

GEOLOGICAL REPORT

on

HYLAND RIVER MINES LTD. (N.P.L.)

by

W. R. Newman Ph.D., P.Eng.

July 19th, 1967  
Vancouver, B. C.

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# GEOLOGICAL REPORT

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HYLAND RIVER MINES LTD. (N.P.L.)

## INTRODUCTION

The Hyland River Mines Ltd. (N.P.L.) hold three claim groups in the Logan Mountains in the general vicinity of the Hyland River region in the southeast corner of the Yukon Territory. The claims groups are accessible by trail from the new all-weather Cantung Highway, a little over 100 miles north of Watson Lake, where the main airport to this area is located. Access roads to the properties could readily be built at no great expense from the main highway. Charter plane and helicopter services are available at Watson Lake.

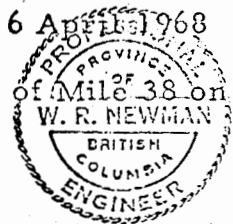
## CLAIMS

There is a total of 40 claims in the three claim groups, Jan claims 1 to 16, Miko claims 1 to 16 and Lucy claims 1 to 8. Total acreage is approximately 3200 acres.

### Jan Claims (16 claims)

<u>Number</u>	<u>Registered Number</u>	<u>Expiry Date</u>
1 - 8	Y2759 - 2766	6 April 1969
9 - 16	Y2767 - 2774	6 April 1968

The Jan claims are located five miles east of Mile 38 on the Cantung Highway, 105 miles north of Watson Lake.



Miko Claims (16 claims)

<u>Number</u>	<u>Registered Number</u>	<u>Expiry Date</u>
1 - 4	Y2719 - 2722	6 April 1968
5 - 8	Y2723 - 2726	6 April 1969
9	Y2727	6 April 1968
10	Y2728	6 April 1969
11 - 16	Y2729 - 2734	6 April 1968

These claims are located seven to five miles to the west of Mile 47 on the Cantung road, 114 miles north of Watson Lake.

Lucy Claims (8 claims)

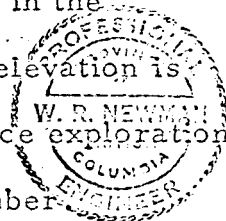
<u>Number</u>	<u>Registered Number</u>	<u>Expiry Date</u>
1 - 8	Y2743 - 2750	6 April 1968

The claims are just one and one-half miles west of Mile 45 on the Cantung road, 112 miles north of Watson Lake.

The claims are held by Hyland River Mines Ltd., under the Mining Act of the Yukon Territory. The titles are free and clear of encumbrance.

TOPOGRAPHY

The Jan and Miko claims are in mountainous terrain, while the Lucy claims are located in a small hill in the Hyland River valley. The Logan Mountains attain an elevation of over 6500 feet, in the vicinity of the claim group, and the Hyland River valley's elevation is 3000 feet above sea level. The terrain is rugged but surface exploration is feasible from the middle of June to the middle of September.



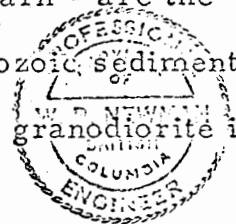
Water supply is adequate for exploratory activity. The timber line is at about 4500 feet. White and black spruce, lodgepole pine, aspen, alder and willow are the most prevalent trees. The timber is sufficient for mining purposes.

### GENERAL GEOLOGY

In the Hyland River region of the Logan Mountains, sediments and meta-sediments of Proterozoic age are found to the east of the Hyland River. These consist of vari-coloured shales, slates and phyllites, quartzites, feldspathic quartzites and conglomerates and minor amounts of limestone. In the Jan claim regions, grey altered limestones, massive and banded are found. Schistose rocks are less evident but skarn material and hornfels abound. The regional strike is predominantly to the north and the dip to the east. Some folding and faulting in the sediments have been observed.

On the Lucy claims, schistose sediments, phyllite schists and a minor diorite intrusion have been reported. The schist strikes N45°W. These rocks have been tentatively assigned to the Devonian or Mississippian by the Geological Survey of Canada.

On the Miko claims, meta-sediments of Devonian-Mississippian age - impure greenish chloritic banded quartzites, argillite, quartzose chloritic schist, siliceous limestone, paragneiss and skarn - are the main rock types. Intruding the Pre-Cambrian are Paleozoic sediments; an igneous intrusive varying from a quartz monzonite to granodiorite is



found on or in the vicinity of all the claim groups. The intrusion is believed to be of Cretaceous age.

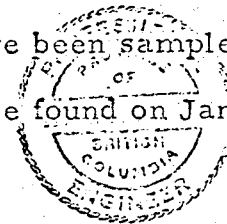
On the Miko claims the regional strike is to the north west and dip  $45^{\circ}$  to  $50^{\circ}$  to south.

### ECONOMIC GEOLOGY OF CLAIM GROUPS

There are many indications and occurrences of mineralization in the general region where the company claims are located. Amongst the known minerals found are those of copper, lead, zinc, tungsten, gold and silver. The improvement of prices in metal and the discovery and development of large new mineral occurrences in the Yukon plus the improvement in transportation facilities, undoubtedly will encourage the exploration and exploitation of many new deposits in the north.

#### Jan Claims

A number of large gossan and rusty zones are found on these claims. The largest of these zones is found on Jan No. 4, where a zone approximately 200 feet wide is found exposed on the side of a cliff in a narrow gully at an elevation of 5000 feet. The zone offers some difficulty in sampling but could be done by 2 men with ropes, etc. Some trenching and surface blasting has been done on a number of other rusty zones. In all, ten shallow trenches have been sampled over a length of 1500 feet. Mineral occurrences are found on Jan claims 1, 2, 3, 4, 13, 15 and 16.



The rusty mineralized zones appear to be skarn zones containing pyrrhotite and chalcopyrite. The mineralization occurs as limestone replacements near contact of the quartz monzonite intrusives. These zones as a rule vary from 5 to 20 feet in width.

Assays obtained to date on the Jan claims are as follows:

Main Showing

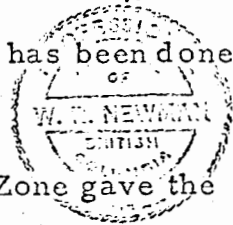
	<u>Gold</u>	<u>Copper</u>
1. Grab	0.02 oz/ton	1.83%
2. Grab	0.02 oz/ton	2.25%
3. Grab	Trace	1.74%
4. Grab	0.84 oz/ton	1.87%

Secondary Show

Trench #1	Trace	0.22%
Trench #2	Trace	0.34%
Trench #3	Trace	0.44%
Trench #4	0.02 oz/ton	0.59%
Trench #5	Trace	0.39%
Trench #6	0.005 oz/ton	0.28%
Trench #7	0.01	0.64%
Trench #8	0.005	0.51%
Trench #9	0.06	0.37%
Trench #10	0.01	0.05%

A limited amount of magnetometer work has been done on the claims with indefinite results.

Additional grab samples from the Main Zone gave the following results:



<u>Sample</u>	<u>Location</u>	<u>Gold</u>	<u>Silver</u>	<u>Copper</u>
14801D	Centre of Main Zone	.04 ozs.	Tr	2.43%
14802D	East of above	.02 ozs.	-	0.73%

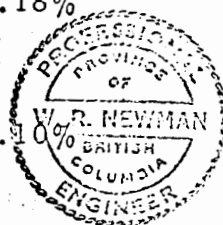
Miko Claims

These claims lie in a lead zinc belt, which has been traced for a distance of 8 miles. Some copper, cadmium, and silver have also been found. Mineralization is found near the contact as quartz monzonite or granodiorite with meta-sediments, silicified schists, quartzites, argillites and siliceous limestones. Sulphides are also found both in the meta-sediments and the quartz monzonite. The sediments dip 46° south. A 3 foot wide vein, which weathers dark brown and contains sphalerite (black jack) with a little galena and pyrite, was seen in the cirque claim and had a strike of 115°. It was partially covered by talus. The weathered vein had a dark brown coating.

A number of other lenticular veins were seen on this property.

The following grab samples have been previously reported.

<u>Description</u>	<u>Gold</u>	<u>Silver</u>	<u>Lead</u>	<u>Zinc</u>	<u>Copper</u>	<u>Cadmium</u>
1. Skarn Zone well mineralized with sphalerite and pyrite	.005 oz	3.0 oz	0.05%	9.55%	-	-
2. Calcareous quartz monzonite	Tr	7.4 oz	2.24%	2.75%		
3. Well mineralized cherty limestone	Tr	0.30 oz	5.75%	4.8%	1.81%	0.02%
4. Coarse grained calcareous quartz monzonite	Tr	4.20 oz	2.24%	2.18%		
5. Well mineralized cherty limestone	Tr	4.2 oz	2.20%	10.0%		





Grab samples in the cirque gave following assays:

<u>Sample</u>	<u>Location</u>	<u>Gold</u>	<u>Silver</u>	<u>Lead</u>	<u>Zinc</u>	<u>Copper</u>
14803D	3' Vein	.01 oz	3.4 oz	0.20%	4.39%	0.73%
14804D	Talus	Tr	2.3 oz	1.90%	2.82%	0.75%

### Lucy Claims

A magnetometer survey was carried out on these claims to check the airborne magnetometer anomaly recorded on this area covered by the claims. Stripping and trenching disclosed a phyllite schist and a minor diorite intrusive. The strike of schistosity was N45°W.

### CONCLUSIONS

1. The Hyland River Mines Ltd. has three claim groups in the Hyland River region of the Yukon, of which two claims, the Jan and Miko group contain mineral showings.

2. The Jan claims have a number of oxidized sulphide or gossan showings, containing chalcopyrite and some gold, occurring throughout the property.

3. The Miko claims contain a number of occurrences of sphalerite, galena and silver mineralization throughout the claims. In addition, talus material on the mountain slopes often has good lead and zinc mineralization.



4. The extent and prevalence of base metals throughout the Jan and Miko claims justifies an exploration program to determine the continuity and distribution of the mineralization on the claim groups.

### RECOMMENDATIONS

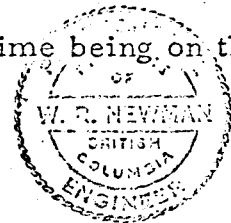
1. A geological mapping program on the Jan and Miko claims, paying particular and more detailed attention to the oxidized and mineralized zones, is recommended.

2. Surface stripping, trenching and sampling of the sulphide zones are required. The surficial gossan zones will have to be blasted into sufficiently for the sampling of fresh sulphides.

3. The large oxidized sulphide zone on the cliff face on Jan #4 will have to be carefully sampled, across its width.

4. The results of this first phase program will determine the next stage of exploration.

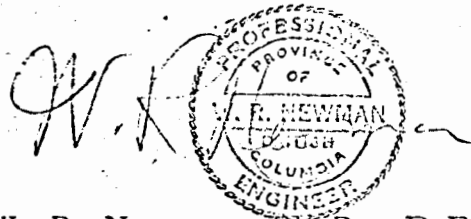
5. No further work is recommended for the time being on the Lucy claims.



ESTIMATED COST OF PROGRAM

Geological Mapping and Engineering	\$ 8,000
Trenching, Sampling, Assays, Prospecting	20,000
Transportation	7,000
Camp Supplies, Equipment, Food	10,000
Contingencies 10%	4,500
	<hr/>
	\$49,500

Respectfully submitted,

A circular professional engineer seal for the Province of British Columbia. The seal contains the text "PROFESSIONAL ENGINEER OF THE PROVINCE OF BRITISH COLUMBIA" around the perimeter. In the center, the name "W. R. NEWMAN" is stamped. A handwritten signature, which appears to be "W. R. Newman", is written over the seal.

W. R. Newman, Ph.D., P.Eng.


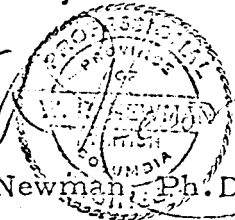
July 19th, 1967  
Vancouver, B.C.

CERTIFICATE

I, William R. Newman of Vancouver, B.C., do hereby certify:

1. That I am a graduate of the University of Manitoba (1929) and that I have a Ph.D. in Economic Geology from the University of Toronto (1934).
2. That I am a Consulting Geologist and a registered Professional Engineer in the Provinces of Ontario and British Columbia.
3. That I have practised my profession for 30 years in Canada and in various parts of the world.
4. That I have studied available reports and maps from government and private sources on the region and visited and examined the property and general area on July 8th, 1967.
5. That I do not have nor do I expect to receive any interest directly or indirectly in the property or in securities of Hyland River Mines Ltd.

Respectfully submitted,

W. R. Newman, Ph.D., P.Eng.

Vancouver, B. C.  
July 19th, 1967