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723 *Kelly Lake* and
REPORTS ON ⁷²⁴
92B-15, 86
CELLARDOR MINES LTD.

PROPERTY FILE

PROPERTY FILE

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HISTORICAL EXTRACTS
from ANNUAL REPORTS of
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from 1904 - 1928

SEAL
THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA
DEPARTMENT OF MINES
VICTORIA

January 31st, 1951

Mr. Edgar C. Van Dyke
516 Harrison Building
4 South Fifteenth Street
Philadelphia 2, Pa.

Dear Sir:

This will acknowledge receipt of your letter of January 26th.

Attached hereto are excerpts from page 253, of the Annual Report of this Department for the year 1904; from pages 26 and 216, from the 1905 Report; and from pages 155 and 215 of the Annual Report for the year 1907, together with excerpts from our Reports as follows:

Page 164 - Annual Report 1906
Page 278 - Annual Report 1909
Page 312 - Annual Report 1916
Page 272 - Annual Report 1923
Page 363 - Annual Report 1928

Also attached are excerpts from Geological Survey Memoir 96 covering the Sooke and Duncan Map areas. This is all the official information available here regarding the King Solomon Mines. You may find all of these reports on the shelves of the public library at Philadelphia, Zone 3 but the enclosures are being forwarded in case these reports are not available there.

The station referred to in the first paragraph of your letter is Koksilah, not King Sol. *What about Kinsch?*

Under separate cover I am forwarding copy of sketch map showing mining divisions for the province of British Columbia.

Yours truly,

/s/ P. J. Mulcahy

Chief Gold Commissioner

PJM:md
Encl.

EXCERPT FROM ANNUAL REPORT - 1904, page 253

KOKSILAH AND COLVIN MOUNTAINS (KOKSILAH RIVER)

A fair showing of copper ore has been uncovered on the King Solomon claim, from which two small shipments have been made to the Tyne smelter, Ladysmith, with satisfactory results. A number of claims have been staked in the district during the year, but very little work has been done beyond the necessary assessment work.

EXCERPT FROM ANNUAL REPORT - 1905, page 26

The King Solomon mine, at Koksilah, has made a small shipment of 40 tons of 8% copper ore, and some other properties in the vicinity are being prospected.

EXCERPT FROM ANNUAL REPORT - 1905, page 216

The King Solomon made a small shipment with very encouraging returns.

EXCERPT FROM ANNUAL REPORT - 1907, page 155

KOKSILAH

The King Solomon Mines, adjoining the Bluebell and owned locally, has had very little work done during the past year. The present exposures certainly seem to warrant a further expenditure of capital. The whole formation in this district appears to be shattered, and it is the opinion of experts who have prospected the ground that there is every reason to expect settled and payable ore deposits in depth.

EXCERPT FROM ANNUAL REPORT - 1906, page 164

The copper ores on the ridge between the fork of the Koksilah and Cowichan rivers, the King Solomon and Blue Bird group of claims, are developed in the calcareous members of the Victoria series. They are not, however, directly contact bodies, although they may owe their origin to unexpected or neighbouring intrusive masses. The ore minerals occur in shear zones and veins in the metamorphosed calcareous rocks of the region.

KOKSILAH RIVER PROPERTIES

During 1916 some interest was revived in lode-mining on the Koksilah river, near Duncan, when Joe Gallo, of Cowichan Station, started work on the Viva, Elsie D., and Comet mineral claims, from which he shipped about 250 tons of copper ore having a copper content of about 4 per cent.

Some years back considerable work was done on the Bluebell group and King Solomon mineral claims, and several shipments of copper ore were made despite the handicap of a wagon-haul of about four miles to Cowichan Station, on the Esquimalt & Nanaimo Railway; but since about 1907 little work has been done until during the past summer, when Gallo operated, as mentioned above.

The occurrences of copper ore on the Koksilah ridge belong to the contact-metamorphic type of ore-deposits and occur in metamorphosed limestone, some distance from the contact with the main body of intrusive granitic rock, that, according to Clapp, is so much metamorphosed and sheared and so intimately associated with metamorphic and sheared volcanics that the two types of metamorphic rocks cannot always be distinguished. The deposits consist chiefly of impregnations of magnetite, pyrite, and chalcopyrite in the sheared metamorphic rocks.

EXCERPT FROM ANNUAL REPORT - 1923, pages 272 and 273

The most prominent claims in the Koksilah River section are the King Solomon and Blue Bells groups. They were developed to a considerable extent about twenty years ago and several hundred tons of ore was shipped from them. The product from the King Solomon was shipped to the Crofton smelter and that from the Blue Bells to the Ladysmith smelter, but operations were abandoned because of the prohibitive cost of transportation, which included a wagon-haul of about 5 miles to Cowichan Station, on the Esquimalt & Nanaimo Railway, in addition to the railway-haul from Cowichan Station to either of the smelters mentioned, but now the grade of the Canadian National Railway is close to the portal of the lower adit on the King Solomon, which was driven in 1913. The Blue Bells would require a short aerial tramway to connect the mine-workings with the railway.

Owing to improved transportation facilities I examined these groups of mineral claims during the past summer, but found that the workings would have to be cleared out and the shafts, of which there are four on the two groups, unwatered before any data sufficient to base a report on could be obtained.

The prevailing country-rock in this section belongs to the "Vancouver group" as Classified by Clapp and other geologists.

The King Solomon and Blue Bells groups adjoin, the workings on the Blue Bells being situated in a general north-westerly direction from the King Solomon workings.

There are apparently two distinct and well-defined lenses of ore occurring, one on the King Solomon and another on the Blue Bells. These ore-bodies belong to the contact-metamorphic type of ore-bodies, although the ore does not occur exactly at the contact, but at some little distance from it. The ore is associated with such metamorphosed minerals as garnet, epidote, and diopside.

Clapp in his report on the "Sooke and Duncan Map-areas, Vancouver Island," Memoir 96, Geological Survey, Canada, draws attention to the fact that, although not in contact with the mineral-deposit, there are several small stocks of Saanich granodiorite in the vicinity of the King Solomon, and that in contact with the ore-body is a dyke-like mass of quartz bearing feldspathic gabbro which is apparently closely related to the Saanich granodiorite.

The metallic minerals found in the ore-deposits on the King Solomon and Blue Bells groups are pyrrhotite, pyrite, and chalcopyrite. The ore-deposits on both the King Solomon and Blue Bells show a maximum width of nearly 50 feet, about one-half of which shows a richer mineralization than the remainder. The length of these ore-deposits has not been determined in either of the groups, but apparently the length of each lens exceeds 200 feet.

The values as shown from smelter returns indicate that the ore-bodies have an average exceeding 2 per cent copper, associated with which are low gold and silver values.

EXCERPT FROM ANNUAL REPORT - 1928, page 161

KOKSILAH RIVER SECTION

King Solomon and Blue Bell - These are adjoining groups situated on the Koksilah river. The only mention of these old properties is in the Annual Report for 1907. At that time the Blue Bell was owned by the Vancouver Island Mining and Development Company, Limited, of Vancouver, which had done considerable diamond-drilling, considered as fairly encouraging. A shaft was sunk over 100 feet deep, which had not at that depth reached the ore indicated in the drilling, but showed ore of fair value. No further information is available.

EXCERPTS FROM GEOLOGICAL SURVEY MEMOIR 96 SOOKE : DUNCAN

MAP AREAS

"The metallic minerals found in the contact deposits, in about the order of their relative abundance, are pyrrhotite, magnetite, pyrite, and chalcopyrite, far less abundantly sphalerite and galena, and in the King Solomon Deposit tetrahedrite."

"Tetrahedrite, as mentioned, is restricted to the King Solomon deposit and occurs there with pyrite and chalcopyrite in small granular masses and grains disseminated through the sheared and altered volcanics."

The deposits at a greater distance from the main contacts occur more commonly as impregnating grains and small replacement lenses in the sheared, contact-metamorphosed rocks, and less commonly as relatively large bodies composed of metallic minerals mainly. They follow, therefore, more or less well-defined shear zones from $\frac{1}{4}$ or 5 feet to 30 feet wide and 100 to 1,000 feet long. At both places where the deposits of this type are known--in the Sterling and Glen Apa claims and in the vicinity of the King Solomon claim--the country rock is chiefly a dense greenish rock which seems to be the result of the silicification of the sheared Vancouver volcanics. At both places, however, small lentils of Sutton limestones occur in the volcanics in the immediate vicinity, and calcite and dolomite are prominent gangue minerals; and to the east of the King Solomon claim the metallic minerals occur disseminated through a garnet-diopside-quartz-calcite rock, which looks as if it were the result of the contact metamorphism of limestone. No granitic rocks outcrop within half a mile of the deposit in the Sterling and Glen Apa claims, but several bosses of Wark gabbro-diorite occur within a mile, and the large batholith of Wark gabbro-diorite occurs a mile to the southeast. Although not in contact with the mineral deposit there are several small stocks of Saanish granodiorite in the vicinity of the King Solomon claims, and in contact with the ore-body is a dyke-like mass of quartz-bearing feldspathic gabbro, which is apparently closely related to the Saanish granodiorite. It looks, therefore, as if in both places, the granitic rocks underlay the deposits at no great depth.

5-5

"In the King Solomon claim the ore minerals form at least one fairly distinct lens in a shear zone striking about north 40 degrees east and dipping about 45 degrees to the southeast. The richer portion of the lens is about 20 to 30 feet wide with an outer and lower grade zone, averaging about 2 per cent copper 15 to 20 feet wide, the foot-wall of the deposit being rather indefinite. The exposed length of the lens is about 200 feet, but its true length may be greater. The King Solomon deposit was actively developed, largely by means of an adit, during 1913, but little or no work was done 1914, and the results of the development are not known. The neighbouring Blue Bell claims were extensively developed several years ago by the Tyee Copper Company, by means of a shaft and drifts, and other claims in the vicinity have been prospected. No work has been done on the Sterling and Glen Apa claims for many years."

GENERAL REPORTS

1921 - 1938

HUME

SEE

Relative to the KIMO SOLEMON MINES, Vancouver Island, British Columbia, we herewith give you the following information:

1. Title to the property is registered in the name of Henry Augustus Nolte, whom we exclusively represent, as is more specifically set forth in the photostatic copy of the Certificate of Title herewith enclosed.
2. Also enclosed herewith you will find a memorandum containing detailed data on the property, setting forth:
 - (a) The holdings, comprising 134.262 acres;
 - (b) The location of properties on Vancouver Island, with railroad connection through properties;
 - (c) Brief history of the properties stating development to date;
 - (d) The geology;
 - (e) Blocked-out and proven ore; smelter used and assays of shipments;
 - (f) Water rights;
 - (g) Shipping facilities;
 - (h) Topography showing timber growth and available footages;

This memorandum also contains synopsis of engineers' reports from the following:

- (a) James Humes, nationally-known geologist and mining engineer, originally from Philadelphia, Pa., who after his work on the Butte-Montana Copper Mines, acquired these properties for personal development, and who is now deceased.
- (b) His services were followed by his son, H. G. Humes, who was the managing engineer, up to his death some years later.
- (c) William H. Brewer, a resident engineer, Western Mineral Survey District (No. 6) in Nanaimo, Vancouver Island, British Columbia, dated August 7, 1922, who made his report at the instigation of and on order issued by William Sloan, Minister of Mines for British Columbia.

- (d) Walter M. Brown, M. E., of Searchlight, Nevada, at the request of Smelter & Associates.
- (e) Chester F. Lee, M. E., of Seattle, Washington, member of American Institute of Mining Engineers, Professor in Deer Lodge College, Montana, with twenty years' experience with mines and smelters in the Northwest, as well as a consultant engineer.

3. Enclosed also you will find blueprints:

- (a) Showing the Upper and Lower Works done on KING SOLOMON MINES, as prepared by Chester F. Lee, M. E., above referred to.
- (b) Showing Lots 152, 157 & 160, Delbrook Dist., detailing merchantable timber tunnels, open cuts, striping, buildings, etc.; also cruise of fir, cedar, hemlock on respective lots.

These properties are properly registered and in good standing with the Canadian Government, and taxes thereon have been regularly paid by Mr. Holte. There are no liens outstanding.

After a certain amount of development work had been done on the properties by Mr. James Humes at his own expense, he incorporated under the name KING SOLOMON COPPER MINING COMPANY, LTD., under the laws of Canada, and some stock was sold to his friends and associates, including Mr. Holte.

After the death of Mr. James Humes, Mr. Holte legally took title to the properties and the corporation was dissolved.

Due to intervention of war and lack of required capital, and Mr. Holte's age and business in Philadelphia, he allowed the properties to lie dormant and no work has been done on the same since his taking title. It has not been promoted by him or anybody else.

DETAILED DATA ON THE COPPER PROPERTY

Known as
KING SOLOMON MINES

OWNER:

Dr. H. A. Nolte
Philadelphia, Pa.
(Now aged 83)

PROPERTIES:

Certificate of Title #22301-F, dated Oct. 3, 1925
Recorded in Absolute Fee, Book Folio 37,
Vol. 472, Victoria, B. C.
Lot 17-G - King Solomon Mineral Claims-Crown Granted
Lot 18-G - Queen of Sheba Mineral Claims-Crown Granted
Lot 19-G - Kokosilah Mineral Claims-Crown Granted
Lot 15-G - Blue Bell Mineral Claims (2.262 acres)
In all 134.262 acres.
Photostatic copy of same available.

LOCATION:

Helcken District, Kingsol Station - located on the property -
between 35 and 50 miles N. W. from Victoria on Vancouver Island,
British Columbia. Railroad siding on the property.

HISTORY:

Discovered by prospectors in 1907, who shipped over 300 tons, by
wagons, to the Types Copper Company's smelter at Ladysmith. It
was average grade copper: 8.17%, 6 oz. silver with a trace of gold. Price then
\$16.00 per ton. It was surveyed and geologized by James Humes, nationally known
geologist and a mining engineer. Mr. Humes opened the Butte-Montana Mines; later
sold his interest and put his money in the King Solomon properties. It was
developed to the extent of \$150,000. under the name of King Solomon Copper Mining
Co., Ltd. Due to the first World War and lack of capital, operations discontinued
in 1914, and have not been operated since James Humes died. Dr. Nolte, as the
largest stockholder and mortgage holder, foreclosed and took the property over
under his mortgage and as shown by Certificate of Title. Because of his profound
and his age, he has never done anything further with the mines.

GEOLOGY:

Geology simple. The country rock is a gray syenite, which has been
folded and broken along the anticlinal axes. Through these breaks,
the ascending solutions have come and formed ore bodies. From this it follows
that the ore deposits are found at or near the summits of the low rounded hills
where the folding was greatest and breaks, due to strain, most extensive. Ore occurs
in lenses from 200 to 300 feet long and 30 to 70 feet wide. The minerals occurring
consist of chalcopyrite, tetrahedrite, gold, silver and copper. The gangue minerals
are quartz, dolomite and calcite. Copper is found in the form of chalcopyrite
disseminated through the limestone.

DEVELOPMENT: There has been some development and tunnel work done on three levels:-

- 1st - Lower Level - 700 feet tunnel - free of water - about 150 feet more needed to
go to strike the veins.
- 2nd - Wide open cut to an opening (Adit) water glory hole and shaft water.
- 3rd - 300 feet elevation deep and open cut or quarry. Connects with Adit 52 feet
long to a shaft on level about 100 feet higher than last mentioned.

BLOCKED-OUT:

Shippings taken out during development work averaged better than 8%
copper, besides the gold and silver, and shipped direct to smelter.

PROVEN ORE:

The upper ore body 170 ft. long, 50 ft. wide and 350 ft. dip, shows
in excess of 225,000 tons. Lower body 375,000 tons. This is only a
small part of property; other veins not yet opened - 5 veins known.

SMELTER: American Smelting & Refining Co., Tacoma, Washington - 175 miles away.

ASSAYS: Four shipments from lower level averaged 1.06% copper, 67¢ gold and silver, or a total of \$16.03 (old gold and silver prices). Three shipments from upper level averaged 4.91% copper and 86¢ gold and silver - or \$15.45.

WATER RIGHTS: Water Rights available, with Government authority, from Humes Creek territory of Koksilah River. However, to be relicensed. The finest kind of water for all purposes is available right at the mine or at the Koksilah River. There is sufficient water for a 10,000 ton or more operation.

SHIPPING FACILITIES: Shipping facilities are ideal as the Canadian National or the Canadian Pacific Railway passes through the King Solomon property within 200 feet of the portal of the main crosscut tunnel. Ore bins can be built at the portal and the ore loaded directly into the railroad cars and shipped direct to the smelters.

TOPOGRAPHY: The King Solomon Mines are in what is known as the Cowichan basin, at an elevation of 900 feet above sea level, and 10 miles from tidewater. The adjoining mountains reach elevations of 1500 feet to 2000 feet. The country is heavily timbered; the soil in the valleys is rich, producing all kinds of fruits and vegetables. The streams and lakes teem with fish and the mountains with deer and birds. Rainfall averages 15 inches per year, snow fall is light. The temperatures are not extreme, and working can be carried on the entire year on the surface and underground.

EQUIPMENT: Of little value - Must be replaced.

ENGINEER REPORTS: The following quoted conclusions are taken from the individual report of each quoted Engineer. A copy of the entire report of each engineer is available on request if sufficient interest warrants full information.

ENGINEER REPORT James Humes, nationally known geologist and mining engineer, died. H. G. HUMES: H. G. Humes, M. E., son of James Humes, the original operator of the mines, formerly of 2007 Wilshire Boulevard, Los Angeles, Calif. Also now deceased. Mr. Humes' report ends with the following quoted CONCLUSIONS:-

"At the present time I know of no other property that is more deserving of being developed than the King Solomon Mines.

"There are two distinct highgrade ore deposits that give it a double chance of success besides the large low grade zone that has been developed in the lower crosscut.

"The geological formations are favorable. The ore is of such a grade as to give a margin of profit at the present price of copper, and with business conditions improving we should have a price of 14 cents per pound for copper by the first of the year.

"The economical conditions as to labor, railroad facilities within 200 feet of the main working tunnel, close proximity to the smelters are conducive to cheap operations.

"With all the advantages for cheap operation, and large ore bodies the King Solomon mines offer every inducement for a profitable operation, and I strongly urge the rehabilitation of the mine to place it on production as soon as possible."

(This report is undated, but definitely made previously to 1922.) - *Questionable, since little record before Oct. 31, 1925.*

ENGINEER REPORT William M. Brewer, Resident Engineer, Western Mineral Survey District
WM. M. BREWER: (No. 6) Nanaimo, Vancouver Island, B. C. Dated: August 7, 1922

CONCLUSIONS: "After making as thorough an examination of the Mineral Claims owned by the King Solomon Copper Mining Company, Ltd., as is possible when the present conditions of the mine workings are considered, I am of the opinion that there is no particular reason why mining work should not be resumed. My reasons for this statement are:

"FIRST: The opening of the Canadian National Railway, the grade of which traverses a part of the property of the King Solomon Copper Mining Co., Ltd., has removed the handicap heretofore existing with regard to transportation facilities.

"SECOND: Several years ago copper sulphide ore of commercial value was hauled on wagons from the King Solomon mine to the Cowichan Station on the Esquimalt and Nanaimo railway for shipment to the Tyee Copper Company's smelter at Ladysmith where it appears reasonable that operations can be resumed.

"THIRD: The development work done at the mine has not been sufficient to determine fully its possibilities and should be extended for that purpose.

"FOURTH: So far as can be seen at present, the ore occurring on the property is comparatively low grade, but apparently of such a character as to be amenable to concentration by the Oil Flotation process thereby insuring profitable operations on a larger scale than would be possible if sorting the ore up to a grade sufficiently high to warrant shipping and smelting direct.

"FIFTH: In my opinion the ore bodies promise such extent and permanence as to merit further prospecting and development work being done systematically to determine the continuity at depth and block out "Actual" ore available."

ENGINEER REPORT Chester F. Lee, M. E., Seattle, Washington - Member of American
CHESTER F. LEE: Institute of Mining Engineers. Elected in 1903, he was an instructor in the College at Deer Lodge, Montana. Had more than 20 years with mines and smelters in the Northwest, and for 15 years was a Consulting Engineer and examiner of mining properties.

CONCLUSIONS: "This is a very good mining property. The two ore bodies so far opened up give it a double chance of success. Each one of them has the making of a mine. The formation is favorable, the ore bodies are strong, the ore is of a good grade to give a good margin of profit, and the facilities for working and disposing of it are excellent. The property deserves thorough equipment and exploitation and will pay well when put in shape to ship 100 tons a day."

ENGINEER REPORT Walter M. Brown, M. E., Searchlight, Nevada - July 1, 1916.
WALTER M. BROWN:

CONCLUSIONS: "The possibilities of this property have been admirably and concisely summed up by Mr. Lee, in words that will bear repetition. This is a very good mining property. The two ore bodies so far opened up give it a double chance of success. Each one of them has the making of a mine. The formation is favorable, the ore bodies are strong, the ore is of a grade to give a good margin of profit, and the facilities for working and disposing of it are excellent. The property deserves thorough equipment and exploitation and will pay well when put in shape to ship 100 tons a day."

CANADIAN LEGAL REPRESENTATIVE: Harold A. Beckwith, Barrister-at-Law
110 Belmont House
Victoria, B. C.

TIMBER:

Back in 1918, Dr. Nolte received the following report: "Upon the Company's property there is a heavy growth of Douglas Fir and White Cedar timber from which perhaps six to eight million feet of merchantable lumber can be cut; and within a radius of three miles of the saw mill, there is additional timber amounting to many millions of feet which might be acquired on cheap terms." In 1928 to 1930 the then present growth was sold to Kinsal Lumber Co. Second growth timber should in time amount to a great deal....Certainly more than enough to take care of any mining developments.

DORMANCY:

The dormant condition and the fact that dormancy has existed there so long is due to several facts:

First:

Lack of sufficient funds;

Second:

The death of Engineer, James Humes;

Third:

The age of the present owner, Dr. Nolte.

FINALLY--

Any further information is available and will be forthcoming on request if sufficient interest in the property shown.

CHAS. C. DOUGLAS
4 South 15th Street
Philadelphia 9, Pa.

Phone: LOcust 7-6368

You will find enclosed copy of report of Mr. H. G. Humes, M. E., son of Mr. James Humes, dated January 2, 1938.

You will note in going over this report that the prices therein mentioned would not be applicable today; and the same applies to his projection of figures on labor and equipment. However, the figures he quoted are based on the old prices of copper, silver, and gold, which have naturally changed as well. These would more or less compensate with the other figures and should allow the profits to remain substantially the same.

Los Angeles, California
January 2, 1936

Mr. Edward Weideman, Jr.
Union League
Philadelphia, Pa.

Dear Sir:

Pursuant to your request, I herewith submit to you my report on the King Solomon Mines, along with the reports of Chester F. Lee and Walter M. Brown, two mining engineers of excellent reputation; also a resume by the Provincial Mineralogist of British Columbia.

I lived on the property for over one year, had charge of all the development work until the property closed down the latter part of 1914, and made a very thorough study of the King Solomon as well as the other properties adjoining.

My recommendations now are the same as then and my opinion of the property has been and is that it will develop into as good a paying mine as the Tye mine on Mount. Sicker a few miles distant.

Very truly yours,

H. G. Hues

REPORT
ON THE
KING SOLOMON MINES
VANCOUVER ISLAND B. C. CANADA
BY

H. G. Humes
Mining Engineer
2007 Wilshire Boulevard
Los Angeles, California

I N D E X

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SUMMARY:

LOCATION: 50 miles from Victoria, Vancouver Island, British Columbia, Canada, on the Canadian National Railroad.

PROPERTY: Three Crown Granted mineral claims, approximately 150 acres. Title are perfect.

GEOLOGY: The metallic minerals occur as impregnations and replacements of the sheared metamorphic rocks. The valuable minerals are gold, silver and copper.

CAPITAL REQUIRE:

Mining Machinery	\$10,000.00
Mill	50,000.00
Working Capital	<u>12,000.00</u>
Total	\$72,000.00

ESTIMATED PROFITS:

The estimated profits on a basis of 100 tons per day, and a 350 day year should be as follows:

Value of ore per ton		\$9.90
Mining	\$2.25	
Milling	1.25	
Freight & Smelting	0.90	
Losses & Deductions	<u>3.00</u>	<u>\$7.40</u>
Net per ton of crude ore		\$2.50
35,000 tons per year		\$87,500.00

LOCATION:

The King Solomon Mines are located in Volhaken District, of the Victoria Mining Division, 50 miles from Victoria, Vancouver Island, British Columbia, Canada, on the Canadian National Railroad. The railroad station at the mine and which is on the property is called Kinsol. You can also reach the mine by automobile from Victoria over the famous Malahat drive a distance of 60 miles.

PROPERTY:

The property consists of three mineral claims, the King Solomon, Koksilah, and Queen of Sheba, all Crown Granted. These claims are 1500 feet by 1500 feet and contain approximately 1.0 acres of ground. The titles are clear and perfect. (A Crown Grant corresponds to a patent in the United States.)

HISTORY:

The property was first discovered by prospectors in 1907. They shipped about 300 tons of ore to the Ladysmith smelter. The average value of this ore was better than \$16 per ton. The property was acquired by the King Solomon Copper Mining Company in 1908. This company equipped the mine with boiler, compressor, machine drills, sawmill and other miscellaneous equipment. The King Solomon Company did considerable development work but had to stop operations due to the war and lack of funds. The property then reverted to Dr. H. A. Nolte of Merion, Pa.

GENERAL GEOLOGY:

The rocks of this district consist of metamorphosed limestones, Granite, Garnet-Diopside-Quartz-Calcite rocks. They have a general northwest-southeast strike and a prevailing dip to the northeast. A large part of the area is covered by superficial deposits of various kinds. They were deposited by the agencies during the various glacial occupation and retreat." (Geological Survey, Department of Mines.)

ECONOMIC GEOLOGY:

The deposits of the King Solomon mine are Contact-Metamorphic deposits, and impregnated and replaced shear zones. The minerals occur in belts of metamorphosed limestone, and in lenticular deposits. From the present development the more important deposits occur as lenticular deposits and the minerals consist of iron pyrites, chalcopyrite, and tetrahedrite, some galena also occurs. The gangue minerals are quartz, dolomite and calcite. Adjacent to the two lenticular deposits is a massive low grade ore body with the copper in the form of chalcopyrite disseminated through the limestone. The iron gossan which outcrops on the surface indicates large lenticular ore deposits. These outcrops occur near the summit of the mountain and at present two have been discovered lying at right angles to each other and approximately 300 feet apart horizontally and 50 feet vertically.

ORE DEPOSITS:

There are six known ore deposits on the King Solomon and two adjoining properties; the Blue Bell and Boles. Four diamond drill holes were put down on the Blue Bell; two showed 20 feet of ore averaging 9-3/4% copper at 128 feet and 19 feet of ore averaging 4-1/2% copper at 168 feet. A shaft was sunk 60 feet when the owner died and the property has been tied up in an estate ever since.

There are two distinct ore bodies on the King Solomon; the lower body is 300 feet long and 20 feet wide. The upper ore body is 170 feet long with an average width of 50 feet; extreme width at least 70 feet. What is known as the limestone ore body has been crosscut for a distance of 500 feet. This deposit is apparently separate from the leuticular deposits and of a lower grade. The upper ore body has a strike of N 45 degrees W, and a dip of 45 to 50 degrees northeasterly. Near the northeast corner is a shaft 25 feet deep all in ore, average grade 5% copper, this shaft is connected with a drift 70 feet long and an open cut 20 feet long all in ore, average value 4% copper. The gold and silver values at present prices will average \$1.50 per ton. There are several open cuts that also show ore.

The lower ore body has a strike of N. 30 E. and a dip of 35 degrees southeasterly. An incline shaft 28 feet deep 10 feet long and 5 feet wide shows ore all the way down, average value 4% copper. A crosscut 95 feet long shows ore for 40 feet, balance is heavily mineralized with iron and copper. The 40 feet in ore will average 5% copper. A winze was sunk below the crosscut 6 feet deep and 18 feet long all in ore, average value 5% copper. The gold and silver will average \$1.50 per ton. There are also several open cuts on this deposit that show ore.

The main crosscut tunnel 150 feet lower down than the lower ore body has been driven in 680 feet. This tunnel was driven in for the purpose of tapping the two ore bodies above but has never reached its objective. In driving this crosscut a zone of low grade ore was encountered at about 150 feet from the portal and has continued to the present face. Samples taken and assayed by the writer during this work showed values from 0.5% up to 2-1/2% in copper. This zone may develop into a large lowgrade concentrating proposition, and is not to be confused with the other higher grade ore deposits. On the dip of the ore bodies there will be from the lower ore body 300 feet of backs, and from the upper ore body 350 feet of backs down to the level of the main crosscut tunnel.

ORE BLOCKED OUT:

At present there is no ore blocked out that can be measured on three sides, although all the drifts, shafts, and open cuts in the upper ore bodies are all in ore, and the potential tonnage is great. The ore that is now exposed will average 1% copper and approximately \$1.50 in gold and silver. The shipping ore taken out during this work was all shipped direct to the smelter by wagon five miles to Cowichan the nearest railroad point at that time then to the Ladysmith smelter. There is no question but more shipping ore will be found as the development work progresses.

Taking the upper lense at 170 feet long, average width at 45 feet, and the distance on the dip of the vein down to the main crosscut at 350 feet, and allowing 12 cubic feet to the ton in place the estimated tonnage should be 220,000 tons. The lower ore body at 300 feet long, 20 feet wide, and 300 feet on the dip the estimated tonnage should be 150,000 tons, or an estimated potential tonnage 370,000 tons. For both of them.

SMLTERS:

Shipments can be made to the American Smelting & Refining Company's smelter at Tacoma, Washington, a distance of 200 miles, or to the Trell smelter a distance of 300 miles. There is a smelter at Ladysmith 25 miles distance, but at the present time this is not operating.

Shipping facilities are ideal as the Canadian National Railroad passes directly through the King Solomon property within 200 feet of the portal of the main tunnel. Ore bins can be built at the portal, and the ore loaded directly into the railroad cars and shipped direct to the smelters. If the Ladysmith smelter starts operating at any time shipments can be made by truck or railroad. Shipments could also be made by truck to Cowichan bay a distance 10 miles hence by boat to Tacoma.

DEVELOPMENT:

I cannot give any better advice than I gave in 1914 for the development of the property and which Mr. Brown concurred in when he made his report in 1918.

(1) Turn the crosscut to the right and follow the small streak of ore, this should lead to the upper ore body within a distance of 300 feet; it may widen out and make an ore shoot before the main body is reached.

(2) Come back in the crosscut at some point to be determined by a careful survey and start a raise to the right and at an angle of 50 or 55 degrees; this raise should get to the ore up about 150 feet and approximately 150 feet on its dip from the surface, follow back on the ore to the surface at the same time drift in both directions along its strike for the full length of the ore. At the time the ore is reached by the raise a crosscut should be started to the right to pick up the ore on the tunnel level, but this should not be done until the true dip and strike of the ore has been found by the work done in the raise.

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DEVELOPMENT CONT'D: To do this work will require about three months, using two machines per shifts and two shifts per day. There is no amount of shipping ore that can be mined at present but the development recommended may produce shipping ore at any time.

While the development work is being done plans for a 50 ton unit of a modern flotation mill should be made so that mill construction can be started as soon as sufficient ore has been developed to warrant the same. The plans should be drawn so that 50 ton units can be added to the first unit without disrupting the operations of the first unit.

CAPITAL REQUIREMENTS: The capital required for mining equipment, a 50 ton mill, and for four months operation of the mine will be approximately
\$75,000.00

<u>MINE EQUIPMENT:</u>	1-Ingersoll Rand Compressor	\$ 4,500.00
	4-Ingersoll Rand Machine Drills, hose, bits, etc.,	1,800.00
	2-Mine cars	200.00
	4,500 feet of 3"-2"-1½"-1"-¾" black pipe, valves and fittings	500.00
	2,500 feet (5 tons) 12 pound rail	200.00
	1-Water pump and tank	150.00
	Blacksmith equipment	100.00
	Miscellaneous tools	150.00
	Ford pickup truck	750.00
	Camp equipment	600.00
		<u>388,950.00</u>
	Freight & Installation	<u>1,500.00</u>
		<u>\$40,450.00</u>

MILLING EQUIPMENT: Results of different copper mills in the United States and Canada on this class of ore where the copper is in the form of chalcopyrite have given recoveries of 94% to 96%.

A 50 ton unit of a modern flotation plant should comprise the following equipment.

- 1- Coarse ore bin 200 ton capacity.
- 1- Grizzly.
- 1- 10 by 16 Jaw crusher.
- 1- Fine ore bin 300 ton capacity.
- 1- 16" by 11" belt feeder.
- 1- 5 by 6 feet Marcey type ball mill.
- 1- 3' by 14' 8" Dorr type Simplex classifier.
- 1- 2" Sand pump.
- 1- 1½" Water pump.
- 1- 4' by 6' Conditioner tank.
- 1- Unit Farnwald Sub. "A" Flotation machine.
- 1- 4 Cell Farnwald Sub. "A" Flotation machine.
- 1- Duplex oil feeder.
- 1- Dry reagent feeder.
- 1- 15' by 8' Dorr type thickener.
- 1- 4' by 8' American filter complete with vacuum pump and compressor.
- 1- Sampling system complete.

All necessary motors for the different units, air, water pipe and tanks; all transmission belts, pulleys, shafting, etc., buildings, launders, stairways, walkways, etc.

1- 120 HP Diesel power plant complete with generator, switchboard, starting equipment, etc.

The approximate weight of this equipment will be 120,000 pounds.

COSTS CONT'D: The railroad freight and smelter charges to Tacoma per ton of concentrates will be approximately \$9.00 per ton, on the basis of a concentration ratio of 10 into 1 this will be 90 cents per ton of crude ore. With a steady production a much better rate should be obtained as the ore is a very good ore for fluxing and is very much desired by the smelters.

ESTIMATED PROFITS: Taking the average value of the ore as now shown in the old workings we have an estimated profit per ton of crude ore as follows.

Gold & Silver	\$1.50 per ton
Copper-4% at 10.5 cents per pound.	<u>6.40</u> " "
Value of the ore per ton.	\$9.90 " "

Mining	\$2.25 per ton
Milling	\$1.25 " "
Freight & Smelting	\$0.90 " "
Losses & Deductions	<u>\$3.00</u> " "
Total Costs per ton	\$7.40 " " <u>\$7.40</u>
Estimated profit per ton of crude ore	\$2.50

One hundred tons per day at \$2.50 per ton	\$ 250.00
Three thousand tons per month	\$ 7,500.00
Thirty-five thousand tons per year	\$27,500.00

TOPOGRAPHY: The King Solomon Mines are in what is known as the Cowichan basin, at an elevation of 900 feet above sea level, and ten miles from tide water. The adjoining mountains reach elevations of 1,500 to 2,000 feet. The country is heavily timbered, the soil in the valleys is rich producing all kinds of fruits, vegetables and grains. The rain fall is approximately 45 inches per year, generally there is very little snow, although during some winters as much as two feet has been known. Temperatures are not extreme, work being carried on underground and on the surface the year around.

SUPPLIES: Supplies of all kinds can be obtained at Victoria, Vancouver, of Seattle, Washington, at short notice as the longest distance away is not over 150 miles, and transportation facilities are excellent.

POWER: For starting operations a diesel driven compressor, or a steam plant could be installed as fuel both wood and coal are close. When the property is fully developed hydro-electric power can be developed up to 1,000 horsepower or more on the Koksilah river less than one mile away.

WATER: Water for all purposes is abundant right at the mine or on the Koksilah river. There is sufficient water for an operation of 10,000 tons per day.

LABOR: Labor always has been abundant owing to the close proximity to the large coal mines at Nanaimo, and the cities of Victoria and Vancouver.

Chinamen are generally used for all surface labor; their wages are from \$1.50 to \$2.50 per day. The pay of miners and other skilled labor ranges from \$3.50 to \$6.00 per day of eight hours.

TIMBER: There are several sawmills from 8 to 50 miles away where all kinds of mine timber and building timber and lumber can be obtained from \$10 to \$20 per 1,000 feet. The property has a splendid growth of pine, fir and cedar, which can also be used for mining or building purposes.

BUILDINGS: There are a number of camp buildings that can be repaired and used for bunkhouses, boarding house, etc.

RECOMMENDATIONS: It is recommended that the property be equipped with all the necessary mining equipment.

To drive the main crosscut to the right to the intersection of the upper ore body.

To raise from the main crosscut to tap the lower ore body on its dip at about 150 feet from the surface.

To draw up plans and specifications for the first 50 ton unit of a modern flotation mill so that it can be constructed as soon as the above work has developed sufficient ore for continuous operation.

CONCLUSIONS:

At the present time I know of no other property that is more deserving of being developed than the King Solomon Mines.

There are two distinct high-grade ore deposits that give it a double chance of success besides the large low-grade zone that shows in the main crosscut.

The geological formations are favorable, the ore is of such a grade as to give a good margin of profit at the present price of copper.

The economical conditions as to labor, railroad facilities within 200 feet of the main working tunnel, close proximity to the smelters are conducive to cheap operation.

I am convinced that with the expenditure of approximately \$20,000.00 and within four months after underground operations have started the property can be put on a 50 ton per day basis. It is also possible that the earnings from this initial operation will pay or will go a long way towards the building of the milling plant that will be necessary to take care of the low-grade ore that will be developed.

With all the advantages for cheap operation, large ore bodies the King Solomon Mines offer every inducement for a profitable operation, and I strongly urge that the rehabilitation of the mine to place it on production as soon as possible.

Respectfully submitted,

Mining Engineer

2007 Wilshire Boulevard
Los Angeles, California
Tel. Vitaroy 5162

KING SOLOMON ASSAYS

DESCRIPTION					Feet Wide	Gold & Silver Value	Copper	Total Value
Lower Works Shipping Ore								
Incline N. face edge					10	.50	3.90	12.20
"	"	"	"	Cross Cut N. side from timber	6' 6-1/2	1.32	6.29	20.19
"	"	"	"	Cross Cut S. side from timber	20' 10	.64	4.11	12.97
"	"	"	"	Cross Cut face of winze	8	1.26	5.37	16.99
Averages					8.6	.67	5.06	16.03
2nd Class "								
Incline S. Face near edge					11-3/4	.44	2.51	7.97
Incline S. 4 ft. Down					11-1/2	.44	2.62	8.30
Incline N. face 5 ft.					13	--	.67	2.01
Croppings above incline					4	--	.34	1.02
Cross Cut N. side 20'					9-1/2	.38	2.63	8.27
Cross Cut S. side 8' from winze.					7-1/4	.32	2.86	8.90
Averages					9-1/2	.28	2.02	6.34
Upper Works Shipping Ore,								
down Shaft 5' to 15'					10	1.00	5.63	17.89
" bottom, face drift					4-1/2	.70	4.20	13.30
Drift both sides 16' from cut					7	.76	4.10	13.06
Averages					7.1	.86	4.83	15.35
2nd Class "								
Shaft 15' to 25' down					10	.70	4.06	12.88
Drift E. side 19'					7	.38	2.76	8.66
from shaft								
Averages					8-1/2	.54	3.52	11.13
GENERAL AVERAGES - ALL SAMPLES					8-1/2	.55	3.33	10.54

Above estimates are on a basis of 15¢ per lb. for copper and 60 cents an ounce for silver.

McDOUGALLS REPORT

February 1956

ON

KIMSOL GROUP

(Surrounding Crown Grants)

February 6th, 1956

Mr. Oswood G. MacDonald

300 East 7th Avenue

Vancouver, B. C.

Dear Sir:

In accordance with your request I have made a preliminary examination of your Kinsol Group of Mineral Claims which is situated from two to four miles northwesterly from the North West Arm of Shawnigan Lake and, generally, in the easterly section of the Cowichan Area of Vancouver Island. Attached hereto please find my report. I trust that this will provide you with the information you desire at this time.

Yours very truly

P. Eng.

Consulting Mining Engineer.

THE KINSOL GROUP OF MINERAL CLAIMS
KEKSILAH RIVER AREA, VANCOUVER ISLAND, B. C.

INTRODUCTION

This report is based on a reconnaissance examination made on January 19th and 20th, 1956. The writer was accompanied during the examination by Mr. W. Deans under whose immediate supervision exploration work was being carried on. The Mineral Claims Group, as at present constituted, entirely encloses or surrounds four Crown Granted claims on which copper occurrences were first found nearly fifty years ago and which, since then, have had some exploration attention.

The claim Group, which includes some forty-five mineral claims and fractions, is in an area which is remarkably easy of access and, for the most part, without excessive vegetation obstructions and overburden. For these and other reasons the principal geological formation and structural features are relatively easy to observe or infer. At the time of my visit the snow line was at about the fifteen-hundred-foot contour line and the higher portions of the property situated on the mid-slopes of Eagle Heights could not be observed. All this is by way of stating that an examination of these areas at this time must, of necessity, be preliminary in character. However, the writer believes that the interpretation of observations which will be recorded herein will be found to be substantially correct.

PROPERTY

MINERAL CLAIMS: As at present constituted the Kinsol Group includes some 45 mineral claims and (or) fractions. These claims are situated on the northwest side of Keksilah river and the five-claim-long southeast boundary is a little less than two miles from the head of the northwest arm of Shawnigan Lake.

PRELIMINARY REPORT ON
KINSOL GROUP OF MINERAL CLAIMS
SITUATED IN
KOKSILAH RIVER AREA
VANCOUVER ISLAND, B. C.

416 Bank of Nova Scotia Bldg.
Vancouver, B. C.
February 6th, 1956

B. W. W. McDougall, P. Eng.
Consulting Mining Engineer

The southerly end of the Group completely surrounds four Crown Granted claims; namely - Wallace, L 16 G; King Solomon, L 17 G; Fusen of Shaba L 18 G and Koksilah, L 19 G.

The claim names and their approximate relative positions with reference to themselves and the before-mentioned Crown Granted claims are shown in sketch plans accompanying this report. This information has been given me by Mr. W. Deans. The total area of the 45-claim Group is believed to be between 1,500 and 2,000 acres.

TOPOGRAPHY & GENERALS This and all adjacent areas were first logged off during the first decade of the century. Logging operations have also been conducted in the area on subsequent occasions - also - parts of the area were burned over. The terrain rises from Koksilah river, an elevation of about 400 feet, to the summit of Eagle Heights, an altitude of about 2,800 feet. The area has been heavily glaciated and rock outcrops, where exposed, are typically rounded and scored. There are accumulations of moraine material in numbers of places. The intensive and repeated logging operations which have been carried on over the area has left the terrain remarkably free of timber and underbrush with the result that prospecting and ordinary exploratory work can be conducted with extraordinary ease. Geological mapping, also, can be done without the heavy line-cutting work which is so often necessary in heavily-timbered terrain. Due to the net-work of old logging roads, transport access for motor vehicles can be provided to almost any section of the property very quickly and cheaply.

TRANSPORTATION AND ACCESS: From Duncan, a town on the east coast Island Highway some 73 miles from Victoria, a paved highway leads some 16 miles to Cowichan Station. The distance from this small town to the northeastern margin of the property is about five miles. The road is that over which much of the logging operations in the area were conducted. Branches from this road lead over

sections of the claim Group and, also, over the Crown Granted claims which, though not presently a part of the Group, are contained within its boundaries. Also, as previously mentioned, new roads can be bulldozed to almost any part of the claim Group for very nominal expense.

GENERAL ECONOMICS

In addition to ease of access and transport the property enjoys most of the superficial advantages for carrying on operations. The climate is more moderate, in respect to winter precipitation, than at most other places on the Island or mainland. Snow storms resulting in several feet of snow depth may and sometimes do occur but this does not usually remain on the ground very long up to altitudes of 1,000 feet or so. The region is near one of the greatest lumber-producing areas on the entire Island - lumber and timber is available from the mills nearby without the added increment of high transportation costs. The property, too, is within a distance of about three miles of the high-tension electric power transmission line of the B. C. Power Commission. The region is close to the sea and to landing spots where out-going ores bound for the smelter at Tacoma can be loaded with a minimum of expense.

The fact that practically all external circumstances affecting the carrying forward of a production copper-mining operation are extremely favorable, is recognized as a strong incentive towards making thorough investigations of possible copper-bearing geological structures in the area for ore sources.

HISTORY

According to the Minister of Mine's Reports the first discoveries of copper-bearing outcrops in the Koksilah river area were made on the King Solomon claim about the year 1904. In this year it is reported that two small shipments of copper ore, aggregating 40 tons and containing 8% copper were shipped to the Tyee smelter at Ladysmith. It would appear that prospecting was under way throughout all this area and it was also at this time when extensive logging operations in the area were under way. In 1907 the Bluebell Group, adjoining

the King Solomon, was under exploration by the Vancouver Island Mining & Development Company of London. Several diamond drill holes were drilled to a depth of 150 feet and some copper-bearing mineralization was encountered. A shaft was sunk a distance of 110 feet to intersect the drill core showings but it is to be inferred that the ore showings were not as hoped for. In the Minister of Mine's Report for 1908 it is recorded for the first time that the ore minerals occur in shear zones and veins in the metamorphosed calcareous rocks of the region. This observation originated with Dr. Chas. A. Clapp of the Canadian Geological Survey who later made a detailed study of much of the area on the south and east coasts of the Island. Memoirs 13 and 96 of the C.G.S. and for which Dr. Clapp is largely responsible rate as geological classics. The King Solomon and Queen of Sheba claims were Crown Granted in 1904.

In 1913 an 80-HP boiler and a 3-drill Ingersoll Rand compressor was installed at the King Solomon by the King Solomon Copper Mining Company. An adit was driven from lower down in Koksilah valley to intersect the orebodies, presumably partly established by diamond drilling from the surface, at a depth of 450 feet below the outcrops. This adit was driven a distance of 555 feet without, however, intersecting anything of recognized importance in the way of orebodies.

In 1916 Joe Gallo commenced work on the Viva, Elsie D and Comet mineral claims in this Koksilah area and in the course of his operations he sorted out and shipped 239 tons of ore carrying about 2.5% copper. Mr. Gallo recently told the writer that he sorted over some old dumps and sunk a shaft on an ore occurrence to a depth of about 30 feet.

In 1923 the Canadian National Railway branch line was built through to the north side of Cowichan Lake but most of the activity in the Koksilah River area since that time has been in connection with logging and the manufacture of lumber. The high market price now obtaining for copper together with the important already-proven occurrences in the general Cowichan Lake regions has, more recently, stimulated search for commercial copper ore in these areas.

GEOLOGY

REGIONAL: The geology of the district, which is generally referred to as the Duncan Area, is described in detail in Memoir 13 by Dr. Clapp and in Memoir 96 (U.S.G.S.) by Drs. Clapp and Cooke. U.S.G.S. Map No. 142 A (Duncan Sheet) which accompanies Memoir 96 shows the geology in plan and cross sections. With this most excellent information available it would be redundant to discuss the regional geology here - except, perhaps, at certain details may have bearing on local features.

LOCAL: On properties such as Kinsol preliminary opinions must be largely based on geological formations, structures and their relationships. For this reason the writer has thought it of possible value to discuss some of the principal geological features and to make mention of some well-proven geological theories which may apply to conditions on this property and in the area generally. As will be observed from reference to U.S.G.S. Map No. 142 A the Kinsol Group is located in Vancouver Volcanics formation which, at this place, is about four miles in width. This formation is bordered, both to the north and south, by Jurassic Batholithic intrusives, mainly granodiorite. Almost certainly the volcanics are also underlain by the plutonic rocks and dykes from these occur in some profusion over the entire area over which the volcanic formation outcrops. Also - in the midst of this area the map shows an outcrop of limestone of the Sutton Formation. Referring to cross-section E-F, on map 142 A, this limestone remnant, though having some vertical extension, is shown as being bottomed at relatively shallow depth by the volcanic rocks in which it occurs or with which it is associated.

The King Solomon and Queen of Sheba mineral claims are located, partly, on or over this remnant of Sutton limestone about one mile northerly from Koksilah river or two miles northwesterly from the west arm of Shawnigan Lake. Here the limestones are, for the most part, metamorphosed and they are associated with andesites and other types of volcanic rocks of the Vancouver Group and with dykes

related to the Jurassic intrusives. Though the limestones appear to be in some degree interfolded with the volcanic formation and so have some persistence in depth it would appear that such persistence is relatively shallow since limestone does not appear to have been encountered in an adit some 450 feet below the surface outcrops. Or if any has been met with the width would appear to be much less than on the surface.

On these claims copper mineralization, principally chalcopyrite, occurs, in and along the margins of the limestone. The mineralization is of the so-called contact metamorphic type and is obviously related to the dykes which occur in some profusion in the area. There are somewhat extensive surface and shallow workings on the two claims. While the writer made no detailed study of the mineral occurrences they were inspected with the thought that similar mineralization might extend to claims of the Kinsol Group by which the Crown Granted claims are surrounded. However, if any such continuity of limestone and ore outcroppings should exist they have not yet been recognized.

It is, I believe, quite clear from an inspection of the outcrop conditions on the King Solomon and Queen of Sheba claims that the presence of limestone is necessary for the occurrence of copper-bearing orebodies. Also - that the depth persistence of these limestone members is probably a requirement for the persistence of orebodies to depth.

Elsewhere on the very considerable areas included in the Kinsol Group which were examined, the terrain is underlain by varying types of volcanic rocks which have been intruded by northwesterly-trending dykes of porphyritic and granitic types which are, for the most part, varying phases of quartz diorite and granodiorite. The contact zones between the volcanics and the plutonics, in some instances, show some evidences of contact metamorphic mineralization. Pyrite and pyrrhotite appear to be the most common and abundant sulphides. There is, however, some, if decidedly minor, copper-bearing mineralization. Gangue minerals include epidote, minor garnetite silicified country rock and other

contact zone minerals. Magnetite, also, occurs in many of these contact zones. Outcrops, where any important amounts of sulphide minerals originally occurred, are commonly largely of limonite and show occasional 'spots' or narrow streaks of copper carbonates.

It may be of interest to observe that ore mineralization is usually the last phase of plutonic activity in an area. The cycle commences with volcanic or extrusive activity and this is followed by the slow up-surge under the area of the main masses of batholithic intrusives. Next follows the phase of minor intrusives when dykes from the still-molten interior of the plutonics thrust upwards along planes of weakness - and the final stage is that where residual vapors and solutions, containing or carrying sulphides and oxides of the metals, invade the zones of weakness along the border zones of intrusive contacts or into fractures and shear zones resulting from batholithic invasion and resulting regional deformations. If ore seems to 'favor' in apparent genesis certain dyke types the reason, I think, is not necessarily so much because of the type as because of the relative time, in cycle significance, of the intrusion of such dykes.

PROPERTY NOTES

The road from Cowichan Station enters the property from the northeast - across the Edge claims. Just south of Edge No. 5 mineral claim the road forks - one branch continuing westerly and northerly to L11 No. 20 M.C. and the other extending southerly to the King Solomon and other Crown Grants and a branch from this road leading across the NE corner of Wallace M.C. to certain old workings of interest near the SE corner of the Kinsol Group. The terrain across the Group rises from probably about 600 feet (alt) at the SE corner northwesterly to possibly 2500 feet altitude on the northwest claims of the Group which are on the easterly slopes of Eagle Heights. As has already been mentioned old logging roads thread much of the area so that it is quite easy to extend truck roads to almost any place

on the property. At the time of my visit the snowline occurred at about the 1,500-ft contour so that it was impossible to inspect the higher claims of the Group. The roads on the Group had recently been cleared by bulldozer to facilitate access to diamond drilling equipment and drilling personnel - also to the geophysical survey crew. The general plan of exploration which has been followed has been to select areas where there are contacts between intrusive bodies and the Triassic volcanics, to test these areas and their vicinities by self-potential geophysical survey methods, to map the indicated anomalies and to test these by diamond drilling.

On Ossie No. 3 M.C. - at an altitude of approximately 1,040 feet there are three old adits the longest of which penetrates to a distance of about 60 feet. These were driven in on outcrops showing considerable limonite - also pyrite, minor magnetite and some sparse copper carbonates. The area is in a contact zone between granitic intrusives and andesitic volcanics. Diamond drill hole No. 1 was put down here to a depth of 300 feet at a 45-degree angle in a S 15 E direction. No ore minerals of any recognized importance were noted in the drill core. Two of the adits were inspected - one is entirely on a contact zone with little sulphide mineralization other than minor pyrite and some limonite and the other has been driven through soft brown-colored oxidized material which is largely limonite. On the hillside above - extending upwards for a slope distance of more than one thousand feet old strippings and small pits indicate that considerable search has been made in this vicinity for copper ore in years gone by. In this area, too, high anomaly--readings have been obtained by the geophysical survey crew.

Near the NW corner of Lil No. 2 M.C. extensive rock trenching and opencutting was effected by former operators. Doubtless some copper mineralization of interest was then encountered. The area is on the westerly contact of a large mass of batholithic intrusive with volcanics. The contact zone is now the course of a small, fast-flowing creek and near the bed of this an adit has been faced up

by old-time prospectors. The face of this shows abundant copper carbonate mineralisation over a width of about three feet. In this vicinity, too, there is abundant gossan over a width of more than fifty feet. Drill hole No. 2 - drilled easterly at 45-degrees was put down to a slope-distance of about 300 feet. Apparently some pyrite with very minor chalcopyrite was encountered by this bore.

On Lil No. 20 M.C. at an altitude of about 1,525 feet another 45-degree diamond drill hole was put down across the same contact zone which, here also, is rather closely followed by the small creek. The contact zone was crossed by the bore hole but no mineralisation of any recognised commercial interest was noted.

In all these northerly areas of the property the terrain appears to be underlain by Triassic volcanics of varying types and these are intruded by bosses, stocks and dykes of plutonic granitics. No limestone of apparent consequence has been noted though certain contact zones show somewhat abundant garnetite and epidote, - also - magnetite has been observed in numbers of places. Mr. Deans informed the writer that limestones of the Sutton formation occur on the higher claims of the Group but snow prevented an inspection of these higher areas.

The most interesting mineral occurrence observed on the entire Group is one on which old workings have been sunk on a copper-bearing shear zone about 36 inches wide. Here there is abundant pyrite and magnetite and some chalcopyrite. The immediately-adjacent country rocks are volcanics but an acid dyke and a belt of limestones occur in the near vicinity. Due to overburden the precise relations of the several formations and structures could not be studied in detail. A drill hole has been put down at this place subsequent to the writer's visit. It is stated that chalcopyrite was intersected by the bore. This particular section of the property obviously merits more exploration attention.

The four Crown Granted claims which are situated within the over-all perimeter of the Kinsol Group have been referred to and discussed in preceding

pages. The copper-bearing showings in both outcrops and the superficial workings and the accompanying geological circumstances are of decided interest and, this writer believes, warrants some careful exploration. It is not recognized, however, that the ore occurrences extend to any important depth or that they persist outside of the Crown Grant claim boundaries.

GILKINSON'S CONCLUSIONS

I am of the opinion that it is unlikely that contact zones between Jurassic-Cretaceous intrusives and the Triassic Volcanics of the Vancouver Group will be found to enclose orebodies of important commercial dimensions. The lengths of such contact zones, within the boundaries of the property, however probably aggregates some miles in length. I think that these zones should be tested by quick geophysical methods. It seems quite plainly indicated that limestone occurrences are necessary for orebody occurrences and that these were accessible to penetration and circulation by mineral-bearing solutions during the mineralizing periods. But it seems obvious that the orebodies, as originally formed, have since been eroded to great depths and that probably little ore than orebody roots remain. This may be anticipated, I think, where the limestone bands, which at higher horizons are associated with orebodies, tail out and are bottomed by either volcanics or intrusives.

I think that the SE corner of the Group, where ore and orebody gangue minerals occur near limestone and a granitic dyke, warrant further testing. The mineralization here is somewhat similar to that which occurs on the King Solomon and Queen of Sheba claims.

In respect to exploration methods now being used - that is the searching out of the obvious contact zones and conducting self-potential geophysical geophysical surveys over sections of these zones and testing the pronounced anomalies by diamond drilling - is a most excellent method. I think though that equally good results may be obtained at less expense by the use of a portable electric-

resistance-method device. The use and value of such an instrument would be to discover the most probable places along the contact zones for more careful and detailed work with the self-potential devices. From the results of such work diamond drilling would be the next step. The purpose of the more portable geophysical instrument would be to eliminate large areas quickly and cheaply from the necessity of being tested by the more intricate and expensive testing methods.

From the presently-available information I do not think that important, commercial, copper-bearing orebodies are likely to be discovered under the geological conditions and associations which occur on the claims of this Kinsol Group. I do think, however, that preliminary, and relatively inexpensive, testing is warranted. It is quite possible, though I think not probable, that large remnants of limestone may have been entirely engulfed by the extrusive rocks and that these and associated copper-bearing orebodies may lie beneath the hard rock surfaces in certain contact-zone localities.

Respectfully submitted

P. Eng.

Consulting Mining Engineer.

February 6th, 1956,

416 Bank of Nova Scotia Bldg.,

Vancouver, B. C.

REPORTS
RECENT WORK
- 1956

REPORT OF L. B. GATSBY, P. Eng. on
KING SOLOMON and BLUEBELL MINERAL CLAIMS

April 18, 1956.

Mr. Ralph Liebel,
LAKE COWICHAN, B. C.

Dear Sir:

I respectfully submit my report on your King Solomon and Bluebell properties near Duncan, B. C. The report is based on my mapping of the general geology, examination of some of the old workings and sampling and logging of your diamond drill holes.

Location:

The property is situated on the north bank of the Koksilah River about seven miles south of Duncan on Vancouver Island, B. C. A good gravel Government gazetted road about 5 miles long and branching from the main "Island Highway" two miles south of Duncan affords easy access to the property. The Canadian National Railway's main Vancouver Island line passes through two of the mineral claims and a siding is already in use by the railroad company. Shipping charges on mill concentrates or high grade ore to the Tacoma smelter in Washington, U.S.A. should be very reasonable and not over \$4.00 per ton. Within the property numerous logging roads are ready made for prospecting and mining work.

The area is in the "Island dry belt" and at an elevation of about 600' above sea level. No heavy rains and snow fall conditions would be a hindrance to prospecting and mining operation.

Ample hydro electric power is available about two miles away while the Koksilah River has ample water for a large mining and milling operation. Because of the proximity to Duncan and the residential district in the lower Koksilah valley no employee residences or bunkhouses would be necessary. Lumber and timber for plant construction is readily available from local lumber mills. The King Solomon property is ideally situated for low cost, year round exploration and mining work.

Property:

Ralph Liebel of Lake Cowichan, B. C. is reported to hold under option to purchase agreement the surface rights, and base and precious metal rights on three full sized and one fractional mineral claims known as the King Solomon group, i. e.: King Solomon No. 17 G, Queen of Sheba No. 18 G, Koksilah No. 19 G and Bluebell Fraction No. 15 G. He also is said to own the surface and base metal rights of Lot No. 153, the old Bluebell claim. The known mineral deposits of the King Solomon group and the Bluebell claim are well covered along strike and down dip by the above mineral claims.

Old Mineral Showings and Developments:

Prior to 1908 some open cutting and about 230 ft. of shallow underground work as drifts, crosscuts and shafts were put in two mineralized lens outcrops about 300 ft. apart on the King Solomon claim. This work showed the western or lower mineral lens to be at least 150 ft. long and 25 ft. thick and the upper or eastern lens to be at least 100 ft. long and 20 ft. thick. Mineralization is fairly heavy pyrite, pyrrhotite with dissemination and concentrations of chalcopyrite. Much of the surface is overburden covered and both mineral bodies have not been fully explored along strike or down dip.

From this old work an ore shipment was reported made of 253 tons grading 8.17% copper, 0.8 oz. silver and a trace of gold. Between 1908 and 1916 a low level adit was collared about 75 ft. vertically above the railroad track and 150 ft. vertically below the eastern or lower old workings. This tunnel was driven 660 ft. in volcanics and passed directly below the eastern workings. The tunnel is poorly located for exploration but well located for possible future mining.

General Geology:

The Canadian Geological Survey 1918 geological maps of the Duncan area show the King Solomon claim group to be in Vancouver volcanics about a mile from a major intrusive body of Saanich granodiorite. This Saanich granodiorite is generally considered to be the source of the Lake Cowichan and Duncan area mineralization. Geological mapping of the property in the vicinity of the old workings shows one large and several small altered limestone bodies or beds in the volcanics and many irregular small diorite porphyry dike-like intrusives presumably off shoots from the main Saanich granodiorite mass. The major mineralization on the property seems to be associated with these altered limestone bodies. From this mapping the largest altered limestone outcrop has indicated dimensions of 600 ft. wide and 1000 ft. long with extension probable to the south under overburden. From drilling results and surface observations this altered limestone body dips flatly to the east and probably extends under the volcanics. Several other relatively small (15 ft. to 25 ft. wide) altered limy beds outcrop on the property. From shallow old surface work these are all mineralized with chalcopyrite to some degree. The Bluebell claim showing is classed as one of these.

Mineralization and New Work Completed:

From January, 1956 to date Ralph Liebel has put in approximately 2,325 ft. of B1 sized diamond drilling with 1,975 ft. on the King Solomon group and 350 ft. on the Bluebell claim.

King Solomon Group:

Holes No. 1 to No. 4 totalling 962 ft. were drilled from the lower adit. This work indicated the major mineralization to be on the lower altered limestone - volcanic contact and that the contact dips flatly to the east from the old western workings. No. 3 hole, the only underground hole to reach the contact area, shows 19 ft. assaying 5.66% copper and containing 7.5 ft. of 10.2% copper material. Holes No. 5 to No. 10 drilled from the surface are apparently off the rake of the high grade ore and also in an altered line - porphyry dike contact area of the eastern or upper workings. They all cut good widths (25 ft.) of pyrite, pyrrhotite mineralization with relatively low (up to 1.4% copper over 37 ft.) values of copper. However hole No. 9 indicates the major mineralization to be along the altered line - volcanic contact extending to the east of the porphyry dike. This limited drilling shows the mineralized altered limestone - volcanic contact to extend for at least 500 ft. down dip from the western workings. In figures it roughly indicates about 150,000 tons grading 3% to 4% copper over 25 ft. of width. However, considering the indicated dimensions of the ore potential altered limestone - volcanic contact and the very limited drill knowledge available there is a good chance such larger tonnages will be found.

Bluebell Claims:

This mineralization is in one of the relatively small altered limestone beds or lenses enclosed in volcanic rock. An old open pit exposes the mineral zone along strike for about 75 ft. and two old shafts and several drill holes have explored the zone down dip. On surface the zone is open to the east under overburden. Some 10% copper ore has apparently been mined out of the pit and old underground workings as

indicated by an old plan and section by C. H. L. e about 1906. The south wall of the pit, where work was stopped shows the mineral zone about 10 ft. wide with copper mineralization of about 1% to 3%. The old workings are flooded but from the shafts there has been some drifting and stopping. No. 11 drill hole put down by Liebel encountered old workings about 30' north west of the shaft at a vertical depth of 30 ft. No. 12 hole under the west side of the pit cut a 22.3 ft. zone of altered lime material grading 1.45% copper. With more detailed exploration this deposit will probably be able to produce small tonnages of good copper grade materials.

Around the north and east sides of the main King Solomon altered limestone exposure several small lenses of mineralized altered lime material have been discovered similar to the Bluebell showing. The lenses are not all mapped. Only shallow caved surface trenches and the odd deep pit in rock can be seen. However, examination of the dumps of some of these pits shows copper mineralization. These mineral lenses apparently dip to the north and east. They are considered to be the same type of deposit as the Bluebell and with about the same economic possibilities.

Conclusions:

1. The property is well situated for year round exploration and mining. There are no access roads or camps to build.
2. Proximity of hydro-electric power, water and a residential area are factors contributing to a low cost mining operation.
3. The indicated size and dip of the King Solomon altered limestone outcrop and theory of copper mineralization on its lower contact with volcanic rocks gives a large underground ore potential structure to explore. Limited diamond drilling to date has substantiated this theory.
4. The mineralized beds or lenses on the Bluebell claim and to the east of the King Solomon outcrop are possible sources of small tonnage high grade copper ore.

Recommendations:

To explore the ore potential areas on this property I would recommend the immediate start on a diamond drilling program of about 5,000 ft. of 8 1/2" sized hole. On the King Solomon claim group 30 vertical holes of 125 ft. average depth layed out on a 100 ft. grid pattern should give enough information for the intelligent planning of underground work. The smaller mineral lenses, such as on the Bluebell claim can probably be adequately explored with 1,250 ft. of diamond drilling. Coupled with the diamond drill program, the old surface cuts and underground workings should be cleared out, geologically mapped and sampled.

(REAL)

Respectfully submitted,

"L. B. Gatenby", P. Eng.

DIAMOND DRILL HOLE RECORD

MINE King Solomon
 DATE January, 1956
 HOLE NO. 1
 LOCATION Main Crosscut - 500' from portal
 DIRECTION S 20 E - 30°
 DEPTH 199'

From To

- 0' 12.5' Fine grained, dark green, fairly hard volcanic. Broken with irregular fragments. Bands of skarn alteration 1" to 3" @ 75° to core - 1% scattered pyrite mineralization.
- 12.5' 24.0' Medium grained grey volcanic some parts porphyritic. Mottled hornblende facings around crystals. Fine skarn bands. No change of grain size at contacts. Contacts frozen @ 60° to 100° - 1% disseminated pyrite mineralization.
- 24' 37' Dark green fine grained volcanic.
- 37' 57' Medium-grained grey volcanic. 10% of core skarn bands at roughly 100° to core. Very little pyrite.
- 57' 76' Fine grained altered to light green volcanic. Broken core poor recovery 57' - 63'. Very little pyrite. At 76' core angle 70°
- 76' 112' Medium grained light grey porphyry probably volcanic. Small ($\frac{1}{2}$ ") bands skarn and quartz. at 81' - 3" band of skarn bleaching and quartz @ 45°. 1% disseminated and fine stringers of chalcopyrite.
- 112' 133' Fine grained dark green volcanic. A little skarn alteration in stringers. A little pyrite.
- 133' 141' Fine grained light green: cream colour probably skarn bleached volcanic.

DIAMOND DRILL HOLE RECORD

MINE King Solomon
 HOLE NO. 1
 LOCATION Main Crosscut - 500' from portal
 DIRECTION S 20 E - 30°
 DEPTH 199'

From To

141'	157'	Fine grained light green volcanic - 1% disseminated pyrite. 144' - 3" quartz and skarn @ - 30° 5% pyrite
157'	169'	Mixture fine grained fragments and coarse grained volcanic - some bleaching.
169'	199'	Fine grained dark grey green volcanic 6" sections bleached grey - no mineralization.

DIAMOND DRILL HOLE RECORD

MINE King Solomon
 HOLE NO. 2
 LOCATION Main Crosscut - 500' from portal
 DIRECTION S 64 E +1°
 DEPTH 479'

From	To	
0'	106'	Fine grained dark green volcanic 10-3" skarn bands at 35° to 55°
106'	129'	Medium grained light green grey volcanic. Some irregular skarn filling. Lower contact @ 30°
129'	144'	Fine grained dark green volcanic
144'	187'	Medium grained grey green volcanic
187'	213'	Fine grained light green skarn alteration in irregular patches and fairly definite but not clean contacts.
213'	346'	Coarse grained gray green volcanic 213-240 core bleached and 20% skarn; 240-235-small stringers of skarn. A little pyrite with skarn. 325-346-skarn bleaching plus quartz alteration 325-335-Disseminated pyrite split by Pentlands
346'	354'	Fine grained dark green volcanic: skarn alteration in narrow stringers.
354'	466'	Coarse grey grained probably intrusive. 354' contact irreg. @ about 45°. Rock fine grained and darker coloured for 2' from contact. 450-466-core 30% quartz skarn alteration. No mine realisation.
466'	479'	Fine grained green volcanic very hard silicified.

DIAMOND DRILL HOLE RECORD

MINE King Solomon

HOLE NO. 3

LOCATION Main Crosscut - 500' from portal

DIRECTION S 80°E +500

DEPTH 170'

From	To	Description
0'	13'	Fine grained green volcanics-1% disseminated pyrite. 12"-3" @ 200 qtz and bleaching.
13'	33'	Medium grained green volcanic - 1% disseminated pyrite.
33'	57'	Fine grained green volcanic several 1' to 3' sections of skarn alteration - 1% disseminated pyrite.
57'	87'	Medium grained volcanic-few streaks of skarn. Gradational contacts.
87'	101'	Coarse grained grey volcanic-a little skarn in stringers.
101'	115'	Medium grained gradational contacts.
115'	151'	Bleached and silicified light grey-looks like altered breccia. 132"-6" pyrrhotite plus a little chalco. fine stringers at 200. Core very hard silicified.
151'	170'	Mineralized altered fine grained breccia zone. 151-156- +2% copper 156-160-Good chalco + 10% copper Rock fine grained and brecciated with strong silic and skarn alteration. Possible altered limestone.

MINE King Solomon
 HOLE NO. 3
 LOCATION Main Crosscut - 500' from portal
 DIRECTION S 60° E +50°
 DEPTH 170'

LOG	Width	Cu	Au	Ag
151.0 - 155.5'	4.5'	2.1%		
155.5 - 160.0	4.5'	12.0%	TR	1.30
160.0 - 163.0	3.0'	7.5%		
163.0 - 167.4	4.4'	3.1%		
167.4 - 170.0	2.6'	1.5%		
Total	19.0'	5.66%		

DIAMOND DRILL WELL RECORD

MINE King Solomon
 HOLE NO. 4
 LOCATION Main Cresscut - 500' from portal
 DIRECTION N 17° W +45°
 DEPTH 114'
 POSITION

From To

0'	82'	Fine grained dark green volcanic 50% core silic and bleached mostly at 45° all hardened. Bleached sections have ~ 1% pyrite disseminated and in fine stringers- no skarn
82'	92'	Medium to coarse grained volcanic- gradational contacts - alteration in small stringers. A little disseminated pyrite.
92'	114'	Fine grained green volcanics - looks brecciated and silicified. No skarn - 1% disseminated pyrite.

DIAMOND DRILL HOLE RECORD

MINE King Solomon
HOLE NO. 5
LOCATION Surface-On Road 250' E of Lower Showing
DIRECTION S 85° W - 50°
DEPTH 156'

From	To	Width	Cu	Au	Ag
0'	34'	Coarse grained grey-probably intrusive. 29'-34'-finer grained with sharp contact 28' - 3" skarn alteration.			
34'	88'	Starts dark grey turns to light gray, fine grained silic limestone. Bedding probably @ - 45° Many calcite filled Fractures @ 45° and 90° to probably bedding Probably bedding @ -45° A few bands of skarn A little pyrite disseminated and in fractures.			
88'	104'	Medium grained light green skarn altered probably volcanic			
104'	133'	Fine grained dark green fractured core 25% pyrrhotite plus a little pyrite.			
133'	137'	Fractured bleached silic and skarn altered. 137' - 2' sand.			
137'	156'	Medium grained volcanic stringers of skarn alterations.			
126.0 - 131.0		5.0'	.25%	TR	.40
		Nickel-TR			

DIAMOND DRILL HOLE RECORD

MINE King Solomon
 HOLE NO. 6
 LOCATION Surface - On Road 250' of Lower Showing
 DIRECTION W 46° W - 45°
 DEPTH 200'

From	To	Description	Width	Cu	Au	Ag
0'	41'	Coarse grained light grey porphyritic feldspar and dark hornblende crystals and mottling. Last three feet finer grained-sharp contact.				
41'	54'	Fine grained dark grey illic lime.				
54'	104'	Fine grained light greenish grey (skarn) hard - probably originally lime.				
104'	109'	Fine grained green some bleaching alteration Mineralization 5% pyrrhotite plus a little pyrite and chalco				
109'	123'	Medium grained volcanic, a little skarn alteration in bands.				
123'	200'	Variable medium and fine grained volcanic. A few stringers of skarn alteration.				
		190'-4" qtz. and skarn plus a little pyrite.				
		194-200-some disseminated and fine stringers of pyrite.				
		104.0 - 109.0	5.0'	.75%	TR	0.40

DIAMOND DRILL HOLE RECORD

MINE King Solomon
 HOLE NO. 7
 LOCATION 100' E of Upper Outcrop
 DIRECTION N 80° W - 46°
 DEPTH 146'

From To

0' 28' Fine grained dark to light grey silicified limestone.

28' 127.7' Fine grained silicified variable rock types - probably mostly sediments.

7'-33' - several 6" bands of disseminated sphalerite - 1% Zn

100 - 127.7 - probably contains some volcanic bands

Bleaching and skarn alteration - skarn in irregular stringers and bands.

Mineral zone from 110' to 127.7' - concentrations of pyrite (up to 20%) with minor amounts of chalcopyrite.

Samples 114.3' - 117.7' pyrite 20% Cu 0.25%
 126.7 - 127.7 Cu 2.0 %

127.7-146' Intrusive porphyry

127.7 - 140 fine grained contact area

DIAMOND DRILL HOLE RECORD

MINE King Solomon
 HOLE NO. 8
 LOCATION 100' E of Upper Outcrop
 DIRECTION S 62° W - 55°
 DEPTH 149'

From	To	Width	Cu
0'	27.5'	Fine grained dark to light grey silicified lime 10.5'-26.5' - disseminated variable concentrations of sphalerite	
	Samples: 10.5'-15.5'	Zn 2.6%	
	15.5'-20.5'	Zn 2.7%	
	20.5'-26.5'	Zn 1.2%	
27.5'	86.0'	Variable silicified lime - bleaching and skarn bands - some short section may be volcanic	
86.0'	107.5'	Earthy textured grey green altered rock. Epidote olivine minerals, some quartz 98- 107. Disseminated 3% pyrite, a little chalcopyrite.	
107.5'	140.0'	Fine grained dark green altered, probably originally volcanic. Small quartz areas. Pyrite (5%) a little pyrrhotite chalcopyrite mineralization 115'-118'-heavy pyrrhotite	
	Samples: 88' - 93'	5'	0.5%
	93 - 98	5'	1.3%
	98 - 103	5'	1.2%
	103 - 107	4'	0.5%
	107 - 112	5'	0.25%
	112 - 114	2'	very little Cu
	114 - 119	5'	0.30%
	119 - 125	6'	0.90%
	125 - 130	5'	1.1%
	130 - 136	6'	0.90%
	136 - 139.5	3.5'	4.0%
		51.5'	1.0%
		Total	

140.0' 149' Intrusive porphyry

DIAMOND DRILL HOLE RECORD

MINE King Solomon
HOLE NO. 9
LOCATION 100° E of Upper Outcrop
DIRECTION S 62° W -70°
DEPTH 127'

From To Width Cu

0' 22' Fine grained light to dark grey silicified lime
22' 53' Fine grained light grey and green altered lime
22'-25'-Probable bedding @ 50° to core
22'-27'-Disseminated sphalerite concentrated in 3" to 4" rock bands @ 50° to core (2% Zn)
41'-45'-Disseminated sphalerite (3% Zn) in light resin brecciated lime
48.5'-49.5'-Disseminated sphalerite (2% Zn)
53' 60.5' Variable siliceous lime and section 6" to 1' of softer dark rock (probably fragments of volcanic) a few irregular bands of skarn alteration
60.5' 98.5' Earthy textured light grey green colored with irregular skarn patches
90'-92'-silicified hard pyrite 5% Cu 1%
98.5' 117.5' Fine grained soft dark grey green mottled with darker patches-probably volcanic. Pyrite 5% Cu 2%

Samples:	80.5 - 86.5	6'	0.15%
	86.5 - 92.5	6'	1.2%
	92.5 - 98.5	6'	1.1%
	98.5 - 102.0	3.5'	1.1%
	102.0 - 110.0	8'	2.7%
	110.0 - 117.5	7.5'	1.5%
		7.5'	1.5%
		37.0'	1.4%
			Zn - T

117.5'-127' Variable or mottled silicified-probably volcanic fragments 127'-one 2" skarn band. A little disseminated sphalerite-no other mineralization

MINE King Solomon
HOLE NO. 10
LOCATION 200' SW of Upper Outcrop
DIRECTION S 37° W -45°
DEPTH 228'

From	To	
0	23	Fine grained light grey silicified lime 0'-9'-disseminated sphalerite-1% Zn 13.5'-6" chalc and sphalerite in skarn altered band
23	50	Fine grained dark grey silicified lime. A few 6" silicified and skarn bands @ 70° some pyrite
50	84	Earthy textured light green altered (mostly clivine and epidote) Small patches of skarn and garnetite. Pyrite 2% a little chalcopyrite- best section 73' to 79' Sample: 74' - 79' Cu 0.55%
84	156	Fine grained dark grey silicified lime. Short sections mottled-probably volcanic fragments. 106 - 108 probably bedding @ 45° 126 - 132 Coarser grained light green altered 140 - 144 probably bedding @ 45° 146 - 148 Coarser grained possible arkose some bedding or flow lines @ 10°. Lower contact at 50°
156	219	Intrusive porphyry - 2' on each contact finer grained. Contacts at 45° frozen distinct but irregular
219	228	Fine grained, silicified, dark brownish grey mottled appearance. Probably sediment with volcanic fragments. No mineralization.

DIAMOND DRILL HOLE RECORD

MINE King Solomon

HOLE NO. 11

LOCATION Bluebell 75' North of Shaft

DIRECTION S 40° W - 30°

DEPTH 71'

From To

0' 22' Poor core recovery broken ground. Fine grained light gray, hard silicified

22' 36' Altered garnetized skarn zone. Garnetite in 6" bands roughly at 45°

29'-31' Light green altered with 10% magnetite Cu 3%
22 -36 Cu about 1%

36' 61' Silicified light gray mottled appearance. Probably mixture sediments and volcanics. Pyrite in irregular fractures.

61' 71' Open-old workings drift from shaft.

WIDE King Solo on
 HOLE NO. 12
 LOCATION Blustell 75' West of shaft
 DIRECTION $\approx 17^{\circ}$ $\approx -30^{\circ}$
 DEPTH 75.3'

From	To	Width	Gr
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0'	38'	Broken ground 75% core recovery	Silicified hard mottled appearance, some suggestion of coarser grain but probably sediment (sandy)
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38'	42'	25% core recovery	Fine grained soft, light green horn altered No min anal.
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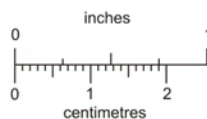
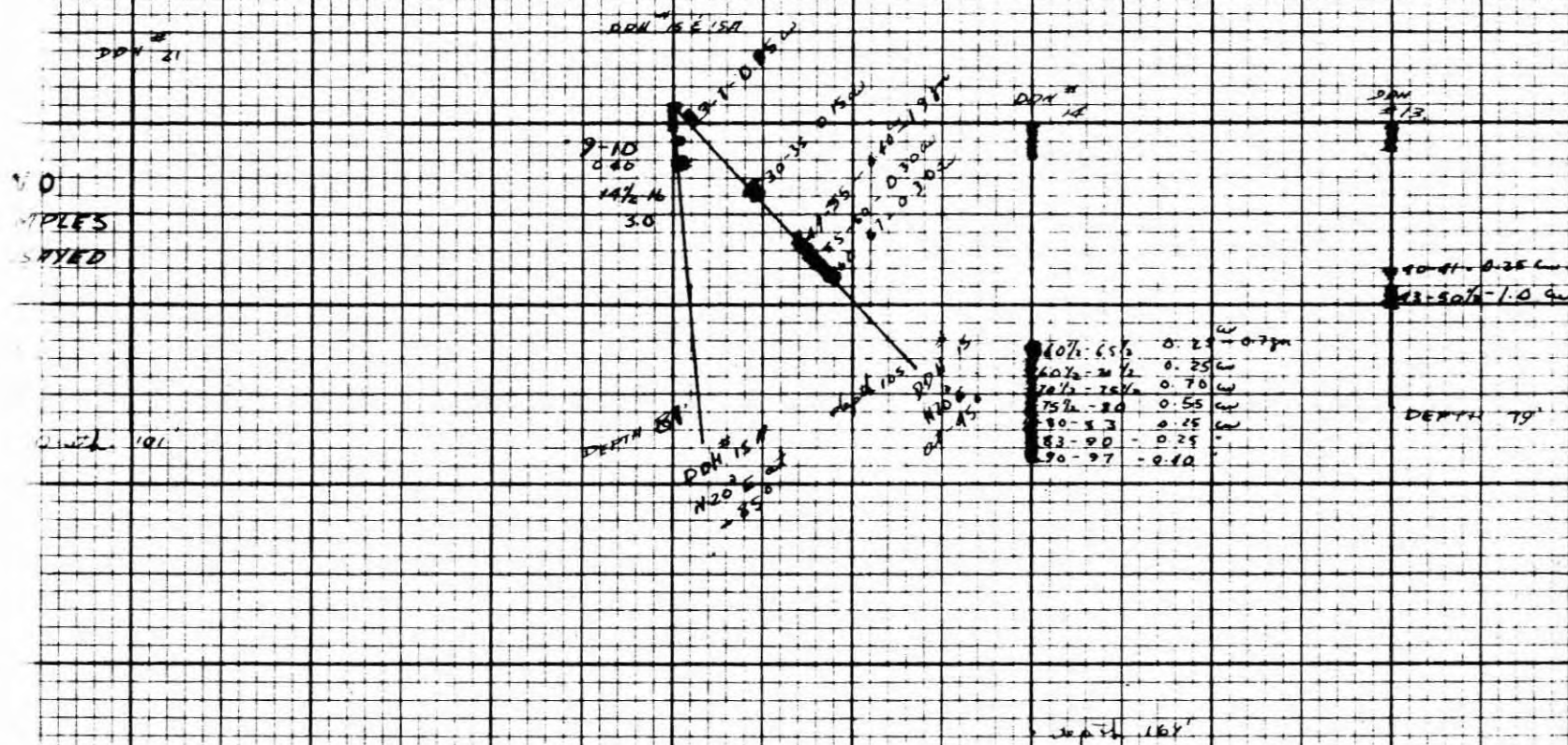
42'	49'	75% core recovery	Dark gray fine grained silicified
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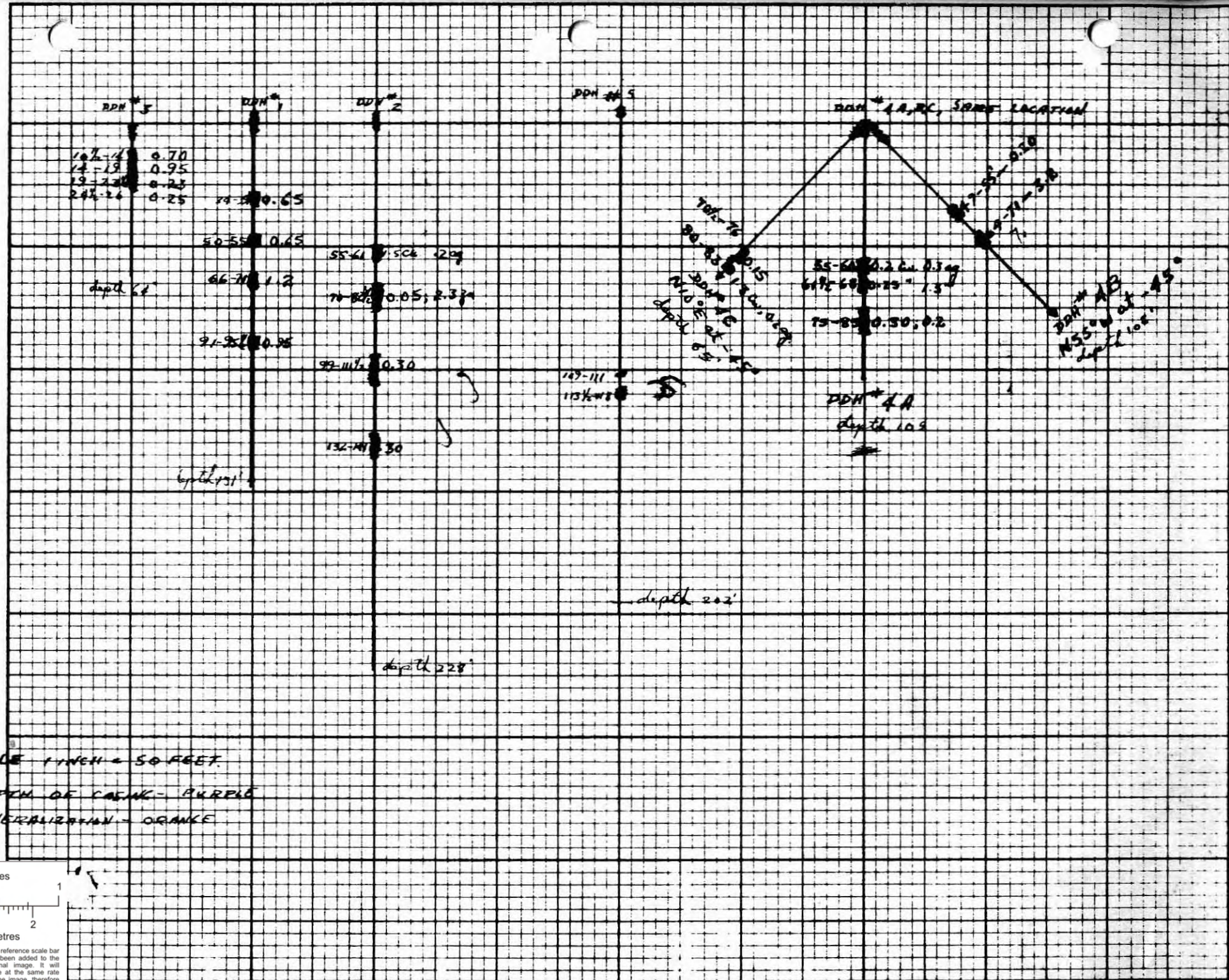
49'	53'	25% core recovery	Light green gray color, hard horn altered - only pyrite in core fragments.
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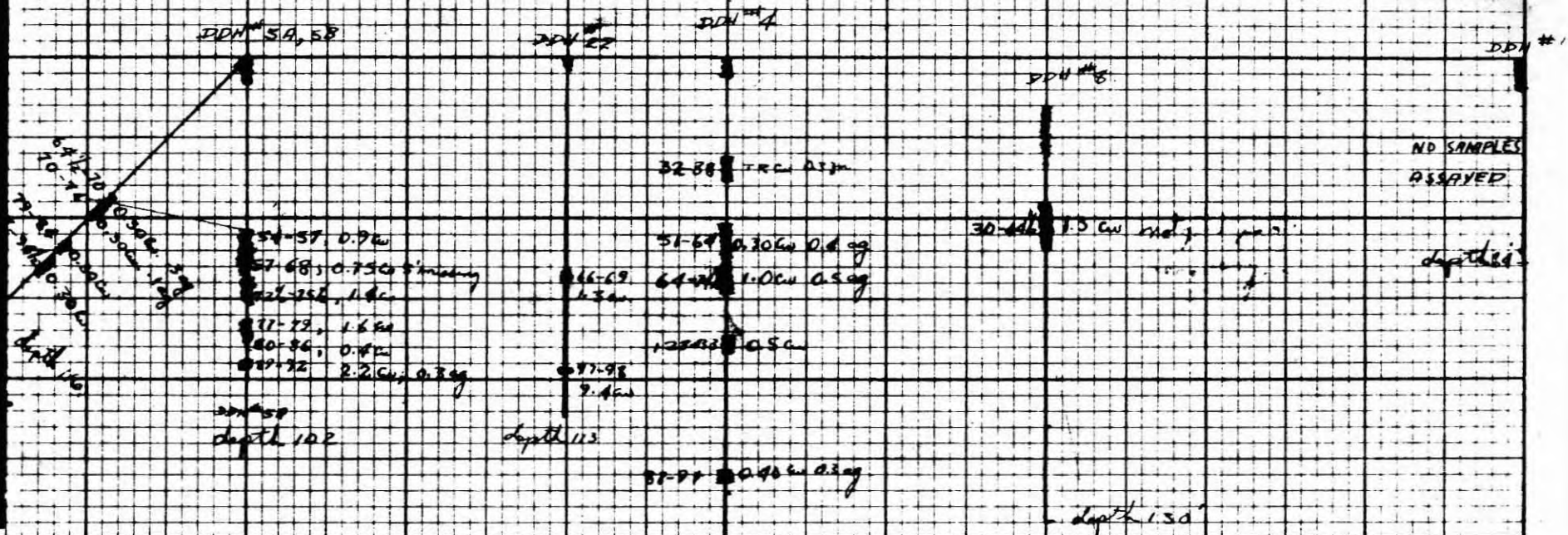
53'	75.3'	Core recovery:	
		53 - 59' - 65'	
		59 - 61 - 17%	
		61 - 76 - 97%	
		Garnetite and horn with 10% magnetite.	
		Garnetite in roughly 1 foot patches.	
		Magnetite 5% Cu 2'	

Samples

53 - 59	1.1%
59 - 66	1.6%
66 - 71	1.1%
71 - 75.3	2.1%
Total	22.3' 1.15%



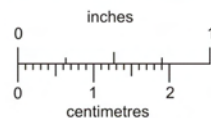




SCALE 1 INCH = 50 FEET

DEPTH OF CASING - PURPLE

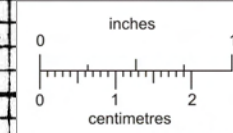
MINERALIZATION - ORANGE



This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

NOTE - HOLE 15
WAS DRILLED FROM
UNDER GROUND
13 DISCOVERED IN
ONE DAY.

TUNNEL



This reference scale bar
has been added to the
original image. It will
scale at the same rate
as the image, therefore
it can be used as a
reference for the
original size.

PROPOSED DRILLING
NINE SALMON RIVER - B.C.
VERTICAL EX. HOLES
TO BE DRILLED SO FAST
ALTHOUGH LINE USED CONTRARY
SCALE 1" = 100'

NOTE: THE HOLES WILL NOT
BE DRILLED IN THE SAME
SUCCESSION AS DESCRIBED, BUT
WILL HAVE THE SAME NUMBERS.
PLEASE REFER TO KATHAR'S
REPORT AT PRESENT FOR MORE
DETAILS.

125

FILE NO. 18625

CERTIFICATE OF ASSAY

WE HEREBY CERTIFY that the following are the results of assays made by us upon samples of DD CORES
 herein described and received from G. A. RICHARDSON JUNE 7, 1956

	<u>GOLD</u> Ounces Per Ton	<u>SILVER</u> Ounces Per Ton	<u>COPPER (Cu)</u> Per Cent.	<u>ZINC (Zn)</u> Per Cent.
Hole #1 -9259-64-61 $\frac{1}{2}$	TRACE	0.5	1.0	
Hole #1 -9260-1-64	TRACE	0.4	0.30	
Hole #1 -9261-32-38	TRACE	TRACE	TRACE	0.3
Hole #1 -9263-176-186	TRACE	TRACE	TRACE	
Hole #1 -9264-126-133	TRACE	TRACE	0.05	
Hole #1 -9265-87-91	TRACE	0.3	0.40	

FILE NO. 18603

CERTIFICATE OF ASSAY

WE HEREBY CERTIFY that the following are the results of assays made by us upon samples of DD CORES
herein described and received from KING SOLOMON MINES

JUNE 5, 1956

	<u>GOLD</u> Ounces Per Ton	<u>SILVER</u> Ounces Per Ton	<u>COPPER (Cu)</u> Per Cent.	<u>ZINC (Zn)</u> Per Cent.
9255 - Hole #2- 55 - 61	TRACE	0.2	0.15	
9256 - 70 - 82 $\frac{1}{2}$	TRACE	TRACE	0.05	2.3
9257 - 99 - 11 $\frac{1}{2}$	TRACE	TRACE	0.30	
9258 - 132 - 138	TRACE	TRACE	0.30	

FILE NO. 18559

CERTIFICATE OF ASSAY

WE HEREBY CERTIFY that the following are the results of assays made by us upon samples of DD CORKS herein described and received from KING SOLOMONS MINES (Richard W. Sargent) JUNE 1, 1956

	<u>GOLD</u> Ounces Per Ton	<u>ZINC (Zn)</u> Per Cent.	<u>COPPER (Cu)</u> Per Cent.	Value Per Ton
34 - 39 1/2 #9251		3.2	0.65	5 1/2 ft.
DEM #1 50 - 55			0.65	5 ft.
66 - 71 #9253			1.2	5 ft.
91 - 95 1/2 #9254	TRACE		0.95	4 1/2 ft.

CERTIFICATE OF ASSAY

WE HEREBY CERTIFY that the following are the results of assays made by us upon samples of DD CORES
herein described and received from TECHNICAL MINING CONSULTANTS APRIL 7, 1958

		<u>COPPER (Cu)</u>	<u>ZINC (Zn)</u>
		Per Cent.	Per Cent.
# 513 #7 Hole		2.0	
514 #7		0.25	
515 #8		0.90	
516 #8		1.3	
517 #8		1.2	
518 #8		0.50	
519 #8		0.25	
520 #8		0.30	
521 #8		0.90	
522 #8		1.1	
523 #8		0.90	
524 #8		1.0	
525 #8			2.6
526 #8			2.7
527 #8			1.2

FILE NO. 17885

CERTIFICATE OF ASSAY

WE HEREBY CERTIFY that the following are the results of assays made by us upon samples of ED CONG
 herein described and received from TECHNICAL MINING CONSULTANTS APRIL 10, 1956

	<u>GOLD</u> Ounces Per Ton	<u>SILVER</u> Ounces Per Ton	<u>COPPER (Cu)</u> Per Cent.	<u>ZINC (Zn)</u> Per Cent.
# 528 #9 Hole			0.45	
529 #9			1.2	
530 #9			1.1	
531 #9			1.1	
532 #9			2.7	
533 #9			1.5	TRACE
534 #10			0.55	
535 #12			1.1	
536 #12			1.6	
537 #12			1.1	
538 #12	TRACE	1.0	2.1	TRACE

CERTIFICATE OF ASSAY

WE HEREBY CERTIFY that the following are the results of assays made by us upon samples of DD CORES
herein described and received from TECHNICAL MINE CONSULTANTS MARCH 26, 1956

	<u>GOLD</u> Ounces Per Ton	<u>SILVER</u> Ounces Per Ton	<u>COPPER (Cu)</u> Per Cent.	<u>NICKEL (Ni)</u> Per Cent.
504	TRACE	0.4	0.75	
505	TRACE	0.4	0.25	TRACE
506			2.1	
507	TRACE	1.3	12.0	
508			7.5	
509			3.8	
510			1.9	

FILE NO. 17527

CERTIFICATE OF ASSAY

WE HEREBY CERTIFY that the following are the results of assays made by us upon samples of ORE
herein described and received from A. G. PENTLAND MARCH 3, 1956

King Solomon #1
" " #2
" " #3
" " #4

COPPER (Cu)

Per
Cent.

TRACE
TRACE
TRACE
TRACE

17411

CERTIFICATE OF ASSAY

WE HEREBY CERTIFY that the following are the results of assays made by us upon samples of ORE
herein described and received from WILSON MINING CORPORATION FEBRUARY 21, 1956

COPPER (Cu)

#6503
#6504

1.1
0.40