009772

NORANDA EXPLORATION COMPANY LIMITED

GEOLOGICAL SURVEY

of the

CHERRY CREEK PROPERTY

(Graham Bousquet Option)

Kamloops M.D.

by:

A.D.K.Burton Jan.1959

Confidential (not an assessment report)

50° 120° NE NW

92I/10E W

25

JMC from Mask rocks (1958) in J. M.C.'s office -

(KAMLOOPS (POTHOOK AREA) : COLLECTED JUNE '58)

58-319 m/dior. "coarser" facies see B.C. photos 622:97198
(spec ① on photo) & "KLPS 1957" book.

-320 olive-db & S across strike from last "
②

-321 m/dior? or Nicola D?. S of last.
③

-322 pinkish porph hb-dior (2 specs.) " . W of Pothook.
④

In J.M.C.'s office

(KLPS SPECS.)

58-323. long pxe (-hb?) diorite or m/diorite ⑥ — see B.C. 622/97 & KLPS57.

-324 mafic m-gr^d gabbro (or pyroxenite). ⑦ — W? locality.

-325 m/diorite? — ca 1000' NW of Poltook shaft

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NORANDA EXPLORATION COMPANY LIMITED

CHERRY CREEK PROPERTY

KAMLOOPS M.D.

D.M. and AFTON CLAIMS

INTRODUCTION:

During the summer of 1957 the D.M. and Afton groups of claims were investigated by Graham Bousquet Mines Limited. They found several interesting E.M. anomalies and in the summer of 1958 Noranda Exploration Company Limited tested some of them with a programme of geological mapping, some geophysics and diamond drilling.

No economic copper orebodies were found; however, most of the anomalies investigated were satisfactorily explained.

SCOPE OF WORK:

Starting with the 400 feet to one inch geological map prepared by Jones in 1957, the geology was remapped and considerably changed. One area was plane table mapped at a scale of 50 feet to one inch.

Some geophysical check work, and some hand trenching and bulldozer stripping were also done in this period.

After studying the results of this programme the most favourable areas for copper mineralization were chosen and nine diamond drill holes were put down in six separate areas.

RESULTS:

Noranda Drilling Results:

Hole one proved to be serpentine.

Holes 2, 3, 4, 7 and 8 were in an intrusive rock rich in pyrite.

Holes 5 and 6 were in shear zone of less than economic grade.

Hole 9 was unmineralized argillite.

It was concluded that anomalies from the electromagnetic surveys are more likely to represent rock units than orebodies.

Pothook Area

The area around the Pothook shaft was plane table mapped in detail in order to solve the structural problem. Vertical sections and Level plans were drawn up making use of the diamond drilling done in 1952. A mineralized body of $1/4 \times 10^6$ tons at 1.3% copper was then positively blocked out. Extension of the same oreshoot which is geologically warranted but has not been blocked out by diamond drilling would increase the tonnage to $3/4 \times 10^6$ tons of the same grade. Extension of untested oreshoots cut by only one diamond drill hole could add $1/4$ to $1/2 \times 10^6$ tons. Total possible ore then is 1 or $1\ 1/4 \times 10^6$ tons at 1.3% copper.

LOCATION, ACCESS, TOPOGRAPHY:

The property which consists of claims held by location is twelve miles west of Kamloops, B.C. on the Trans Canada Highway which runs through the property. Sugar Loaf Dome, a prominent hill in the area is in the southeast corner of the property.

Several dirt roads cross the property and because of the low rolling nature of the country, trucks may be driven almost everywhere.

Rainfall is less than ten inches per year and vegetation is limited to grass, cactus, and sagebrush except for better watered portions where pine trees can grow.

PREVIOUS WORK:

During the eighteen-nineties the Kamloops area was the scene of much prospecting and mining activity. Most of the deposits of the Iron Mask batholith were discovered at this time. The D.M. and Afton claims are on the western end of the batholith and have several copper showings and some magnetite dykes on them. This Report is not concerned with the magnetite.

By 1898 a company had been formed and started to sink a shaft on the principal showing on the property, known as the Pothook. By the end of 1899 the shaft had been sunk to 330 feet and three levels had been started. Apparently it did not prove profitable so was abandoned.

In 1952 Kennecott put down 14 diamond drill holes on the property. They got some interesting low grade intersections but dropped the property.

May 1958 Noranda optioned the property from Graham Bousquet Gold Mines Ltd. who had been carrying out a programme of exploration based largely on geophysics and geochemistry.

GEOLOGY:

Table of Formation

PRE BATHOLITH ROCKS

Upper Triassic Nicola Group

- Volcanic Formation
- Agglomerate Formation
- Argillite Formation
- Quartz Feldspar-porphyry
- Carbonate Breccia

BATHOLITHIC ROCKS

Iron Mask Batholith

- Diorite
- Gabbro
- Syenite
- Hornblende Diorite
- Trachyte

POST BATHOLITHIC ROCKS

Picrite Basalt & Serpentine

Dykes

Brown Weathering Basalts

Kamloops Group

General Description

The property is at the west end of the Iron Mask batholith. The batholith is a serial intrusion which domed up the rocks of the Upper Triassic Nicola Group into an anticline. Both the Batholith and the anticline trend N 60° W and plunge gently in this direction.

Economic orebodies have been found only in the rocks of the batholith although in one place Nicola rocks are slightly mineralized adjacent to the batholith. Copper mineralization is the most important although some iron and minor gold showings have been found.

PRE BATHOLITHIC ROCKS

Upper Triassic Nicola Group

The Nicola Group covers the southern third and western end of the property. It consists of a series of sediments and volcanics which have been flexed up into a NW-SE trending anti-cline by the intrusion of the Iron Mask batholith. The batholith did not metamorphose any of the Nicola rocks. The axial plane of the anticline is vertical and runs nearly N60W through Hughes Lake. Dips are to the south along the S flank of the batholith and to the north, north of Hughes Lake.

The Nicola rocks have been eroded off the batholith along the crest of the anticline exposing a continuous conformable vertical succession of the three main units on the south limb of the anticline.

In ascending stratigraphic order they are the Argillite Formation, the Agglomerate Formation and the Volcanic Formation.

Outcrops of argillite are reported near the south of Deadman River and at Tobacco Creek but elsewhere argillite is not common in the Nicola rocks. The argillite at Cherry Creek is the lowest exposed member of the Nicola Group but how close it is to the actual base is not known. There is no evidence to support it, but one wonders if the argillite is close to the base of the Nicola.

Argillite Formation

The Argillite formation is the lowest succession of Nicola rocks exposed in this area. Some of the beds contain ammonites which R. E. Jones states were identified by Dr.G.E.G. Westerman as Discotropites sp. (Tropitaceae), this indicates an Upper Triassic (Carnian) age for the Nicola group.

This formation is composed of thin bedded argillite with some limy bands and occasional beds of tuff. Beds are most commonly 1/4" to 1" thick and black to light grey in colour.

Determination of "tops" by graded bedding and cross bedding show the beds to be right side up and dipping to the south flank of the anticline. Dips are steep (40 to 60 degrees to the south) close to the southern flank of the batholith but flatten gradually to 15 to 25 degrees to the south. No argillite outcrops on the N flank of the batholith.

Thickness can not be determined exactly but maximum possible thickness known does not exceed 1500 feet and the minimum is not less than 500 feet.

A few thin (1/16") beds of tuff are present in the lowest argillite beds seen (D.D.H. No. 9). Near the top of the argillite formation the tuff beds become more common, thicker, coarser grained, and grade into the succeeding Agglomerate formation. This gradation can be seen by following up the dry creek at 17E/22S

Agglomerate Formation

The agglomerate is a grey-green rock composed of fresh, angular to well rounded water worn pebbles or cobbles of volcanic and igneous rocks set in a matrix of angular fragments and fresh crystals. Some beds have rounded cobbles as large as one foot in diameter but generally the pebbles and fragments range from two inches down to sand grain sized crystals. Matrix and pebbles have similar composition so the pebbles stand out best on a weathered surface.

Bedding is usually obscure but the agglomerate on the North side of Hughes Lake strikes parallel to the axis of the N.W. plunging anticline formed by the intrusion of the Iron Mask batholith and dips moderately to the north.

No attitudes were seen on the small patch of agglomerate in the northern part of the map area. South of the argillite, dips are flat to moderate (5° to 30°); steepening slightly at the contact of the conformably overlying Volcanic agglomerate and andesite formation. There is a shallow anticline and a shallow syncline in the agglomerate superimposed on the southern flank of the main fold.

North of Hughes Lake the agglomerate has been cut by some dykes and sills. In one case they are accompanied by some minor copper mineralization.

Volcanic Formation

These are the youngest of the Nicola rocks on the property and are found in the southwest corner of the map sheet. They conformably overlie the Agglomerate formation, dip to the south, and presumably grade up into the andesites and greenstones of Greenstone Mountain to the south. They have not been mapped in detail but consist of the more typical Nicola greenstones, basalts, agglomerate and andesites.

For two other rock types field evidence is not complete enough to fit them into the stratigraphic sequence.

Quartz-Feldspar Porphyry

There are several quartz-feldspar porphyry bodies that could be intrusive into, or part of, the Volcanic formation. They occur close to, and roughly along, a stratigraphic horizon near the contact of the Agglomerate formation and the Volcanic formation. Most likely they represent a flow horizon near the base of the Volcanic formation.

Carbonate Breccia

Red weathering carbonate breccia occurs at the western edge of the map sheet. It is a cataclastic breccia composed of dark angular fragments up to one inch diameter, but most commonly from 1/8" to 3/8", which are set in a matrix of finely ground fragments and open space filling of carbonates. The fresher fragments are aphanatic and black.

The origin of this rock and its relations to the Nicola sequence are not known. It has similarities to the carbonate zones associated with mercury deposits in the volcanic rocks of this area. There may be a chain of such zones running parallel to the Iron Mask batholith but extending further west and east. Another possibility for its origin is alteration of a peridotite to magnesium carbonates.

BATHOLITHIC ROCKS

Iron Mask Batholith

General Description

The Iron Mask batholith is a quartz free intrusive which varies in composition from a gabbro to a syenite. Carr, who mapped the batholith for B.C. Department of Mines (see 1956 Ann. Rept. B.C. Dept. Mines, Page 48) divided the batholith into two main types - fine grained and coarse grained. The mean grain size of the coarser grained variety is greater than 1½ mm. Each of these types can vary in composition and are large separate mappable units.

The property is located on the western end of the batholith where it consists solely of the fine grained type.

Iron Mask Batholith on the Property

On the property the outline of the batholith is a triangle with the base along the east boundary of the claims and the apex near the western end of the claims. It intrudes rocks of the Nicola Group and is unconformably overlain in places by later volcanics.

Diorite is the most common rock with syenite, hornblende diorite gabbro, trachyte, and altered varieties of these rocks also represented. No pyroxenite is present. The rock which has been called peridotite or picrite-basalt is not considered part of the batholith and is discussed separately.

Much of the batholith is badly jointed or "crackled" and this makes it difficult to get a fresh surface as the rock breaks into smaller fragments along weathered joint planes.

On the property, at least, the batholith was serially intruded into the Nicola rocks. It had almost no effect on the Nicola which was domed up into an anticline by the batholith. The fine grain of the intrusive and the lack of any metamorphism in limy argillites at the contact suggest a cool intrusion lacking in volatiles and excess heat.

<u>Diorite</u>

Diorite is the oldest phase of the intrusive,-it covers the greatest area and is fairly uniform in composition and grain size. Mean grain size is of course less than one and one half millimetres. The rock consists of fresh white to grey mainly plagioclase feldspars with equidimensional grains of hornblende and minor pyroxenes. There is about 1 to 5% magnetite which seems to be an essential and not an accessory mineral. One of the important differences between the diorite and the hornblende diorite is that the excess iron in the diorite is in the form of magnetite and in the form of pyrite in the hornblende diorite

Large areas of the diorite have been altered, particularly around the Pothook shaft and in the most north westerly corner of the outcrop area. Alteration consists of epidote and chlorite which give the rock a dark massive appearance making it hard to pick out individual grains. Alteration and mineralization appear to have similar controls although all altered areas are not mineralized. The pothook Breccia is brecciated diorite and is discussed later.

Gabbro

A few patches of gabbro are found within the diorite towards the southeast corner of the property. The gabbro is apparently just a darker more basic phase or clot in the diorite. Boundaries are not sharp and it does not vary greatly in composition from the diorite.

Syenite

Syenite is found mainly on the north half of the property. This area has not been mapped in as great a detail as the rest of the batholith on the property. The syenite shown on the map includes typical syenites, pink feldspar pegmatitic dykes, and diorite that has been altered by addition of pink feldspar to a monzonite or even a syenite.

The true syenite is finer grained than the diorite and is composed of a mesh of fine grained pink feldspar crystals with very few mafics.

Some areas of diorite within the general area mapped as syenite are almost unaltered but most have had pink feldspar added in such amounts that they are now monzonites or nearly syenites. In these areas narrow pink feldspar pegmatites which cut the outcrop stick up due to their resistance to weathering and the adjacent diorite which has often been soaked with pink feldspar gives the impression that the whole outcrops is syenite. This makes it difficult to accurately map the true extent of the syenite.

Hornblende Diorite

Hornblende diorite has been intruded in a line parallel to the long axis and largely along the south side of the batholith. At its western end it occurs as sills and dykes cutting the Nicola rocks, and at the southeastern corner of the property it forms the hill of "Sugar Loaf Dome" and may be an intrusive plug. It appears to be younger than the diorite and can be considered as the "core" of the batholith

Hornblende diorite is similar in composition and grain size to the diorite except for the diagnostic long (up to 1/4") needle like hornblende crystals and the presence of pyrite instead of magnetite.

Trachyte

Trachyte found on the property is considered a sub phase of the hornblende diorite. It is related to the hornblende diorite as in one diamond drill hole (Kennecott No. 4) the hornblende diorite grades into trachyte. It has been found on the NW and SE flanks of the hornblende diorite. The trachyte is variable in composition but is similar to the hornblende diorite.

The main difference is the presence of zoned plagioclase laths. Except for one outcrop of brecciated trachyte just southwest of Pothook Lake which is not typical, it has only been picked up by diamond drilling as it is a partially altered softer rock which does not outcrop well. In places there is an appreciable pyrite content.

Sequence of Intrusion of the Batholithic Rocks

The sequence of intrusion of the batholithic rocks as near as can be interpreted was first the diorite with local segregation of gabbro. This was probably followed by the syenite and pink feldspar alteration of the diorite. Intrusion of the hornblende diorite and its associated trachyte appears to be last and is based mainly on negative evidence. The evidence being lack of pink feldspar alteration, its sill and dyke shapes at the western end; and the plug of Sugar Loaf Dome at the eastern end. However, it must be noted that the lack of pink feldspar alteration in the Hornblende diorite could be because it lies outside the zone of influence of the pink feldspar alteration associated with the syenite.

POST BATHOLITHIC ROCKS

Picrite - Basalt

General

Dykes, or lens-like bodies of picrite-basalt and serpentine, its alteration product, are found in the Iron Mask Batholith generally near its outer border. Bodies of picrite-basalt are found in other places also, extending at least twenty-six miles from the west end of Kamloops Lake to Shumway Lake. Mathews and Cookfield class this rock as

> "a peridotite in which 55 percent of the rock consists of large rounded grains of olivine and serpentine in a matrix of pyroxene and serpentine." (Memoir 249 pp 18)

Carr in 1956 says:

> "Although it has been called peridote, the unaltered rock possesses a glassy matrix and is similar to picrite-basalt north of Kamloops Lake" (B.C. Dept. Mines 1956 Ann Rep. p.49)

A visit to the "Type locality" at Carabine (Copper) Creek north of Kamloops Lake confirmed this and also proved that the picrite-basalt is intrusive into the "Cretaceous or Tertiary Volcanic Rocks". In this locality it is apparently older than the "Cretaceous or Tertiary" Copper Creek intrusive. Mr. E. Livingstone of Kamloops has seen picrite-basalt cutting Tertiary Tranquille Formation along the south shore of Kamloops Lake.

Property

On the property the picrite-basalt is a dark rock composed of olivine phenocrysts set in a glassy groundmass. It varies from completely fresh hard rock through all stages of alteration to serpentine, and in places is so highly altered as to resemble a green clay. It is fairly uniform in composition except for the most westerly lens exposed on the property which has some large 1/4 inch phenocrysts of augite. This lens has been mapped separately as "augite-basalt" and could be called an augite-olivine picrite-basalt or an "ankaramite".

The picrite has been intruded along pre-existing lines of weakness at the contact of the batholith with the Nicola rocks and along the contact between successive intrusions of the Iron Mask complex. The main occurrence of picrite-basalt is along the north contact of the hornblende diorite with the diorite, where it occurs as a series of apparently disconnected lenses strung out like a string of beads. It also occurs southwest of Sugar Loaf Dome along the contact of the diorite and the Nicola rocks. Another lens cuts across the latest of the intrusions, the hornblende diorite, and proves the post batholith age of the picrite-basalt.

The lines of weakness along which the picrite-basalt was intruded have been activated since its intrusion.

The picrite-basalt was intruded prior to mineralization and while it is found in the vicinity of mineralization is itself not a good host rock.

Dykes

A few dykes of various compositions cut the intrusive rocks, There are hornblende diorite, diorite, felsite, pyroxenite, leucite-feldspar porphyry and basalt dykes. All are later than the Iron Mask batholith and probably later than the picrite. They may have been intruded later than the faulting. One dyke is definitely later than the faulting and many of them parallel the zones of tension that would accompany some of the faulting.

Some dykes have been mineralized, and near one there is mineralization in the country rock on one side of it only. Most must be pre-mineralization but they have not had much control on the mineralization.

Hornblende diorite and diorite dykes are common and some diorite dykes grade into felsite. Basalt dykes which cut the batholith near the brown weathering basalt flows may be feeders for these flows.

One faulted, or four parallel, leucite-feldspar porphyry dykes cut the diorite and hornblende diorite. They have previously been mapped as quartz-feldspar porphyry dykes. A single outcrop of an altered dyke tentatively called a pyroxenite was found.

<u>Brown Weathering Basalts</u>

The brown weathering basalts occur as a series of flatly dipping, fairly fresh, light brown, basalt flows covering a strip running east-west along the Trans Canada Highway on the property. They overlie the Nicola Agglomerate Formation with a slight angular unconformity. The relation of these flows to the Kamloops Group were not investigated other than noting that they could underlie the Kamloops Volcanics and Tranquille Beds.

Jones felt that the brown weathering basalts had been involved in earth movements but I believe that the outcrops with what he took to be schistosity are in fact a series of vents which were the source of the lava flows, and what he mapped as "vertical schistosity" are actually shrinkage cracks in the vents. These vents and similar basalt dykes cut the Iron Mask batholith so are younger than the intrusive.

Jones believes the basalts which are cut by granite dykes are older than the Kamloops Group.

Kamloops Group

The Kamloops Group consists of the Tranquille Sediments and the overlying Kamloops Volcanics; all of which apparently overlie the Brown Weathering basalts.

This group is found along the north boundary of the property and was not investigated.

Glaciation

Glaciation has markedly affected the topography of the property. The direction of glaciation paralleled the grain of the country (S60°E) so the harder more resistent rocks now stand out in long chains of ridges while the softer rocks are eroded and covered with glacial till. At one point (24E/6S) (D.D.H.No.4) there is 180' of till and gravels. Streams from temporary glacial lakes have cut shallow V shaped gulleys in a few places through the till exposing some of the softer rocks. Boulders up to six feet across of a cherty conglomerate found 12 miles away, northwest of Kamloops Lake, are scattered across the property.

AGE

Age of Batholith

The batholith is definitely older than Upper Triassic (Carnian) as it intrudes dated rocks of the Nicola Group. It is younger than Tertiary (Miocene) as it is cut by basaltic dykes and flow feeders which must have been feeders for the Kamloops Group.

There are no recognized Cretaceous rocks in the immediate area but picrite-basalt similar to that which intrude the batholith cuts rocks that W.E. Cockfield has assigned a Cret. or Tert. age at Carabine Creek. This puts a Cret. upper limit on the age of the batholith. So it seems that the Jurassic age of the batholith as proposed by most of those who have worked on this area is valid.

Age of Picrite-Basalt

The Picrite-Basalt is younger than the batholith and is not part of it. Mr. E. Livingstone of New Jersey Zinc has seen it cutting rocks of the Kamloops Group which makes it definitely Tertiary in age.

Age of Mineralization

In places picrite-basalt has been mineralized and as it is Tertiary the mineralization must also be Tertiary in age. This means that the mineralization is not genetically related to the batholith.

STRUCTURE

Relation of Batholith to Nicola

The Iron Mask Batholith intrudes Nicola rocks which have been domed up into an anticline. At its western end the Nicola rocks have been flexed up but not broken by the batholith. Near Sugar Loaf Dome on the south flank of the batholith, the Nicola rocks have been domed up so much they have been ruptured or faulted. Further east it is likely that the batholith has punched completely through the Nicola rocks and will probably be in fault contact with the Nicola rocks.

Faulting on Property

Hughes Lake, which lies along the axis of the anticline, could be formed simply by differential erosion between the argillite and agglomerate formations, or it could be the result of erosion along a fault-line scarp where the north side dropped down relative to the south side.

There is some evidence for faulting along the south contact of the batholith and the Nicola rocks. Along 22S near 8E the argillite beds change quickly from shallow (15°) to steep (70°) dips. This sudden change of attitude could be due to drag along a normal fault where the north side was raised by the intrusive.

Pothook Breccia

Most of the known faulting is in the batholithic rocks and is related to zones of weakness along the borders of the hornblende diorite body. The faulting at the northern contact of the hornblende diorite with the diorite, in the vicinity of the Pothook Shaft, is the most important and is the most completely investigated. This zone of weakness which probably guided the intrusion of the hornblende diorite has been activated several times.

Intrusion of the hornblende diorite was probably forceful as a wide zone of breccia has been developed in the diorite along the contact. This breccia which has been mapped as the "Pothook Breccia" is a good host rock for copper mineralization. The Pothook Breccia extends for 2000 feet along the south border of the diorite and is not found in the hornblende diorite. This wedge shaped zone starts near 6N/0E and gradually widens to about 500 feet as it goes eastward. How much further east and north it extends is not known as it is covered with overburden past here. One outcrop of Pothook breccia was noted on E side of Pothook Lake. In depth it probably extends down to the hornblende diorite which is dipping north at -45°. Within this zone are areas of unbrecciated diorite which run northeast, parallel to the direction of the dykes and which may represent the direction of zones of tension. If these are tension directions it means that the hornblende diorite was moved east relative to the diorite while the diorite was being crushed and brecciated.

After the formation of the Pothook Breccia picrite-basalt was intruded along this zone. Hydrothermal alteration and further faulting have converted much of it into a green clay or serpentine and complicated its shapes.

Mineralization

Pothook Oreshoot

The area around the Pothook shaft has been plane table mapped in detail in order to solve the structural problem. The main oreshoot in the Pothook area is in the Pothook Breccia and is nearly parallel to the main N.E. zone of tension. A control such as this on mineralization makes it possible to connect drill hole intersections and calculate tonnages. This simple control has been modified by the presence of the picrite-basalt.

The oreshoot flattens in depth as it approaches the hornblende diorite which strengthens the belief that it dies out and does not extend into the hornblende diorite. The oreshoot strikes N25°E and the dip which is 40° near the surface flattens to 20° three hundred feet lower. Known strike length is 300', dip length is 400' and true thickness is about 20'. Further diamond drilling could extend the oreshoot along the strike to the northeast and also downdip, but would not increase the grade from 1.3% copper. Other oreshoots in this area may not be as regular. Mineralization consists of primary native copper and chalcopyrite plus some near surface secondary malachite azurite and chalcocite.

Vertical sections and level plans have been drawn up which show the geology and ore shoots.

Malachite Zone

Malachite stained highly altered diorite with some chalcopyrite was noted in a dry creek near 9N/10W. Seven surface grab sample assays along 130 feet of the creek averaged 1.1% copper. Two short vertical diamond drill holes (5 & 6) were put down in this zone but values were only 0.29% and 0.30% copper.

It was concluded that surface enrichment of the low grade protore was responsible for the higher surface assays.

Other Areas

Mineralized diorite near Sugar Loaf Dome was bulldozer trenched but high geophysical readings next to it proved to be picrite-basalt. Other areas on the property with some copper mineralization were looked at but were not considered worthy of further examination.

RECOMMENDATIONS

There is a lot of copper scattered through the Iron Mask batholith but generally there is not sufficient structural control available to concentrate any of the mineralization into a discrete orebody. Most of the time, where partial control is available, grade is too low and boundaries are too indefinite to be of any economic interest.

The Pothook oreshoot comes the closest, of all known areas of copper mineralization, to predictable control with a size and grade in the nearly economic range.

There are nearly one quarter of a million tons of 1.3 percent copper positively blocked out in this oreshoot. Further drilling could extend this oreshoot but would not increase the grade and it is felt that even if the oreshoot filled all the available space in the Pothook Breccia there is doubt that that increase in tonnage would make an economic orebody at today's copper prices. Ore would have to be scraped in the lower levels where the dip is flatter and all ore and development muck would have to be hoisted.

Respectfully submitted,

A. D. K. Burton

AB/ai

January 1959

List of Maps & Illustrations

#1	1" = 400'	Geology of Property
#2	1" = 50'	Geology (2 sheets) of Pothook Area
#3	1" = 50'	Location of drill holes = Pothook Area - Vertical Sections
#4	1" = 50'	Level Plan 1880'
#5	1" = 50'	Level Plan 1800'
#6	1" = 50'	Level Plan 1750'
#7	1" = 50'	Vertical Section A
#8	1" = 50'	Vertical Section B
#9	1" = 50'	Vertical Section C
#10	1" = 100'	Sugar Loaf Area
#11	1" = 100'	Malachite Zone

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