slate					

LOG D.D. 2 (Cont'd)

Depth	Remarks	Sample Analysis			
		No	length	SN	PB. ZN
178.5-179	qtz.				
179-181	slate				
181-183	slate, and 20% qtz. stringers				
183-184.5	slate				
184.5	2" seam of qtz & pyrite				
184.5-187	slate				
187-188	white qtz with no visible inetallics				
188-195	slate				
195-	5" qtz.				
195-201	slate				

Note - all core examined under ultraviolet light.
No scheelite found.

LOG D.D. NO. 3

Level 5, Regal Silver Mine, Albert Canyon, British Columbia.
 Started - Nov. 16 (night shift) 1942.
 Finished - Nov. 18 (day shift).
 Depth - 75 feet.
 Coordinates of collar - N 10,486.2; E 11,225.5.
 Bearing - S.43°W (bearings given to nearest 10').
 Dip - flat.
 Logged by - C.S. Lord.

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
0 - 14	slate					
14	0.3 ft. grey quartz and pyrite.					
14 - 24	slate					
24 - 28	White quartz with a little galena, sphalerite, pyrite, and one lump of <u>stannite</u> about $\frac{1}{2}$ " diameter and several smaller grams. <u>Stannite</u> at 26.5 ft.	1268	4.0	0.15	1.28	0.35
28 - 29.7	Same vein as above. White quartz with a little sphalerite and galena at 29.2 ft.	1269	1.7	0.05	1.06	nil
29.7 - 32.7	slate					
32.7 - 35	White quartz with a little galena, sphalerite & pyrite.	1270	2.3	0.05	0.76	2.89
35 - 36.4	Same vein as above. White quartz with pyrite, galena, and sphalerite.	1271	1.4	0.13	1.03	0.45
36.4 - 42	slate					
42 - 44	60% white quartz. Remainder slate.	1272	2.0	nil	nil	0.20
44 - 54.7	slate					
54.7 - 55.3	White quartz, partly ribboned with graphitic partings; a little pyrite.	1273	0.6	nil	nil	nil
55.3 - 59.7	Slate, with a few $\frac{1}{8}$ " to $\frac{1}{2}$ " quartz seams, some of which contain a little pyrite.					
59.7 - 60.2	75% quartz, with a very little pyrite.	1274	0.5	0.05	nil	nil
60.2 - 62	slate					
62	2" grey quartz and pyrite.					
62 - 70	slate					
70 - 75	slate					

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn

Sludges

15 - 20	for check. Should assay nil tin.	1278	5.0	nil	nil	0.05
20 - 25		1279	5.0	0.10	3.71	0.20
25 - 30	core showed stannite at 26.5	1280	5.0	0.27	12.45	0.51
30 - 35		1281	5.0	0.05	nil	nil

Water lost about here and no further sludge recovered.

Note - All core examined under ultraviolet lights. No scheelite seen.

LOG D. D. #4

Level 5, Regal Silver Mine, Albert Canyon, B. C.

Started - November 18 (day shift) 1942

Finished - November 18 (night shift) 1942

Depth - 30 ft. (deepened later)

Coordinates of collar; N 10,508.1; E 11,151.1

Bearing - S 42° 50' W

Dip - flat

Logged by - C. S. Lord

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
0 - 11.5	Slate					
11.5 - 14.0	White quartz and a little slate with a few grains of pyrite. A few grains of sphalerite and galena in quartz	1275	2.5	Nil	Nil	Nil
14.0 - 15.5	80% pyrite. Remainder slate and grey quartz. A few spots fluoresce and may be scheelite	1276	1.5	0.08	0.07	Nil
15.5 - 17.7	60% quartz. A little pyrite, mainly in slate	1277	2.2	Nil	Nil	Nil
17.7 - 19.0	Slate, and 1-5" band white quartz					
19.0 - 25.0	Slate					
25.0 - 30.0	Slate with a few seams of quartz and pyrite less than 1" wide					

Note: All core examined under ultraviolet light. Possible scheelite grains between 14 and 15.5 feet

Sludge not recovered between 10 and 20 feet due to oversight on part of driller.

LOG D. D. 4 (Deepened)

See log November 18 (0 - 30 ft.)
 Deepening started - November 27 (night shift)
 Deepening finished - November 29 (night shift)
 Depth from collar after deepening - 187 ft.

Logged by C. S. Lord

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
30 - 37 $\frac{1}{2}$	Slate					
37 $\frac{1}{2}$ - 38	White sugary quartz, 15% pyrite 10% slate	1378	0.4	0.36	Nil	Nil
38 - 39	Black slate, 10% quartz					
39 - 49	Black slate					
49 - 51	Black slate and 10% white quartz					
51 - 64 $\frac{1}{2}$	Black slate					
64 $\frac{1}{2}$	3" white quartz					
64 $\frac{1}{2}$ - 65	Black slate					
65 - 93	Black slate with 10 white quartz seams averaging about 1 $\frac{1}{2}$ " wide					
93 - 94	Black slate and 2 - 2" white quartz seams					
94 - 100	Slate					
100 - 112	Slate					
112 - 112 $\frac{1}{2}$	60% white quartz; balance slate					
112 $\frac{1}{2}$ - 114 $\frac{1}{2}$	Black slate					
114 $\frac{1}{2}$ - 115	Slate and 4" quartz					
115 - 125	Slate					
125 - 126 $\frac{1}{2}$	Slate and 30% white quartz in seams $\frac{1}{2}$ " - 2 $\frac{1}{2}$ " wide					
126 $\frac{1}{2}$ - 135	Slate					
135 - 142 $\frac{1}{2}$	Slate					
142 $\frac{1}{2}$ - 147	White quartz with 1 - 3" seam black slate and less than 1% pyrite	1379	4.5	0.08	Nil	Nil
147 - 149 $\frac{1}{2}$	Slate, part minutely drag folded with 5% quartz, and 2% pyrite. Pyrite as seams and as dis- seminated grains					

LOG D. D. 4 (Deepened, continued)

Depth	Remarks
149 $\frac{1}{2}$ - 150	Soft grey calcareous shale-- strongly effervescent in HCl
150 - 151 $\frac{1}{2}$	Slate
151 $\frac{1}{2}$ - 152 $\frac{1}{2}$	Crumpled slate, 15% grey quartz 5% pyrite
152 $\frac{1}{2}$ - 170	Slate with a few $\frac{1}{8}$ " quartz seams
170 - 173	Grey thin laminated slate and 10% quartz as seams up to $\frac{1}{8}$ "
173 - 177	Grey-black slate
177 - 179	Black slate
179 - 180	60% white quartz, balance black slate
180 - 187	Black slate

Note: All core examined under ultraviolet light. No scheelite seen.

No sludge recovered at vein intersections

Level 5, Regal Silver Mine, Albert Canyon, B. C.
 Started - Nov. 19 (day shift), 42
 Finished - Nov. 22 (day shift), 42
 Depth - 76 feet
 Coordinates of collar; - N 10,576.7; E 11,136.5
 Bearing - S 42° 50' W
 Dip - flat
 Logged by - C. S. Lord

Note - contractors ran out of bits and no drilling was done from 10 A.M. Nov. 20 to 4 P.M. Nov. 21. 3 shifts lost. Water (& sludge) lost at 33.5 ft.

Depth	Remarks	Sample		Analysis		
		No	length	Sn	Pb	Zn
0-23	slate, with a few qtz.stringers up to 1" wide					
23-23½	slate, a little qtz, & 60% pyrite	1282	0.4	0.08	0.15	nil
23½-31½	slate					
31½-35	slate with a few qtz seams up to ½" wide.					
35-41½	slate					
41½-44	slate, with thin qtz seams comprising 20% of core.					
44-46	slate					
46-47	qtz with greenish micaceous mineral & less than .5% pyrite.	1283	1.0	nil	nil	nil
47-48½	slate, & 30% qtz seams	1284	1.5	0.05	nil	nil
48½-57	slate					
57-57½	30% qtz; less than 5% pyrite; balance slate. 2" ground while drilling.	1285	0.8	0.05	nil	nil
57½-59	slate except for: 58', ¼" qtz & pyrite; 58.5', ½" qtz & pyrite.					
59-59½	slate; 30% qtz in irregular stringers; and a little pyrite					
59½-60	slate					
60-60½	50% white qtz with a little greenish micaceous mineral					
60½-68	slate					
68	4" white qtz					
68-76	slate					
<u>Note</u> - all core checked under ultraviolet light. No scheelite noted.						
		Sludges				
20-25	see core sample # 1282	1288	5.0	0.05	nil	nil

Level 5, Regal Silver Mine, Albert Canyon, B.C.
 Started - Nov. 22 (night shift), 1942.
 Finished - Nov. 23 (night shift), 1942.
 Depth - 76 feet
 Coordinates of collar: - N 10,615.1, E 11,096.0
 Bearing of hole - S 42°50' W
 Dip of hole - flat
 Logged by - C. S. Lord.

Depth	Remarks	Sample		Analysis		
		No.	Length	SN	PB	ZN
0-11	Slate, badly fractured					
11-13	Slate					
13-14 $\frac{1}{2}$	Slate with many thin seams of quartz. 30% quartz. One $\frac{1}{2}$ " seam of quartz contains 50% pyrite.					
14 $\frac{1}{2}$ -23 $\frac{1}{2}$	Slate.					
23 $\frac{1}{2}$ -24 $\frac{1}{2}$	Slate with 15% quartz seams					
24 $\frac{1}{2}$ -32	Slate.					
32-35	Slate, and 40% quartz with less than 5% pyrite	1286	3.0	nil	nil	nil
35-45	Slate with numerous quartz seams amounting to 10% of core.					
45-52	Slate.					
52	2 $\frac{1}{2}$ " contains 75% quartz & 5% pyrite					
52-57	Slate.					
57-57 $\frac{1}{2}$	30% quartz as four seams. Quartz contains about 5% pyrite.	1287	0.7	0.05	nil	nil
57 $\frac{1}{2}$ -58 $\frac{1}{2}$	Slate.					
58 $\frac{1}{2}$	1" seam quartz and pyrite.					
58 $\frac{1}{2}$ -61	Slate.					
61-61.7	Slate and 20% barren quartz.					
61.7-64	Slate.					
64	$\frac{1}{2}$ " quartz and pyrite.					
64-65	Slate.					
65-68	Slate.					
68	2 $\frac{1}{2}$ " quartz with a little pyrite.					
68-70	Slate and 10% quartz.					
70-76	Slate.					
NOTE: All core examined under ultra-violet light. No scheelite seen.						
Sludges						
30-35	See core sample # 1286	1289	5.0	nil	nil	nil
55-60	See core sample # 1287	1290	5.0	nil	nil	nil

LOG D.D. NO. 7

Level 5, Regal Silver Mine, Albert Canyon, British Columbia.
 Started - Nov. 23 (night shift).
 Finished - Nov. 27 (night shift).
 Depth - 199 feet.
 Coordinates of collar; N. 10,647.7, E 10,870.2.
 Bearing - S 22°00' W.
 Dip - flat.
 Logged by - C.S. Lord.

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
0 - ½	White quartz					
½ - 3½	Slate					
3½ - 4½	Slate, a little pyrite, and 20% quartz.					
4½ - 11	Slate					
11 - 15	Slate - badly broken core.					
15 - 23	Slate					
23	2" seam; 50% quartz and 25% pyrite.					
23 - 30	Slate; a few seams of quartz and pyrite up to ½".					
30 - 41	Slate					
41	Quartz and 25% pyrite.	1291	0.3	nil	nil	nil
41 - 45	Slate					
45 - 46	Slate; 1 - 2" seam of white quartz; 1-2" seam grey quartz with 25% pyrite.	1292	0.75	0.05	nil	nil
46 - 47	Pitted slate.					
47 - 52	Slate, broken core.					
52 - 53	Slate and 20% quartz. 1-2½" grey quartz seam contains 25% pyrite.	1293	1.0	0.13	nil	nil
53 - 61	Slate and 20% quartz as numerous thin seams mostly parallel to bedding.					
61 - 65	Slate					
65 - 66	Slate and 20% thin quartz seams.					
66 - 70	Slate and 25% white quartz as seams to 2" wide but mostly less than 1" wide.	1294	4.0	0.10	nil	nil
70 - 71	Slate					
71	3" white quartz.					

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
71 - 72	Slate					
72	3" white quartz.					
72 - 73	Slate					
73	2" white quartz.					
73 - 75	Slate					
75	2" white quartz.					
75 - 76	Slate with seams grey quartz and a little pyrite.					
76	1" grey quartz and 25% pyrite.					
76 - 90 $\frac{1}{2}$	Slate.					
90 $\frac{1}{2}$	2 $\frac{1}{2}$ " white quartz.					
90 $\frac{1}{2}$ - 100	Black slate.					
100 - 103 $\frac{1}{2}$	Black slate with 1/16" - 1/8" pyrite cubes.					
103 $\frac{1}{2}$	3" light grey and black banded calcareous rock - effervescent in HCL.					
103 $\frac{1}{2}$ - 106	Black slate with pyrite cubes.					
106 - 110	Interlayered black slate, calcareous bands, and $\frac{1}{4}$ " to 1" white quartz seams.					
110 - 114	Black slate, part finely mottled with grey.					
114 - 115	Grey sugary quartz with less than 5% pyrite.	1295	1.0	0.16	nil	nil
115 - 117	Greyish slate and 15% quartz. Pyrite cubes in slate.					
117 - 120 $\frac{1}{2}$	Grey, thin-bedded, soft, slightly calcareous shale with pyrite cubes.					
120 $\frac{1}{2}$ - 124	Black slate with pyrite cubes commonly 1/8".					
124 - 125	Grey shale with a little quartz and a 2 $\frac{1}{2}$ " seam of pyrite.	1296	1.0	0.08	nil	nil
125 - 128	Grey and black slate with several $\frac{1}{2}$ " quartz seams.					
128 - 129	50% white quartz with a few specks of pyrite. Balance is slate with a little pyrite.	1297	1.0	0.10	nil	nil

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
129 - 130	Grey and black crumpled slate.					
130 - 131 $\frac{1}{4}$	50% grey and black slate with a little pyrite. 50% sugary grey sericitic quartz with a little pyrite.	1298	1.25	0.16	nil	nil
131 $\frac{1}{4}$ - 135	Mostly white quartz. 3" grey sugary sericitic quartz at 131 $\frac{1}{4}$. 134-135 contains 5% pyrite. Balance contains less than 1% pyrite and as nearly pure quartz.	1299	3.75	0.02	nil	nil
135 - 135 $\frac{1}{2}$	Slate					
135 $\frac{1}{2}$ - 138	Contacted slate. 25% quartz. Quartz part brown (iron stain?) and part white and sugary. Less than 5% pyrite.	1300	2.5	0.08	nil	nil
138 - 155	Greyish, thinly laminated slate with pyrite cubes. A few quartz seams up to $\frac{1}{2}$ ".					
155 - 156 $\frac{1}{2}$	Slate, and 30% intimately associated quartz with less than 5% pyrite.	1375	1.5	0.05	nil	nil
156 $\frac{1}{2}$ - 160 $\frac{1}{2}$	Slate.					
160 $\frac{1}{2}$ - 164	Thinly-bedded slate, 10% quartz seams and quartz partings.					
164 - 169	Black slate.					
169	3" white quartz.					
169 - 176	Slate					
176	2 $\frac{1}{2}$ " quartz containing 50% pyrite.					
176 - 179 $\frac{1}{2}$	Slate.					
179 $\frac{1}{2}$ - 180 $\frac{1}{2}$	Slate and 30% white quartz.					
180 $\frac{1}{2}$ - 186	Black slate.					
186 - 192 $\frac{1}{2}$	Badly broken black slate. Possibly part of a fault zone. 2 $\frac{1}{2}$ feet of core lost, mostly from 190 - 192 $\frac{1}{2}$.					
192 $\frac{1}{2}$ - 195	Thoroughly crushed black slate of possible fault zone. About 2" broken white quartz. Plot fault (if required) at 192 $\frac{1}{2}$.	1376	2.5	0.05	nil	nil
195 - 196	40% barren (?) white quartz; 60% broken slate; a few grains of pyrite.	1377	1.0	0.05	nil	nil
196 - 199	Slate. Bottom of hole at 199.					

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
Sludges						
5 - 10		1725	5.0	0.08	nil	nil
40 - 45		1726	5.0	nil	nil	nil
45 - 50		1727	5.0	nil	nil	nil
50 - 55		1728	5.0	nil	nil	nil
65 - 70		1729	5.0	nil	nil	nil
70 - 75		1730	5.0	nil	nil	nil
110 - 115		1731	5.0	0.10	nil	nil

All core examined under ultraviolet light. No scheelite.

Level 5 - Regal Silver Mine, Albert Canyon, B.C.
 Started - Nov. 30 (day shift)
 Finished - Nov. 30 (night shift)
 Depth - 46 feet
 Coordinates of collar - N 10,453.6; E 11,263.1
 Bearing - S 42°50' W
 Dip - Flat
 Logged by - C. S. Lord

Depth	Remarks	Sample		Analysis		
		No.	Length	SN	PB	Zn
0 - 4 $\frac{1}{2}$	Black broken slate.					
4 $\frac{1}{2}$	2 $\frac{1}{2}$ " quartz with 5% pyrite & less than 1% galena.					
4 $\frac{1}{2}$ - 5	Black Slate.					
5 - 6	Black Slate & 20% white quartz as three seams. Quartz contains less than 5% pyrite.					
6 - 8	Slate.					
8	White quartz with a little greenish micaceous mineral & less than 5% pyrite.	1380	0.5	0.05	nil	nil
8 - 27	Black slate with a few $\frac{1}{2}$ " seams of white quartz.					
27 - 27 $\frac{1}{2}$	Slate, 40% quartz & less than 5% pyrite.					
27 $\frac{1}{2}$ - 29	Slate.					
29	2" grey quartz with 40% pyrite.					
29 - 32 $\frac{1}{2}$	Slate.					
32 $\frac{1}{2}$	2 - $\frac{1}{2}$ " seams white quartz and 1-1/16" quartz seam with two specks of possible scheelite.					
32 $\frac{1}{2}$ - 35	Black slate & 10% quartz seams.					
35 - 39.7	Grey & black slate & 5% quartz.					
39.7 - 42.5	White quartz. Metallics, including pyrite, sphalerite, and galena, occur next each wall and comprise about 2% of vein.	1381	2.75	nil	0.26	nil
42 $\frac{1}{2}$ - 43	Slate, 50% quartz and less than 5% pyrite					
43 - 46	Slate.					

NOTE: - All core examined under ultraviolet light. A very little scheelite seen at 32.5

Sludges

5 - 10	1723	5.0	nil	nil	nil
25 - 30	1724	5.0	nil	nil	nil

82N/4W
82N-3,4

DIAMOND DRILLING AND SAMPLING AT REGAL
SILVER AND SNOWFLAKE PROPERTIES NEAR
ALBERT CANYON, BRITISH COLUMBIA.

by

C. S. LORD
GEOLOGICAL SURVEY

OTTAWA, CANADA,
FEBRUARY 26, 1943.

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ILLUSTRATIONS

- Figure 1. Snowflake and Regal Silver Mines, Albert Canyon, B.C., (Plan of workings).
- Figure 2. Plan of 5 level, Regal Silver Mine. (Shows diamond drill holes and channel samples on 5 level).
- Figure 3. Assays from drill holes from 5 level, Regal Silver mine.
- Figure 4. Assay plan, part of Snowflake level, Snowflake - Regal Silver mines. (Assay results from channel samples cut in vicinity of tin shoot for mill test).
- Figure 5. Possible drill holes from surface to explore downward extension of Snowflake-level tin shoot.

Logs of diamond drill holes Nos. 1 to 8 (inclusive), with analyses, accompany this report.

INTRODUCTION

This report describes diamond drilling and sampling done at Regal Silver and Snowflake properties, British Columbia, under instructions received from the Director, Mines and Geology Branch, Dept. of Mines and Resources, Ottawa. The object of the work was to obtain further data on the tin content of the quartz veins on Snowflake level and 5 level. The writer did not attempt to make a complete geological examination of the property.

Regal Silver mine is about 6 miles north of Albert Canyon, which is on the main line of the Canadian Pacific Railway about 21 miles east of Revelstoke. Silver Creek siding is on the railway about 2 miles west of Albert Canyon and a tractor road, 7 miles long, connects the siding and the mine camp. The Snowflake property adjoins the Regal Silver on the west. No work was being done at either property when visited by the writer. Slopes near the workings average about 26 degrees. Snowslides are said to be common during the winter and spring. Silver Creek siding, Regal Silver camp, and Snowflake camp are about 2,200 feet, 4,455 feet, and 5,545 feet respectively, above sea level.

Both properties are underlain by black graphitic siliceous slates that strike about northwest and dip 30 to 60 degrees northeast. They are of Precambrian age. Insofar as known no igneous rocks occur in the vicinity of the workings. A series of quartz veins lie parallel or nearly parallel to the slate beds. In places these veins contain abundant pyrite. Other minerals noted or reported include

galena, sphalerite, stannite, scheelite, wolframite, fluorite, chalcopyrite, and cassiterite. The principal known occurrence of stannite is in the drift on Snowflake level southeast of the main cross-cut, and in the raise therefrom. This occurrence lies partly on Snowflake property and partly on Regal Silver property. The veins have been explored by five adits between elevations of 4,455 feet and 5,248 feet on the Regal Silver property, and by two adits at elevations of 5,545 feet and 5,885 feet on Snowflake property. A little scheelite concentrate is reported to have been recovered with an underground mill on the Regal property.

On October 22, 1942, the writer received word from the Director, to carry out the following instructions:

1. "The purpose of the diamond drilling is to determine if on the level of No. 5 adit, Regal Silver ground, there exists one or more veins additional to and parallel with (No. 5) and (No. 5-A) veins and, if such veins do exist to secure samples from them in order to be able to form some idea of their tin content."

2. "---sampling is to be done on the ---Snowflake level and along the raise from this level---in the tin bearing parts of the vein or veins---in order that representative material may be available for a mill test."

Diamond drilling was started on November 8, and all drilling and sampling was completed by December 1, 1942. Operations on 5 level (See Figures 2 and 3) comprised: 1,061 feet of diamond drilling, collecting 66 core and sludge samples, and cutting 43 channel samples. All drill core is stored in 5 adit at survey station 1B. Seventy-two channel samples were cut in Snowflake adit and raise therefrom (See Figure 4).

All samples were assayed by the Bureau of Mines, Department of Mines and Resources, Ottawa. Snow rendered surface examination impracticable. Underground workings, other than 5 and Snowflake adits, were only casually inspected.

Five drawings, ~~listed below~~, accompany this report. With the exception of Figure 2 they are based on drawings supplied by Col. A.S. MacCulloch. Figure 2 (of 5 level) is based on a transit and tape survey by the writer.

DIAMOND DRILLING AND SAMPLING ON 5 LEVEL

(See Figures 2 and 3, and drill logs).

Eight holes, aggregating 1,061 feet, were drilled from the adit on 5 level with the object of gaining further information on the tin content of veins on that level.

Drilling was done by Boyles Bros. Drilling Company, Ltd., and was entirely satisfactory. The machine used gave a core approximately 15/16 inch in diameter. Nearly all core was recovered. Cuttings were lost in many of the holes and, because of the good core recovery, they were collected only when they were available without recourse to casing or cementing of holes. Core was laid to scale. Thus a core tray with a capacity of 35 feet contains core from 35 feet of hole and any core lost is represented in that box by lengths of wooden rod placed in the tray at places corresponding to the depths at which the losses occurred. Core for assay was split and the unused half was left in the core trays. Sludge was assayed when available and desirable. Sludge that was collected but not assayed was discarded. Holes were spotted and pointed with a transit and the writer was on hand to check the alignment of each hole as it was collared. Holes were not surveyed at depth. All holes are flat and were drilled approximately normal to the strike of the veins.

The veins dip about 50 degrees northeast. In the drill logs, and in the following discussion, the length of a vein intersection refers to the length as measured on the core. To obtain true widths (as given on Figure 3) each length must be reduced to allow for the oblique intersection of vein and drill hole.

Hole No. 1 cut 1.6 feet of vein material, containing 0.62 per cent tin, at a depth of 160 feet. Sludge was not available to check this tin assay. No stannite was seen.

Hole No. 2 did not intersect anything of importance.

Hole No. 3 intersected 9.4 feet of quartz between 24 and 36.4 feet. This contained one lump of stannite about $\frac{1}{8}$ inch in diameter, several smaller grains of stannite, and a little pyrite, galena, and sphalerite. The four-foot section of quartz containing the stannite assayed 0.15 per cent tin.

Hole No. 4 cut mainly quartz between 11.5 and 17.7 feet but this contained negligible quantities of tin and lead and no zinc. Four and one-half feet of nearly barren quartz was intersected at 142.5 feet. This may be No. 6 vein that outcrops on the trail about 200 feet south by east of 5 portal.

Holes Nos. 5 and 6 did not intersect anything of importance.

Hole No. 7 was drilled to get further information on the vein cut by hole No. 1. About 3.75 feet of nearly barren quartz was intersected at a depth of 131.2 feet but no vein was found that could be correlated with that found in hole No. 1.

Hole No. 8 was drilled to probe the southeast extension of the stannite-bearing vein cut in hole No. 3. This is probably represented by the 2.75 feet of nearly barren quartz found at a depth of 39.7 feet.

Forty-three channel samples were cut from 5, 5-A, and nearby veins (1), to supplement samples obtained by drilling and (2), to check tin assays shown on an assay compiled by the Company. None contained significant amounts of tin. No samples were taken between the portal and survey station 9 because veins exposed there had been sampled recently by Dr. V. Dolmage and reported to contain only very small amounts of tin.

A faulted zone exposed in the drift between survey stations 7 and 9 cuts 5 vein and presumably cuts 5-A and 6 veins. Although faulting within this zone seems to have sliced the veins into several blocks it is doubtful if the net lateral displacement within the zone, measured perpendicular to the strike of the veins, amounts to more than a few feet.

SAMPLING ON SNOWFLAKE LEVEL

(See Figure 4)

Stannite (a tin-bearing mineral) occurs in the quartz vein exposed in the main drift on Snowflake level southeast of the crosscut from the portal. Pyrite and sphalerite are abundant in places and galena occurs in smaller amounts. A survey plug, in the back of the drift where it joins the crosscut from the portal, was used to locate the samples. All vein material in the drift was sampled by channel samples, cut at intervals of about 5 feet, from a point 3 feet northwest of the plug to a point 265 feet southeast of the plug. The weight of individual samples is estimated to average ten pounds. The average dip of that part of the vein sampled is 53 degrees northeast.

From 3 feet northwest of the plug to 150 feet southeast of the plug the vein is mainly quartz and metallic minerals but contains minor partings of slate. Samples from this part

of the drift (Nos. 1651 to 1681, inclusive) include quartz and slate partings, and only one channel was cut at each 5-foot interval.

The vein splits at a point about 150 feet southeast of the plug, and from there to a point about 200 feet from the plug comprises two quartz veins separated by about 2 feet of slate. Samples from this part of the drift (Nos. 1682 to 1700, inclusive) were cut across quartz only, so that at each 5-foot interval two channels were taken: samples 1683, 1685, 1687, 1689, 1691, 1693, 1696, 1698 and 1700 are from the hanging wall vein and contain most of the tin; samples 1682, 1684, 1686, 1688, 1690, 1692, 1694, 1695, 1697 and 1699 are from the footwall vein and contain only minor amounts of tin. Only the samples from the hanging wall vein were used in computing the averages given below.

From 200 to 265 feet from the plug the vein comprises quartz and one or more partings of slate. Throughout this length (except at 240 feet) only one sample was out at each 5-foot interval. Thus samples 1701 to 1707 inclusive, and samples 1710 to 1714 inclusive, include quartz and slate partings.

Sampling and assaying indicated the following:

(1) A shoot of tin-bearing material, 185.5 feet long and averaging 1.79 feet wide, lies from 47 to 232.5 feet southeast of the plug. It contains 5.50 ounces of silver a ton, 0.64 per cent lead, 2.15 per cent zinc, and 0.71 per cent tin.

(2) That part of the shoot lying from 47 to 126.5 feet southeast of the plug (approximately that portion lying within Snowflake ground) is 79.5 feet long, averages 1.94 feet wide, and contains 9.40 ounces silver, 1.17 per cent lead, 2.00 per cent zinc, and 1.13 per cent tin.

(3) That portion of the shoot lying from 126.5 to 232.5 feet southeast of the plug (approximately that portion lying within Regal Silver ground) is 106 feet long, averages 1.69 feet wide, and contains 2.30 ounces of silver a ton, 0.20 per cent lead, 2.28 per cent zinc, and 0.35 per cent tin.

Stannite also occurs in the same vein where exposed in the raise from the Snowflake drift. Only the lower 40 feet of the raise was considered safe and only this part was sampled. Samples were cut at intervals of about 5 feet. This 40 feet of vein averages 2.34 feet wide and contains 10.54 ounces of silver a ton, 2.35 per cent lead, 1.72 per cent zinc, and 1.53 per cent tin. Most of the stannite occurs in the upper ten feet of the section sampled.

It is noted that the silver content of vein, where sampled, varies almost directly as the tin content.

CONCLUSIONS

1. No tin-bearing material of any importance was found on 5 level.
2. Snowflake and 5 levels are too far apart (about 800 feet measured parallel to the dip of the veins) to permit correlation of veins on 5 level with those of Snowflake level.
3. The tin-bearing shoot and vein exposed on Snowflake level remains unexplored at depth. The small amount of diamond drilling done on 5 level, about 800 feet down the dip from Snowflake level, gave no information relative to the possible downward extension of the tin-bearing vein and shoot.
4. The tin-bearing shoot (See Figure 4) exposed on Snowflake level, southeast of the main crosscut, is 135.5 feet long, averages 1.79 feet wide, and contains 5.50 ounces

silver a ton, 0.64 per cent lead, 2.15 per cent zinc, and 0.71 per cent tin. The northwest part of this shoot, probably lying on Snowflake property, is 79.5 feet long and 1.94 feet wide, and contains 9.40 ounces silver a ton, 1.17 per cent lead, 2.00 per cent zinc, and 1.13 per cent tin. The southeast part of the shoot, probably lying on Regal Silver property, is 106 feet long and 1.69 feet wide, and contains 2.30 ounces silver a ton, 0.20 per cent lead, 2.28 per cent zinc, and 0.35 per cent tin.

RECOMMENDATIONS

1. The following samples should be used if a mill test is made on material collected from Snowflake level: Nos. 1661 to 1681 (inclusive), 1683, 1685, 1687, 1689, 1691, 1693, 1696, 1698, 1700 to 1706 (inclusive), and 1715 to 1722 (inclusive).
2. If warranted by the current demand for tin, the ground between Snowflake drift and 5 adit should be probed by diamond drill holes from the surface (See Figure (5) with the object of (1), exploring the Snowflake tin-bearing shoot below Snowflake level and (2), locating any other tin-bearing bodies that may exist in the same vein or in nearby veins. Five preliminary holes should be spotted so as to cut the tin-bearing vein a short distance below the shoot exposed on Snowflake level. Subsequent holes should be spotted according to results obtained in the preliminary holes, keeping in mind the possibility of the existence of more than one tin-bearing shoot. Such a program might involve ten to twenty holes averaging 500 to 600 feet in length. The drilling should be done in the spring or early summer.

Level 5, Regal Silver Mine.
 Started - Nov. 8, 1942
 Finished - Nov. 13, (4p.m.) 1942
 Depth - 201' (Nov. 13.)
 Coordinates of collar - N 10,648.1, E 10,863.3
 Bearing of hole - S 55°10' W
 Dip of hole - flat
 Logged by - C. S. Lord.

Depth	Remarks	Sample		Analysis		
		No.	Length	SN	PB	ZN
0-10.5	Black slate and a little disseminated pyrite. Cave at 7 ft.					
10.5 - 11	Black and grey thin-banded slate with 15% disseminated pyrite	1251	0.6	nil	nil	nil
11 - 15	Black and grey thin bedded slate	1252	0.85	nil	nil	nil
15 - 16	Crumpled slate and films of quartz. A little pyrite in quartz.					
16 - 18	Slate and a few quartz seams with pyrite.					
18 - 23.5	½" slate, quartz, and pyrite at 18 ft. Remainder slate with a few ¼" - 1/16" seams of quartz and pyrite.					
23.5 - 25	Slate and quartz seams with pyrite. 25% quartz.	1253	1.3	nil	nil	nil
25 - 32	Thin bedded slate, and quartz seams mostly less than 1/8" wide.					
32 - 34	Slate					
34	0.3 feet barren white quartz.					
34 - 35	Slate					
35 - 35.5	2" quartz with 30% pyrite; remainder slate.	1254	0.35	nil	nil	nil
35.5 - 67	Slate.					
67 - 85	Slate and quartz seams.					
85 - 85.5	Crumpled slate; and 20% quartz with pyrite.	1255	0.45	nil	nil	nil
85.5 - 90	Slate					
90 - 91	Slate, 50% quartz, and a little pyrite	1256	1.0	nil	nil	nil
91 - 94	Slate, 10% quartz stringers and a little pyrite.					
94 - 95	Slate, a little quartz & pyrite					
95 - 98	Slate.					
98 - 101	Slate, 25% quartz seams, and a little pyrite	1257	3.0	nil	nil	nil
101 - 105	Only 3 ft. of core recovered. Slate and 20% white quartz in seams to 2" wide.					

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	PB	ZN
05 - 109	Slate, and 20% white quartz in seams to 2".					
09 - 120	Slate, and 15% white quartz in seams to 2", and a very little pyrite in some quartz.					
20 - 122	Slate.					
22 - 123	Slate and disseminated pyrite					
23 - 124	Slate; 1-1" and 1-3" seam white quartz.					
24 - 129	Slate.					
29 - 132	Slate. Also 5 seams white quartz, 1" to 3" wide.					
32 - 136	Slate.					
36 - 143	Slate.					
43	1" seam of quartz & pyrite					
43 - 160	Slate; very little quartz					
60 - 162	75% quartz. 0.2' at 160 is white quartz and 60% sulphides, including pyrite, galena, sphalerite. Remainder of quartz in sample contains only a little of these sulphides.	1258	1.6	0.62	0.95	0.41
62 - 165	Slate.					
65 - 169	Crumpled slate with a little quartz and pyrite.					
69 - 171	Slate.					
71 - 192	Thin bedded black slate, with numerous thread-like seams of white quartz. A little disseminated pyrite. Crumpled in places. 1-1" seam white quartz at 179 ft.					
92 - 192.5	Includes 1 1/2" white quartz with pyrite and galena (?). Remainder is slate cut by seams of quartz and pyrite.	1259	0.4	nil	nil	nil
92.5 - 197	Slate with a little disseminated pyrite.					
97 - 197.5	Slate with a 2" seam of quartz and pyrite and a 1/2" seam of quartz and pyrite.	1260	0.45	nil	nil	nil
97.5 - 198.5	Slate					
98.5 - 200	1-1" seam quartz and pyrite at 198.5 and 1-2" seams quartz & pyrite at 200; remainder slate, threads of quartz and a little disseminated pyrite.	1261	1.6	0.05	nil	0.05
200 - 201	Slate. Hole bottomed at 201					

NOTE: All core examined under ultra-violet light. No scheelite noted.

Level 5, Regal Silver Mine, Albert Canyon, B. C.
 Started - Nov. 13, 1942
 Finished - Nov. 16, 1942 (5:30 P.M.)
 Depth - 201 ft. (Nov. 16)
 Coordinates of collar - N 10,776.8, E 11,031.7
 Bearing of hole - N 47° 10' E
 Dip of hole - flat
 Logged by - C. S. Lord

Depth (feet)	Remarks	Sample No	length feet	Analysis		
				SN	PB	ZN
0-10	Thin-bedded black slate & 3-1" white quartz seams. About 8" of core lost.					
10-10.5	75% quartz. 2" qtz. at 10.5 contains abundant pyrite.	1261	0.55	0.05	nil	0.05
10.5-14	slate					
14	50% quartz with pyrite. Quartz as seams in crumpled slate.	1263	0.3	nil	0.54	nil
14-30	slate, with a few 1/16" to 1/2" seams of quartz & pyrite					
30	0.4 ft. barren white qtz.					
30-35	slate					
35-44.5	slate					
44.5-45	40% qtz. with pyrite and a little brown material (sphalerite ??)	1264	0.5	nil	0.09	0.05
45-48	40% white qtz. with a few grains of pyrite & a very little brownish material (sphalerite ??)	1265	3.0	nil	nil	0.05
48-57.7	slate with a little barren qtz.					
57.7-60	slate, and 50% white qtz with a very few grains of pyrite					
60-64	slate					
64-69	crumpled slate & 30% qtz					
69-70	slate					
70-72	slate					
72	3" white qtz.					
72-82	slate					
82-83	0.7 ft. white qtz					
83-85	slate					
85-87	slate with 30% qtz seams up to 1/2"					

LOG D.D. 2 (Cont'd)

Depth	Remarks	Sample		Analysis		
		No	length	SN	PB	ZN
87-88	slate, and 0.7 ft. white qtz. with a little pale greenish micaceous mineral or partings					
88-95	slate, & 15% qtz. as seams 1/32" to 1/4" wide.					
95-96.5	50% qtz as irregular patches and seams.					
96.5-102	slate					
102	1/4" seam qtz. & pyrite					
102-103.5	slate					
103.5-105	slate. 1-1/2" qtz. seam at 103.5 with a few grains of pyrite					
105-130.5	slate with a few white quartz seams up to 2" wide.					
130.5	2" qtz. & pyrite					
130.5-133	slate					
133-135	slate and a little (15%) irregular qtz.					
135-135.5	white qtz. with a little greenish micaceous mineral					
135.5-136	slate					
136-137	slate, pyrite, & a little qtz.	1266	0.4	nil	0.11	0.20
137-140	slate					
140-	2" qtz. & pyrite					
140-143.5	slate					
143.5-144	white quartz with a very little pyrite, sphalerite (??) galena and a pale greenish micaceous mineral.	1267	0.7	nil	nil	nil
144-146	slate					
146	2" quartzitic rk. with abundant f.g. pyrite					
146-168	slate					
168-171	slate, & 30% qtz, & a very little pyrite.					
171-171.5	white quartz and a little pale greenish micaceous mineral.					
171.5-173.5	slate					
173.5-175	slate, & 15% qtz.					
175-178.5	slate					

LOG D.D. 2 (Cont'd)

Depth	Remarks	Sample		Analysis		
		No	length	SN	PB.	ZN
178.5-179	qtz.					
179-181	slate					
181-183	slate, and 20% qtz. stringers					
183-184.5	slate					
184.5	2" seam of qtz & pyrite					
184.5-187	slate					
187-188	white qtz with no visible inetallics					
188-195	slate					
195-	5" qtz.					
195-201	slate					

Note - all core examined under ultraviolet light.
No scheelite found.

LOG D.D. NO. 3

Level 5, Regal Silver Mine, Albert Canyon, British Columbia.
 Started - Nov. 16 (night shift) 1942.
 Finished - Nov. 18 (day shift).
 Depth - 75 feet.
 Coordinates of collar - N 10,486.2; E 11,225.5.
 Bearing - S.43°W (bearings given to nearest 10').
 Dip - flat.
 Logged by - C.S. Lord.

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
0 - 14	slate					
14	0.3 ft. grey quartz and pyrite.					
14 - 24	slate					
24 - 28	White quartz with a little galena, sphalerite, pyrite, and one lump of <u>stannite</u> about $\frac{1}{2}$ " diameter and several smaller grams. <u>Stannite</u> at 26.5 ft.	1268	4.0	0.15	1.28	0.35
28 - 29.7	Same vein as above. White quartz with a little sphalerite and galena at 29.2 ft.	1269	1.7	0.05	1.06	nil
29.7 - 32.7	slate					
32.7 - 35	White quartz with a little galena, sphalerite & pyrite.	1270	2.3	0.05	0.76	2.89
35 - 36.4	Same vein as above. White quartz with pyrite, galena, and sphalerite.	1271	1.4	0.13	1.03	0.45
36.4 - 42	slate					
42 - 44	60% white quartz. Remainder slate.	1272	2.0	nil	nil	0.20
44 - 54.7	slate					
54.7 - 55.3	White quartz, partly ribboned with graphitic partings; a little pyrite.	1273	0.6	nil	nil	nil
55.3 - 59.7	Slate, with a few $\frac{1}{8}$ " to $\frac{1}{2}$ " quartz seams, some of which contain a little pyrite.					
59.7 - 60.2	75% quartz, with a very little pyrite.	1274	0.5	0.05	nil	nil
60.2 - 62	slate					
62	2" grey quartz and pyrite.					
62 - 70	slate					
70 - 75	slate					

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
Sludges						
15 - 20	for check. Should assay nil tin.	1278	5.0	nil	nil	0.05
20 - 25		1279	5.0	0.10	3.71	0.20
25 - 30	core showed stannite at 26.5	1280	5.0	0.27	12.45	0.51
30 - 35		1281	5.0	0.05	nil	nil

Water lost about here and no further sludge recovered.

Note - All core examined under ultraviolet lights. No scheelite seen.

LOG D. D. #4

Level 5, Regal Silver Mine, Albert Canyon, B. C.

Started - November 18 (day shift) 1942

Finished - November 18 (night shift) 1942

Depth - 30 ft. (deepened later)

Coordinates of collar; N 10,508.1; E 11,151.1

Bearing - S 42° 50' W

Dip - flat

Logged by - C. S. Lord

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
0 - 11.5	Slate					
11.5 - 14.0	White quartz and a little slate with a few grains of pyrite. A few grains of sphalerite and galena in quartz	1275	2.5	Nil	Nil	Nil
14.0 - 15.5	80% pyrite. Remainder slate and grey quartz. A few spots fluoresce and may be scheelite	1276	1.5	0.08	0.07	Nil
15.5 - 17.7	60% quartz. A little pyrite, mainly in slate	1277	2.2	Nil	Nil	Nil
17.7 - 19.0	Slate, and 1-5" band white quartz					
19.0 - 25.0	Slate					
25.0 - 30.0	Slate with a few seams of quartz and pyrite less than 1" wide					

Note: All core examined under ultraviolet light. Possible scheelite grains between 14 and 15.5 feet

Sludge not recovered between 10 and 20 feet due to oversight on part of driller.

LOG D. D. 4 (Deepened)

See log November 18 (0 - 30 ft.)
 Deepening started - November 27 (night shift)
 Deepening finished - November 29 (night shift)
 Depth from collar after deepening - 187 ft.

Logged by C. S. Lord

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
30 - 37½	Slate					
37½ - 38	White sugary quartz, 15% pyrite 10% slate	1378	0.4	0.36	Nil	Nil
38 - 39	Black slate, 10% quartz					
39 - 49	Black slate					
49 - 51	Black slate and 10% white quartz					
51 - 64½	Black slate					
64½	3" white quartz					
64½ - 65	Black slate					
65 - 93	Black slate with 10 white quartz seams averaging about 1½" wide					
93 - 94	Black slate and 2 - 2" white quartz seams					
94 - 100	Slate					
100 - 112	Slate					
112 - 112½	60% white quartz; balance slate					
112½ - 114½	Black slate					
114½ - 115	Slate and 4" quartz					
115 - 125	Slate					
125 - 126½	Slate and 30% white quartz in seams ½" - 2½" wide					
126½ - 135	Slate					
135 - 142½	Slate					
142½ - 147	White quartz with 1 - 3" seam black slate and less than 1% pyrite	1379	4.5	0.08	Nil	Nil
147 - 149½	Slate, part minutely drag folded with 5% quartz, and 2% pyrite. Pyrite as seams and as dis- seminated grains					

LOG D. D. 4 (Deepened, continued)

Depth	Remarks
149½ - 150	Soft grey calcareous shale-- strongly effervescent in HCl
150 - 151½	Slate
151½ - 152½	Crumpled slate, 15% grey quartz 5% pyrite
152½ - 170	Slate with a few ½" quartz seams
170 - 173	Grey thin laminated slate and 10% quartz as seams up to ½"
173 - 177	Grey-black slate
177 - 179	Black slate
179 - 180	60% white quartz, balance black slate
180 - 187	Black slate

Note: All core examined under ultraviolet light. No scheelite seen.

No sludge recovered at vein intersections

LOG D.D. #5

Level 5, Regal Silver Mine, Albert Canyon, B. C.
 Started - Nov. 19 (day shift), 42
 Finished - Nov. 22 (day shift), 42
 Depth - 76 feet
 Coordinates of collar; - N 10,576.7; E 11,136.5
 Bearing - S 42° 50' W
 Dip - flat
 Logged by - C. S. Lord

Note - contractors ran out of bits and no drilling was done from 10 A.M. Nov. 20 to 4 P.M. Nov. 21. 3 shifts lost. Water (& sludge) lost at 33.5 ft.

Depth	Remarks	Sample Analysis				
		No	length	Sn	Pb	Zn
0-23	slate, with a few qtz.stringers up to 1" wide					
23-23½	slate, a little qtz, & 60% pyrite	1282	0.4	0.08	0.15	nil
23½-31½	slate					
31½-35	slate with a few qtz seams up to ½" wide.					
35-41½	slate					
41½-44	slate, with thin qtz seams comprising 20% of core.					
44-46	slate					
46-47	qtz with greenish micaceous mineral & less than .5% pyrite.	1283	1.0	nil	nil	nil
47-48½	slate, & 30% qtz seams	1284	1.5	0.05	nil	nil
48½-57	slate					
57-57½	30% qtz; less than 5% pyrite; balance slate. 2" ground while drilling.	1285	0.8	0.05	nil	nil
57½-59	slate except for: 58', ¼" qtz & pyrite; 58.5', ½" qtz & pyrite.					
59-59½	slate; 30% qtz in irregular stringers; and a little pyrite					
59½-60	slate					
60-60½	50% white qtz with a little greenish micaceous mineral					
60½-68	slate					
68	4" white qtz					
68-76	slate					
<u>Note</u> - all core checked under ultraviolet light. No scheelite noted.						
		Sludges				
20-25	see core sample # 1282	1288	5.0	0.05	nil	nil

Level 5, Regal Silver Mine, Albert Canyon, B.C.
 Started - Nov. 22 (night shift), 1942.
 Finished - Nov. 23 (night shift), 1942.
 Depth - 76 feet
 Coordinates of collar: - N 10,615.1, E 11,096.0
 Bearing of hole - S 42°50' W
 Dip of hole - flat
 Logged by - C. S. Lord.

Depth	Remarks	Sample		Analysis		
		No.	Length	SN	PB	ZN
0-11	Slate, badly fractured					
11-13	Slate					
13-14½	Slate with many thin seams of quartz. 30% quartz. One ½" seam of quartz contains 50% pyrite.					
14½-23½	Slate.					
23½-24½	Slate with 15% quartz seams					
24½-32	Slate.					
32-35	Slate, and 40% quartz with less than 5% pyrite	1286	3.0	nil	nil	nil
35-45	Slate with numerous quartz seams amounting to 10% of core.					
45-52	Slate.					
52	2½" contains 75% quartz & 5% pyrite					
52-57	Slate.					
57-57½	30% quartz as four seams. Quartz contains about 5% pyrite.	1287	0.7	0.05	nil	nil
57½-58½	Slate.					
58½	1" seam quartz and pyrite.					
58½-61	Slate.					
61-61.7	Slate and 20% barren quartz.					
61.7-64	Slate.					
64	½" quartz and pyrite.					
64-65	Slate.					
65-68	Slate.					
68	2½" quartz with a little pyrite.					
68-70	Slate and 10% quartz.					
70-76	Slate.					
NOTE: All core examined under ultra-violet light. No scheelite seen.						
Sludges						
30-35	See core sample # 1286	1289	5.0	nil	nil	nil
55-60	See core sample # 1287	1290	5.0	nil	nil	nil

LOG D.D. NO. 7

Level 5, Regal Silver Mine, Albert Canyon, British Columbia
 Started - Nov. 23 (night shift).
 Finished - Nov. 27 (night shift).
 Depth - 199 feet.
 Coordinates of collar; N. 10,647.7, E 10,870.2.
 Bearing - S 22°00' W.
 Dip - flat.
 Logged by - C.S. Lord.

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
- ½	White quartz					
- 3½	Slate					
½ - 4½	Slate, a little pyrite, and 20% quartz.					
½ - 11	Slate					
1 - 15	Slate - badly broken core.					
5 - 23	Slate					
23	2" seam; 50% quartz and 25% pyrite.					
23 - 30	Slate; a few seams of quartz and pyrite up to ½".					
30 - 41	Slate					
41	Quartz and 25% pyrite.	1291	0.3	nil	nil	nil
41 - 45	Slate					
45 - 46	Slate; 1 - 2" seam of white quartz; 1-2" seam grey quartz with 25% pyrite.	1292	0.75	0.05	nil	nil
46 - 47	Pitted slate.					
47 - 52	Slate, broken core.					
52 - 53	Slate and 20% quartz. 1-2½" grey quartz seam contains 25% pyrite.	1293	1.0	0.13	nil	nil
53 - 61	Slate and 20% quartz as numerous thin seams mostly parallel to bedding.					
61 - 65	Slate					
65 - 66	Slate and 20% thin quartz seams.					
66 - 70	Slate and 25% white quartz as seams to 2" wide but mostly less than 1" wide.	1294	4.0	0.10	nil	nil
70 - 71	Slate					
71	3" white quartz.					

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
71 - 72	Slate					
72	3" white quartz.					
72 - 73	Slate					
73	2" white quartz.					
73 - 75	Slate					
75	2" white quartz.					
75 - 76	Slate with seams grey quartz and a little pyrite.					
76	1" grey quartz and 25% pyrite.					
76 - 90 $\frac{1}{2}$	Slate.					
90 $\frac{1}{2}$	2 $\frac{1}{2}$ " white quartz.					
90 $\frac{1}{2}$ - 100	Black slate.					
100 - 103 $\frac{1}{2}$	Black slate with 1/16" - 1/8" pyrite cubes.					
103 $\frac{1}{2}$	3" light grey and black banded calcareous rock - effervescent in HCL.					
103 $\frac{1}{2}$ - 106	Black slate with pyrite cubes.					
106 - 110	Interlayered black slate, calcareous bands, and $\frac{1}{4}$ " to 1" white quartz seams.					
110 - 114	Black slate, part finely mottled with grey.					
114 - 115	Grey sugary quartz with less than 5% pyrite.	1295	1.0	0.16	nil	nil
115 - 117	Greyish slate and 15% quartz. Pyrite cubes in slate.					
117 - 120 $\frac{1}{2}$	Grey, thin-bedded, soft, slightly calcareous shale with pyrite cubes.					
120 $\frac{1}{2}$ - 124	Black slate with pyrite cubes commonly 1/8".					
124 - 125	Grey shale with a little quartz and a 2 $\frac{1}{2}$ " seam of pyrite.	1296	1.0	0.08	nil	nil
125 - 128	Grey and black slate with several $\frac{1}{2}$ " quartz seams.					
128 - 129	50% white quartz with a few specks of pyrite. Balance is slate with a little pyrite.	1297	1.0	0.10	nil	nil

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
129 - 130	Grey and black crumpled slate.					
130 - 131½	50% grey and black slate with a little pyrite. 50% sugary grey sericitic quartz with a little pyrite.	1298	1.25	0.16	nil	nil
131½ - 135	Mostly white quartz. 3" grey sugary sericitic quartz at 131½. 134-135 contains 5% pyrite. Balance contains less than 1% pyrite and as nearly pure quartz.	1299	3.75	0.02	nil	nil
135 - 135½	Slate					
135½ - 138	Contacted slate. 25% quartz. Quartz part brown (iron stain?) and part white and sugary. Less than 5% pyrite.	1300	2.5	0.08	nil	nil
138 - 155	Greyish, thinly laminated slate with pyrite cubes. A few quartz seams up to ½".					
155 - 156½	Slate, and 30% intimately associated quartz with less than 5% pyrite.	1375	1.5	0.05	nil	nil
156½ - 160½	Slate.					
160½ - 164	Thinly-bedded slate, 10% quartz seams and quartz partings.					
164 - 169	Black slate.					
169	3" white quartz.					
169 - 176	Slate					
176	2½" quartz containing 50% pyrite.					
176 - 179½	Slate.					
179½ - 180½	Slate and 30% white quartz.					
180½ - 186	Black slate.					
186 - 192½	Badly broken black slate. Possibly part of a fault zone. 2½ feet of core lost, mostly from 190 - 192½.					
192½ - 195	Thoroughly crushed black slate of possible fault zone. About 2" broken white quartz. Plot fault (if required) at 192½.	1376	2.5	0.05	nil	nil
195 - 196	40% barren (?) white quartz; 60% broken slate; a few grains of pyrite.	1377	1.0	0.05	nil	nil
196 - 199	Slate. Bottom of hole at 199.					

Depth	Remarks	Sample		Analysis		
		No.	Length	Sn	Pb	Zn
Sludges						
5 - 10		1725	5.0	0.08	nil	nil
40 - 45		1726	5.0	nil	nil	nil
45 - 50		1727	5.0	nil	nil	nil
50 - 55		1728	5.0	nil	nil	nil
65 - 70		1729	5.0	nil	nil	nil
70 - 75		1730	5.0	nil	nil	nil
110 - 115		1731	5.0	0.10	nil	nil

All core examined under ultraviolet light. No scheelite.

Level 5 - Regal Silver Mine, Albert Canyon, B.C.
 Started - Nov. 30 (day shift)
 Finished - Nov. 30 (night shift)
 Depth - 46 feet
 Coordinates of collar - N 10,453.6; E 11,263.1
 Bearing - S 42°50' W
 Dip - Flat
 Logged by - C. S. Lord

Depth	Remarks	Sample		Analysis		
		No.	Length	SN	PB	Zn
0 - 4 $\frac{1}{2}$	Black broken slate.					
4 $\frac{1}{2}$	2 $\frac{1}{8}$ " quartz with 5% pyrite & less than 1% galena.					
4 $\frac{1}{2}$ - 5	Black Slate.					
5 - 6	Black Slate & 20% white quartz as three seams. Quartz contains less than 5% pyrite.					
6 - 8	Slate.					
8	White quartz with a little greenish micaceous mineral & less than 5% pyrite.	1380	0.5	0.05	nil	nil
8 - 27	Black slate with a few $\frac{1}{2}$ " seams of white quartz.					
27 - 27 $\frac{1}{2}$	Slate, 40% quartz & less than 5% pyrite.					
27 $\frac{1}{2}$ - 29	Slate.					
29	2" grey quartz with 40% pyrite.					
29 - 32 $\frac{1}{2}$	Slate.					
32 $\frac{1}{2}$	2 - $\frac{1}{2}$ " seams white quartz and 1-1/16" quartz seam with two specks of possible schmelite.					
32 $\frac{1}{2}$ - 35	Black slate & 10% quartz seams.					
35 - 39.7	Grey & black slate & 5% quartz.					
39.7 - 42.5	White quartz. Metallics, including pyrite, sphalerite, and galena, occur next each wall and comprise about 2% of vein.	1381	2.75	nil	0.26	nil
42 $\frac{1}{2}$ - 43	Slate, 50% quartz and less than 5% pyrite					
43 - 46	Slate.					

NOTE: - All core examined under ultraviolet light. A very little schmelite seen at 32.5

Sludges

5 - 10	1723	5.0	nil	nil	nil
25 - 30	1724	5.0	nil	nil	nil