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NORTHWESTERN EXPLORATIONS, LIMITED

Report on

HASKINS MOUNTAIN PROPERTY

Liard Mining Division

British Columbia

by:

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## APPENDIX

Plate No. 1	Claim Map	1" = 1000'
2	Geologic Map	1" = 400'
3	Geologic Sections	1" = 400'
4	Assay Plan-Limestone Cap	1" = 100'
5	Assay Plan - Road Ridge Iona Ridge, East Side Area	1" = 200'
6A	Diamond Drill Section Nos. 1, 2, & 3	1" = 40'
6B	Diamond Drill Section No. 4	1" = 40'

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## HASKINS MOUNTAIN PROPERTY

### SUMMARY

The Haskins Mountain Property is a silver-lead-zinc prospect situated at 59°21' N latitude, 129°27' W. longitude on the east flank of the Cassiar Mountains in north central British Columbia. Haskins Mountain which gives the property its name is a rounded peak, 6100 feet in elevation.

Claims covering the major portion of the mineralized area were optioned by Northwestern Explorations, Limited and during the summer of 1956 the following work was done:

1. Geological Mapping (400 feet per inch)
2. Access Road Construction (approximately 5½ miles)
3. Sampling
4. Diamond Drilling (1128 feet)
5. Packsack Drilling (92 feet)
6. Bulldozer and hand stripping
7. Claim surveying and additional staking

Metallization is confined to zones of hard, dense, lime-silicates which faithfully follow chert-limestone contacts. In order of abundance the minerals are pyrrhotite, sphalerite, pyrite, galena, and chalcopyrite.

An estimated 1,340,000 tons contained in Limestone Cap, Road Ridge, and Iona Ridge give the following averages calculated on the basis of 28 samples:

<u>Width</u> <u>(Ft.)</u>	<u>Ag.</u> <u>(oz/ton)</u>	<u>Pb.</u> <u>(%)</u>	<u>Zn.</u> <u>(%)</u>
9.3	0.87	0.67	2.96

By adding a possible 6,500,000 tons contained on Simpson's Ridge, most of which lies on the Vendors' claims, an estimated total of 7,800,000 tons of equivalent grade is probably contained in the four calculated blocks comprising the exposed portion of the West Zone.

## INTRODUCTION

In June, 1953 a one-day examination of the property was made for Northwestern Explorations, Limited by G.A. Noel and a further two-day examination was made by him in September of that year.

J. S. Scott, accompanied by G.A. Noel, made an additional three-day examination in 1955. Consideration was given at that time to the possible existence of a large recumbent fold which could repeat the mineralization evident to the west and thus greatly increase the tonnage possibilities.

The desire to check the grade indicated by previous sampling and to clarify the structural picture prompted a program in the summer of 1956 to map the geology of the property and to examine the mineralization and its extent.

On May 30, 1956 an option agreement was completed between Northwestern Explorations, Limited and the optionors, Ray L. McKamey, Joseph W. Thompson, and J. Glen Hope, covering 40 claims (see appendix). Seventy additional claims were staked by the Company for protection. Within the boundaries of this 110 claim group, six Zinc claims owned by Yukon Ranges and five crown granted claims owned by C.C.F. Dalsiel were not optioned.

## HISTORY

The discovery was made by Haskins, an Englishman, about 1900. He attempted to raise funds in England to work the property but died before this was accomplished.

The property has been re-staked from time to time but no work of significance done.

D. R. Derry examined the property in 1948 for Yukon Ranges Prospecting Syndicate. At this time some sampling was done and five claims were staked. Yukon Ranges did further sampling and geological mapping in 1949 and staked nine additional claims. Further work recommended by Derry was not done.

REGIONAL GEOLOGY

The Haskins Mountain area is underlain by Palaeozoic sediments that flank the northeast margin of Cassiar Batholith. This batholith trends northwesterly and extends from near Fort Ware on the Finlay River in north central British Columbia to Wolf Lake in southern Yukon.

The Palaeozoic sediments are strongly folded and two major structures in the proximity of Haskins Mountain are evident.

1. A major syncline, the axis of which parallels Cassiar Batholith, (approximately 20° west of north) lies about six miles east of the batholith.

The core of this syncline is composed, mainly, of Devonian and Mississippian volcanics and sediments. A narrow belt of Lower and Middle Cambrian sediments (Atan Group) is irregularly exposed along the immediate northeast margin of the batholith and composes the southwest limb of this syncline.

2. A major anticline, the axis of which trends approximately 50° west of north, lies about 16 miles east of the batholith and one mile northeast of Haskins Mountain. This structure is, for the most part, composed of Lower and Middle Cambrian sediments (Atan Group - 14,000 feet). It is approximately nine miles in width and has been traced for about seventy miles across the southwest portion of McDame map-area (c.f. Bibliography 3).

At least four other silver-lead-zinc occurrences are known to exist in the Atan Group.

HASKINS MOUNTAIN GEOLOGY

A. General

Haskins Mountain is on the west limb of a major anticline in rocks of Lower Palaeozoic age. The axis of this anticline, passing one mile northeast of the property, has a northwesterly plunge. The strata, striking northwest, have generally a moderate dip to the southwest.

Phyllites mapped on the south edge of the property are probably Hidden Valley Group. Considerable chert occurs in the Atan Group which was not noted in the G.S.C. publication (c.f. Bibliography 3).

The stratigraphic succession on the property appears to be as follows, from younger to older rocks:

1. Quartz-feldspar porphyry: (Probably intrudes 5)
2. Phyllite: (Calcareous and argillaceous)
3. Chert: (Dense, cream to grey, thin bedded)
4. Limestone: (Brown and grey banded, occasional cherty partings.)

Mineralized zone

5. Argillite: (with minor chert)
6. Quartzite: (White to dark grey, coarse to fine grained)

Major fault

7. Chert with minor argillite

Mineralized zone

8. Limestone: (massive, minor argillite partings)

The only igneous body observed on the property is a coarse quartz-feldspar porphyry which becomes fine-grained at its margins. It appears to occur as a concordant sheet approximately 100 feet in thickness lying in cherty-argillites which underlie the mineralized zone. A fault at its exposed contact, however, leaves some doubt as to its mode of emplacement.

B. Structure

The main structure of Haskins Mountain was first thought to be a large anticline recumbent to the east. This would account for the mineralization underlying the limestone on the west flank of the mountain and overlying it on the east flank. Evidence, however, was lacking to prove this.

It is now thought that the property lies on the west flank of a major anticline which has several lesser structures imposed upon it. One of these is a very tight northwest plunging syncline which opens quickly to the north. This syncline lies to the northeast of the main strike-fault which divides the property.

Much drag-folding is evident, particularly in the limestone members, and has been responsible, on occasions for the thinning and thickening of mineralized zones.

In addition to the main northwest trending strike-fault, there is a series of lesser faults which trend northeast.

#### MINERALIZATION

Silver-lead-zinc mineralization is confined to zones of hard, dense, lime-silicates between chert and limestone beds. This mineralization occurs at the footwall of limestone in the main West Zone and at the hanging wall of limestone in the East Zones.

The minerals present in order of abundance are pyrrhotite, sphalerite, pyrite, galena and chalcopryrite. They occur as replacements and disseminations in zones which appear to be formed by the silicification of limestone beds. Well-developed crystal aggregates of garnet and amphibole are common.

Mineralization is also contained in the northwestern part of the major fault zone. To the south-east of the Limestone Cap the fault zone is largely obscured by overburden. No evidence of mineralization with the fault zone was observed in this area. Since the fault partly follows the surface contact between chert and limestone beds at the northeastern end of the Limestone Cap, its relative importance as a control for mineralization is uncertain.

A relationship between the mineralization and the quartz feldspar porphyry is indicated. The width and grade of mineralization decrease away from the porphyry, with best grades observed within 1000 feet of it.

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Assay results show no constant relationship between silver and lead or silver and zinc values.

Continuity of mineralization can be assumed for a strike length of approximately 9000 feet and through a vertical range of approximately 1500 feet.

A. Zones of Mineralization:

1. West Zone

This is a continuous zone which has been traced from near the summit, along the southwest flank of the mountain to the southern part of the property.

This zone includes:

(a) Limestone Cap: 41 samples were taken around the perimeter of the Limestone Cap, over a distance of 4900 feet. Calculations based on 17 samples representing the northern 25% of the Limestone Cap outline a tabular body containing 370,000 tons of the following averages:

<u>Width</u> <u>(Ft.)</u>	<u>Ag.</u> <u>(oz/ton)</u>	<u>Pb.</u> <u>(%)</u>	<u>Zn.</u> <u>(%)</u>
12.3	1.41	1.13	4.55

This Cap is truncated at its northeast end by the main strike-fault. Irregular, and poorly exposed mineralization has been traced from the Cap along the fault zone, down the northwest slope of the mountain, for about 1300 feet. Values were found to decrease toward the north end of the zone.

(b) Simpson's Ridge: Most of the exposed portion of the zone on this ridge occurs on the northwest slope on the Burrard and Capilano crown granted mineral claims.

Continuity of the mineralized zone is assumed through to the southwest slope on the basis of several exposures.



By applying the average of sampling on Limestone Cap, Road Ridge and Iona Ridge the following average values are estimated for Simpson's Ridge:

<u>Width</u> <u>(Ft.)</u>	<u>Ag.</u> <u>(oz/ton)</u>	<u>Pb.</u> <u>(%)</u>	<u>Zn.</u> <u>(%)</u>
9.3	0.87	0.67	2.96

A block having a triangular vertical section is estimated to contain 6,500,000 tons of the above grade on the basis of a strike length of 5200 feet by an altitude of 2500 feet.

A minor zone of lower grade parallels the main zone about 30 feet below it in the cherty-argillite.

(c) Road Ridge: Eight channel and one core sample. (DDH #4) taken over an exposure length of 1000 feet give the following averages:

<u>Width</u> <u>(Ft.)</u>	<u>Ag.</u> <u>(oz/ton)</u>	<u>Pb.</u> <u>(%)</u>	<u>Zn.</u> <u>(%)</u>
5.0	1.05	0.60	2.33

These averages apply to a triangular block which has a strike-length of 2500 feet, and an altitude of 1050 feet containing an estimated 650,000 tons.

(d) Iona Ridge: Mineralization is exposed for 200 feet and on the basis of two samples, averaged:

<u>Width</u> <u>(Ft.)</u>	<u>Ag.</u> <u>(oz/ton)</u>	<u>Pb.</u> <u>(%)</u>	<u>Zn.</u> <u>(%)</u>
11.5	0.21	0.2	1.59

This grade is taken to apply to a triangular block of strike-length 1600 feet, altitude 400 feet, or 320,000 tons.

By adding a possible 6,500,000 tons contained on Simpson's Ridge, most of which lie within the Vendors' claims, 7,800,000 tons of equivalent grade is estimated to be contained in the four calculated blocks lying on the West Zone.

## 2. Middle Zone:

This area includes two separated bands of limestone in the central southeastern part of the property.

The central band lies on the Meteor Flag and Union Jack crown granted claims and is, for the most part, obscured by overburden. Mineralization was observed in six places but no definite widths or trends could be established. Some chalcocopyrite was noted in one place along with pyrrhotite and sphalerite.

The southeastern band of limestone in this middle zone occurs south of the Union Jack crown grant and surrounds a pod-like mass of chert on three sides. Sparse mineralization along this contact was found to be narrow and discontinuous.

## 3. East Zone:

This mineralized zone overlies the limestone that falls along the east flank of the mountain. From sampling and drilling the zone was found to be narrow and discontinuous. Although the grades are low the incidence of copper (chalcocopyrite) was noted to be higher here than in the other zones.

## CONCLUSIONS AND RECOMMENDATIONS

Sampling has confirmed grades indicated by Derry in his sampling of the Limestone Cap (c.f. Bibliography 1) and shows that the average grade is too low to be economic under present conditions.

Mapping and stripping have illustrated remarkable continuity in the West Zone with widths varying from a few inches to about 30 feet. The possibility of a thickening with a mineable grade remains but no structure was observed which might cause such a concentration.

The East Zone is low-grade and erratic.

Due to the good exposure, low grade and small tonnage of the sampled zones further interest in the property is not recommended.

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J. M. Anderson.

Vancouver, B.C.  
February 27, 1957

NORTHWESTERN EXPLORATIONS, LIMITED

Assessment Work Applied to

Haskina Mountain Claims

Liard M.D., B.C.

<u>Claim</u>	<u>Record No.</u>	<u>Next Due Date</u>	<u>Type of Work Applied</u>
Rich 1	3176	May 25/58	Road construction
Rich 2	3177	May 25/59	" " , drilling
Rich 3	3178	" "	" " "
Rich 4	3179	May 25/58	" " "
Rich 5	3180	" "	" " "
Rich 6	3181	May 25/59	" " , "
Rich 7	3182	May 25/58	" " "
Rich 8	3183	" "	" " "
Richer 1	3184	March 25/61	Drilling
Richer 2	3185	" "	" "
Richer 3	3186	" "	" "
Richer 4	3187	" "	" "
Richer 5	3188	" "	" "
Richer 6	3189	" "	" "
Richest 1	3190	March 25/58	Road Construction
Richest 2	3191	" "	" "
Richest 3	3192	" "	" "
Richest 4	3193	" "	" "
Richest 5	3194	" "	" "
Richest 6	3195	" "	Stripping, drilling
Richest 7	3196	" "	" "
Richest 8	3197	" "	" "
Ritz 1	3198	March 25/60	Drilling
Ritz 2	3199	" "	" "
Ritz 3	3200	March 25/61	" "
Ritz 4	3201	" "	" "
Ritz 5	3202	March 25/60	" "
Ritz 6	3203	" "	" "
Entrance 1	3460	June 2/58	Road Construction
Entrance 2	3461	" "	" "
Entrance 3	3462	" "	" "
Entrance 4	3463	" "	" "
Entrance 5	3464	" "	" "
Entrance 6	3465	" "	" "
Irvin 1	3544	July 27/58	Stripping, drilling
Irvin 2	3545	" "	" "
Irvin 3	3547	" "	" "
Irvin 4	3546	" "	" "
Irvin 5	3548	" "	" "
Irvin 6	3549	" "	" "

ClaimNext Due Date

Stormy Nos. 1 to 8  
Stormy Nos. 9 to 20

May 25, 1957  
June 7, 1957

Crib No. 1  
Crib Nos. 2,3,

July 28, 1957  
August 8, 1957

H.M. Nos. 1 to 43  
H.M. Nos. 44 to 46

June 4, 1957  
June 14, 1957

Petal

June 4, 1957

Vancouver, B.C.

February 27, 1957

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3. Gabrielse, H. & Price L.L. Preliminary Map 54-10, Geological Survey, Canada, Ottawa, 1954.
4. Noel, G.A. Summary Report, Haskins Mountain Group, McDame Area, B.C., 1953.