

# ASSESSMENT REPORTS

MAP No. 115-T-4

TYPE OF WORK: Geological

REPORT FILED UNDER

Charta Mines Ltd. (NPL)

DATE PERFORMED

Dec 1970

DATE FILED: Jan 1971

LOCATION - LAT.

62° 15' N

Klaza River-Magpie Creek, Dawson Range

LONG.

137° 45' W

Y.T.

CLAIM Nos.

CHART 1-48 Y59861-Y59908

WORK DONE BY

R.G. Hilker

WORK DONE FOR

Charta Mines Ltd. (NPL)

REMARKS

A gossan zone occurs near the contact of the Mount Nansen volcanics and the Coastal Intrusive granite. The gossan is located within the granite-granodiorite where porphyry-copper-molybdenum deposits occur. Property requires a detailed

(over)

geological and geochemical examination to prove or disprove mineralization  
of economic potential.



H

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"LAND OF THE MIDNIGHT SUN"

GEOLOGICAL EXAMINATION AND EVALUATION REPORT

CHART 1-48 CLAIM GROUP

KLAZA RIVER AND MAGPIE CREEK

SHEET 115-I-4

DAWSON RANGE, YUKON TERRITORY

FOR

CHARTA MINES LTD. (N.P.L.)

BY

R.G. HILKER, P.ENG.

WHITEHORSE, YUKON TERRITORY

JANUARY 14, 1971



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## INTRODUCTION

A property examination and evaluation was conducted in the vicinity of Cindy Creek and the Klaza River in the Dawson Range - Yukon Territory, by R.G. Hilker, on December 15th, 1970. The examination was conducted during the period the Chart 1-48 claim group was being staked. The property examination and staking of the claim group was done on behalf of Charta Mines Ltd. (N.P.L.) of Vancouver, B.C.

Access to the property was provided by truck to Carmacks, Y.T., and by a Bell Jetranger helicopter from Whitehorse to the claim group.

Due to the snow cover in the area, tree cover and overburden, very little of the claim group was exposed to observation. Two isolated outcrops above timberline were swept clean of snow by wind action, and were noted. The gossan zone on the southwest side of Cindy Creek, and to the north of the Klaza River, was located. The gossan zone is located on a fairly steep side-hill and was not sampled, because of frozen ground conditions.

The Chart claim group is located in the Dawson Range of the Central Yukon Territory. Interest in this area has been spurred by the discovery of a large tonnage, low-grade, copper-molybdenum deposit by Casino Mines Ltd. A news release in the Vancouver Province dated December 1st, 1970, by Brameda



Resources Ltd., stated that the Casino property has an inferred reserve of 179 million tons of copper-molybdenum ore grading 0.45 percent copper equivalent. The Casino deposit has been compared as similar in size to that of Brenda, Lornex and Gibraltar Mines.

The Casino property is a porphyry-type copper-molybdenum deposit comparable in size, scope and potential to that of the Highland Valley in British Columbia. Mineralization at the Casino property is contained in quartz-monzonite, granodiorite, quartz-porphyry, feldspar-porphyry, and diorite. Portions of these rock types are brecciated, highly altered, and contain appreciable secondary biotite and plagioclase feldspar. Age determinations on the granites of this area have yielded an approximate age of 78 million years which geologically corresponds to Upper Cretaceous in age. The intrusive rock types have been grouped together under the general heading of Coastal Intrusives, and are contained in a large batholith which constitutes a major portion of the Dawson Range. The extensive occurrences of the Coastal Intrusives in the area, coupled with the known mineralization at the Casino property, indicates that the intrusive regions of the Dawson Range are highly favorable areas for economically significant copper-molybdenum mineralization. Accordingly, any claim group located over the favorable host rock warrants an examination consisting of a geochemical survey at the very minimum. .../3



## LOCATION AND ACCESS

The Dawson Range is located in the west-central portion of the Yukon Territory on the southwest side of the Yukon River between latitudes 62° 00' and 62° 45' and longitudes 137° 00' and 140° 00'. The Dawson Range strikes approximately north 45° west and is about 110 miles long and 20 miles wide. The Dawson Range is physiographically bounded by the Klondike Plateau to the northwest and by the Lewes Plateau to the southeast. The White River truncates the Dawson Range to the northwest and the Yukon River forms the southeastern limited in the Carmacks area.

The Chart 1-48 claim group is located within the Dawson Range at latitude 62° 15' and longitude 137° 45' on Cindy Creek and the Klaza River about one mile west of Magpie Creek. The claims are located on the Carmacks Sheet 115-I (Map 340-A; 1" = 4 miles) and on Claim Sheet 115-I-4 (1" = ½ mile) in the Whitehorse Mining Division.

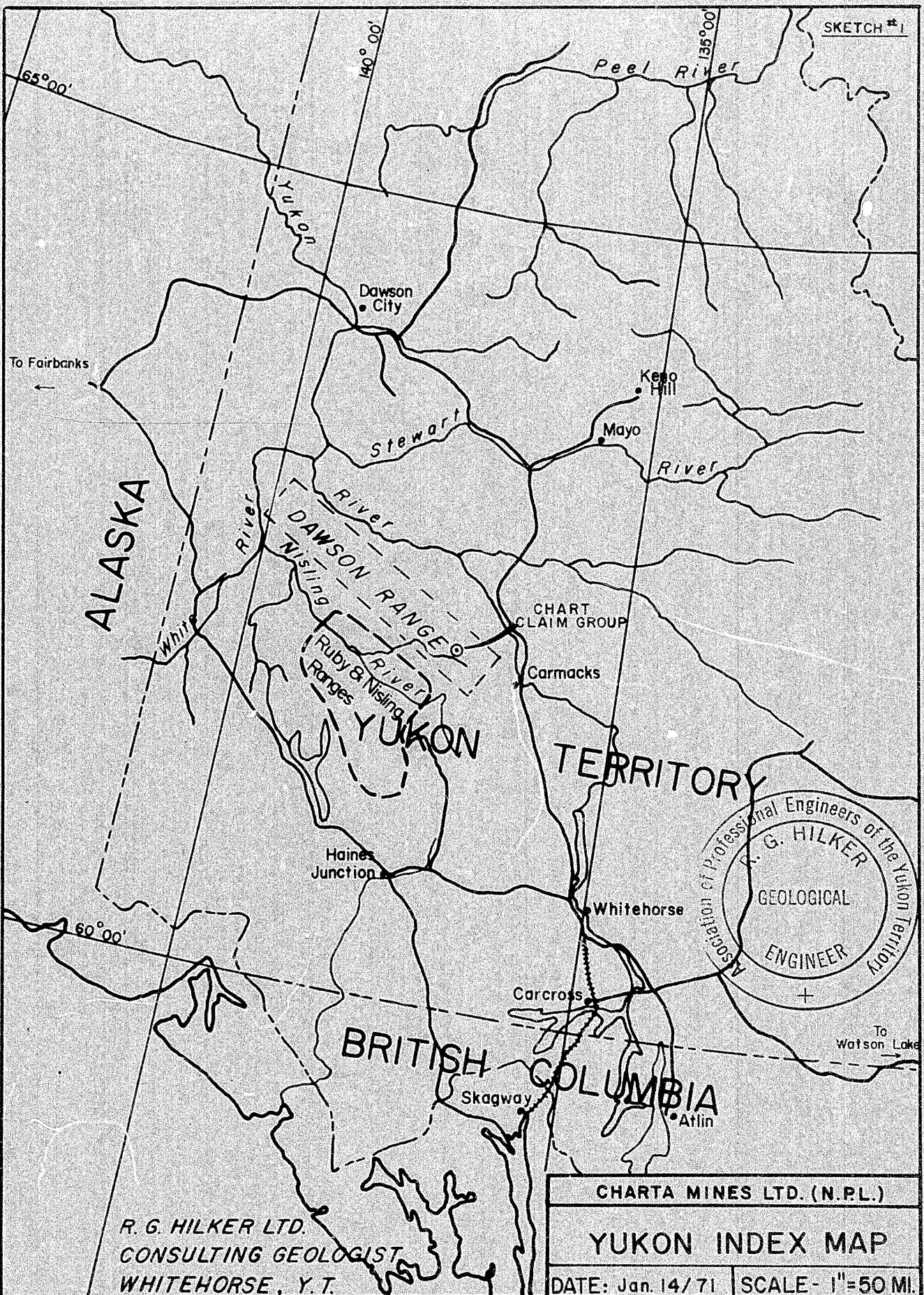
An airstrip, suitable for aircraft up to and including a DC-3, has been constructed by Casino Mines at the head of Casino Creek, approximately 45 miles northwest of the Chart group. The Casino airstrip is approximately 94 air miles from Whitehorse, where fixed-wing aircraft are available. An airstrip, suitable for Beaver, Otter and smaller aircraft, has been constructed by International Mines on Hayes Creek, about 20 miles north of the Chart group. The claims are located



about 48 air miles northwest of Carmacks, Y.T., which is 110 road miles north of Whitehorse.

A winter access road has been constructed to the Casino property from Mile 1097 on the Alaska Highway, and is a total distance of 130 miles long. Helicopters are occasionally based at Carmacks at Mile 103 of the Whitehorse-Mayoroad. Road access is also possible from Carmacks to Mount Nansen which is located 20 air miles southeast of the Klaza River and Magpie Creek.



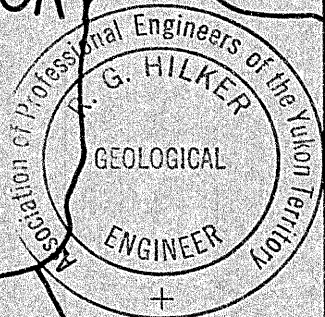


ALASKA

BRITISH COLUMBIA

YUKON TERRITORY

DAWSON RANGE  
NISLING RANGE  
RUBY & NISLING RANGES



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CHARTA MINES LTD. (N.PL.)  
YUKON INDEX MAP  
DATE: Jan. 14/71 | SCALE - 1" = 50 MI.



CLAIMS

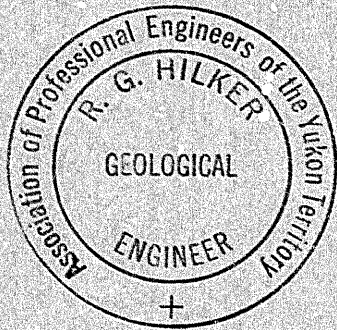
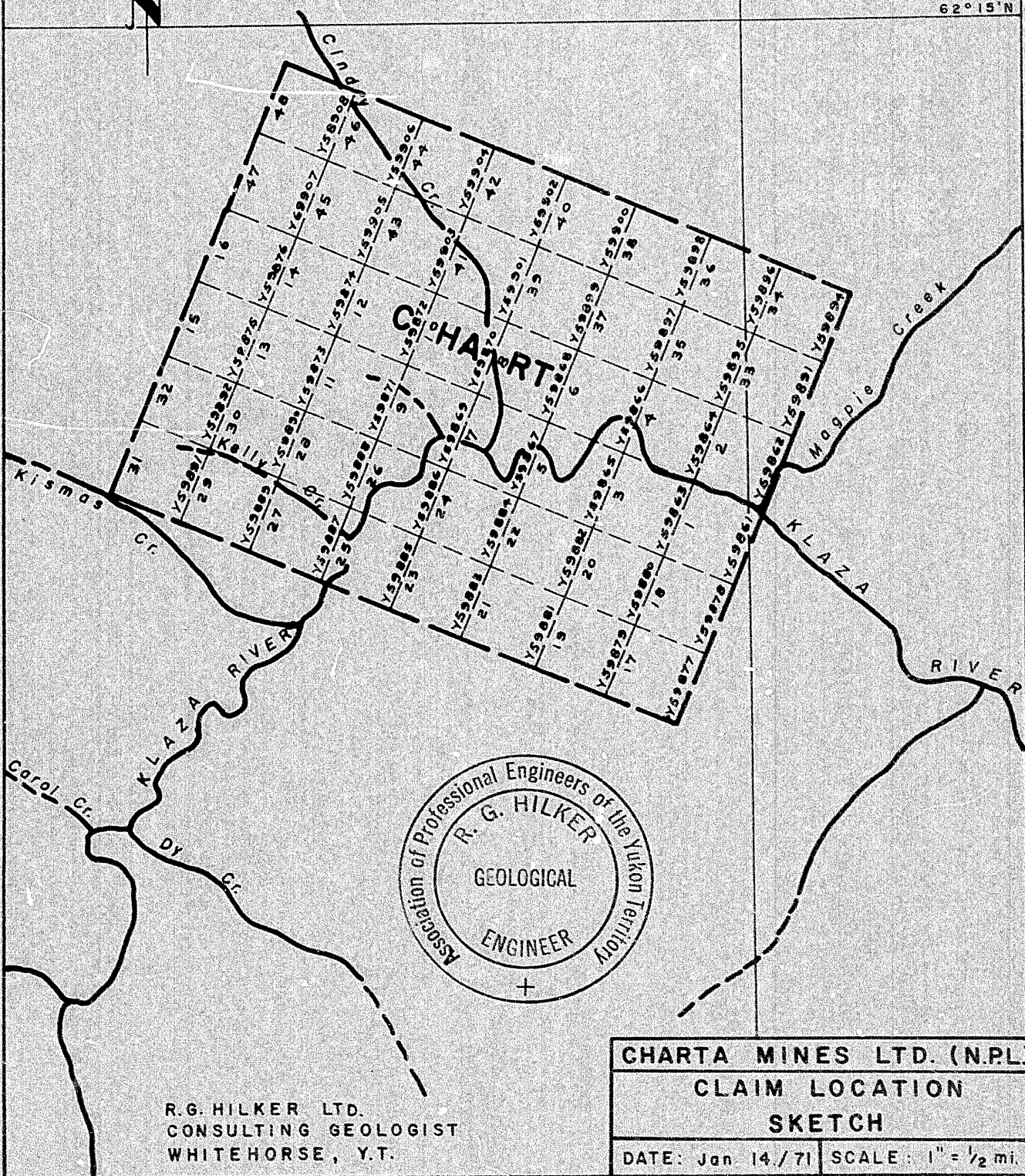
The following information on the Chart claims was searched by the writer on January 14th, 1971, in the Whitehorse Mining Recorder's Office. The claims were transferred from the stakers to Charta Mines Ltd. (N.P.L.) on January 13th, 1971. The Chart claims are located on Claim Sheet 115-I-4, Klaza River and Magpie Creek.

<u>Claim Name &amp; No.</u>	<u>Grant Number</u>	<u>Anniversary Date</u>
CHART 1-8 (incl)	Y59861-Y59868	Jan. 4, 1972
CHART 9-16 (incl)	Y59869-Y59876	Jan. 4, 1972
CHART 17-24 (incl)	Y59877-Y59884	Jan. 4, 1972
CHART 25-32 (incl)	Y59885-Y59892	Jan. 4, 1972
CHART 33-40 (incl)	Y59893-Y59900	Jan. 4, 1972
CHART 41-48 (incl)	Y59901-Y59908	Jan. 4, 1972



137° 45' W

62° 15' N



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<b>CHARTA MINES LTD. (N.P.L.)</b>	
<b>CLAIM LOCATION</b>	
<b>SKETCH</b>	
DATE: Jan 14 / 71	SCALE: 1" = 1/2 mi.



REGIONAL GEOLOGY

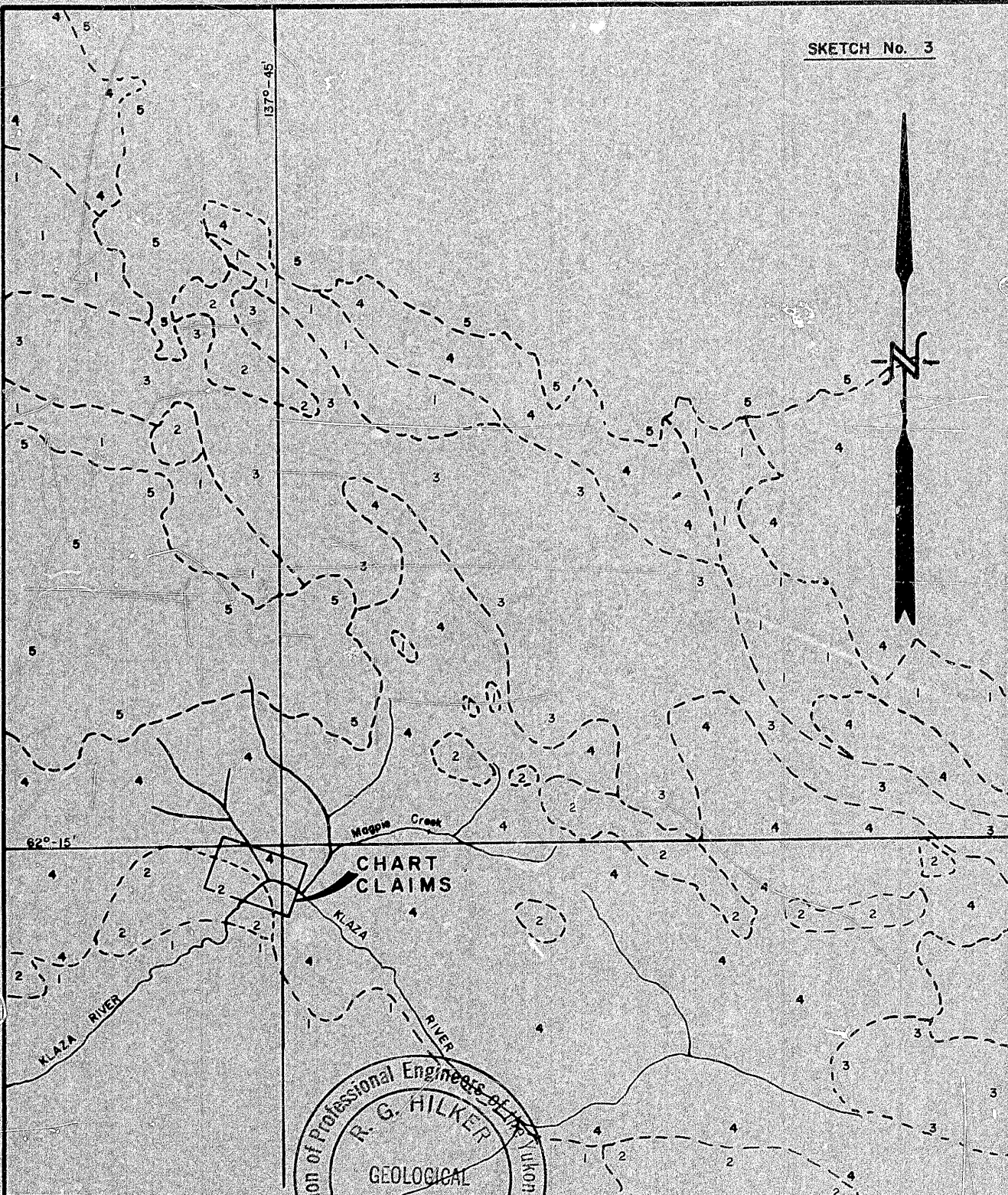
The Dawson Range lies within the Yukon Plateau physiographic province which consists of a gently rolling upland surface. The plateau is cut by a series of deep valleys, providing a relief of 2,000 feet or more. The Dawson Range rises some 2,000 feet above the plateau and has elevations between 3,000 and 6,600 feet. The Dawson Range has not been glaciated, except in the southeastern part, which has produced debris-covered slopes with occasional outcrops on the summits. The outcrops are jointed, fractured, and highly weathered due to exposure to frost action and wind erosion.

The rocks of the area include a basement of Palaeozoic or Precambrian metamorphic rocks (Yukon Group) and minor early intrusive. The basement is overlain by areas of Mesozoic volcanics (Mount Nansen Volcanics) which have been intruded by Cretaceous rocks of generally granitic composition (Coast Intrusions). Large areas of the aforementioned rock types were later covered by Tertiary volcanics (Carmacks Volcanics).

The Mesozoic and older rocks exhibit a general northwest-southeast trend which has been disrupted by the intrusive bodies and partially obscured by the flat-lying Carmacks Volcanics.

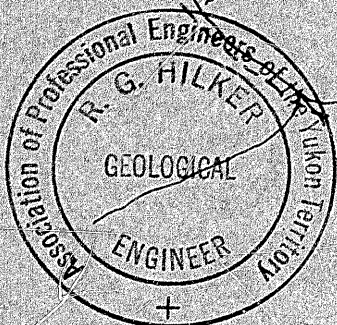


1370-45



62°-15'

CHART CLAIMS



LEGEND	
CENOZOIC	
TERTIARY	
⑤	Carmacks Volcanics basalt, andesite, dacite flows
MESOZOIC	
JURASSIC or LATER	
④	granite
③	syenite
②	Mt. Nansen Volcanics basalt, andesite, dacite flows
PALAEOZOIC / PRECAMBRIAN	
①	Yukon Group schist, quartzite, limestone

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CHARTA MINES LTD. (N.P.L.)	
REGIONAL GEOLOGY	
CHART CLAIM GROUP	
Date: Jan. 14/71	Scale: 1" = 4 miles

Sketch after G.S.C. Map 340-A



REFERENCE TO PUBLISHED GEOLOGY

The following publications contain geological information pertaining to the Dawson Range and reference was made to the information in the preparation of this report for Charta Mines Ltd. (N.P.L.):

1. G.S.C. Publication No. 1702; Klotassin, Yukon Territory; Geological Map (Scale 1" = 2 miles); D.D. Cairns, 1916.
2. G.S.C. Paper 44-32; Preliminary Map, Selwyn River, Yukon; H.S. Bostock, 1944.
3. G.S.C. Memoir 189; Carmacks District, Yukon; H.S. Bostock, 1936.
4. G.S.C. Memoir 214; Geology and Mineral Deposits of Freegold Mountain Carmacks District, Yukon; J.R. Johnston, 1937.



TABLE OF FORMATIONS

CENOZOIC

Quaternary

**Q** - Alluvium, volcanic ash, ground ice.

Tertiary

Carmacks Volcanics

**B** - Thick flows, basalt, amygdaloidal flows, top of flows breccia, local brecciation and porphyritic flows.

MESOZOIC

Jurassic - Upper Cretaceous

Coastal Intrusives

**8** - Granite, granodiorite, quartz monzonite, porphyry and breccia, altered (ore host rock).

**7** - Syenite and monzonite.

**6** - Diorite and gabbro.

Mount Nansen Group

**5** - Basalt, andesites, and dacite flows, breccias and tuffs. Green-black color, contains sedimentary rocks consisting of sandstone, siltstone, pyritic arkose and argillites. Bands and bedding distinct.

Tantalus Formation

**4** - Conglomerate, sandstone, shale and coal seams.

Jurassic

**3** - Labarge Group

Triassic

**2** - Granite, monzonite.

PRECAMBRIAN & LATER

Yukon Group

**1** - Limestone, shale, mica-quartz schist, chlorite schist, quartzite.



## CLAIM GEOLOGY

The CHART 1-48 claim group covers a gossan zone that is located on the west side of Cindy Creek and the Klaza River. Bostock, in Memoir 189, mentions that mineralization occurs in this area as follows:

"Mineral was noted along Klaza River below Maggie Creek. As the locality is near the contact of the granitic intrusives and the older rocks, it is believed to be very promising, but its inaccessibility would probably render any but very rich deposits worthless."

The gossan zone occurs near the contact of the Mount Nansen volcanics and the Coastal Intrusive granite. A granite outcrop was noted on the south side of the Klaza River and an andesite porphyry outcrop north of the gossan zone. The following is a brief rock description:

### Coastal Intrusives

1. Altered granite due to contact with Mount Nansen Group volcanics.
2. Granite - coarse grained, biotite and augite.
3. Granodiorite.

### Mount Nansen Group Volcanics

1. Andesite Porphyry - located near contact with granite.

No mineralization was observed near the gossan zone, as snow cover, frozen ground conditions and terrain prevented a good examination of the gossan. The CHART 1-48 claim group



is considered to be a good exploration target. The gossan is located in granite-granodiorite in the Dawson Range where porphyry-copper-molybdenum types of economic deposits have been discovered. The property requires a detailed geological and geochemical examination to prove or disprove mineralization and economic potential. If mineralization occurs on the property several geological factors should be considered.

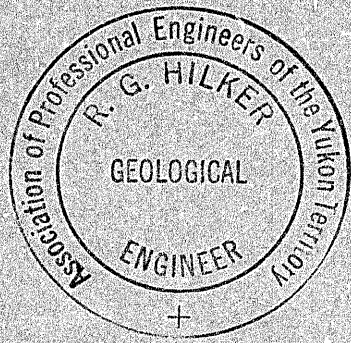
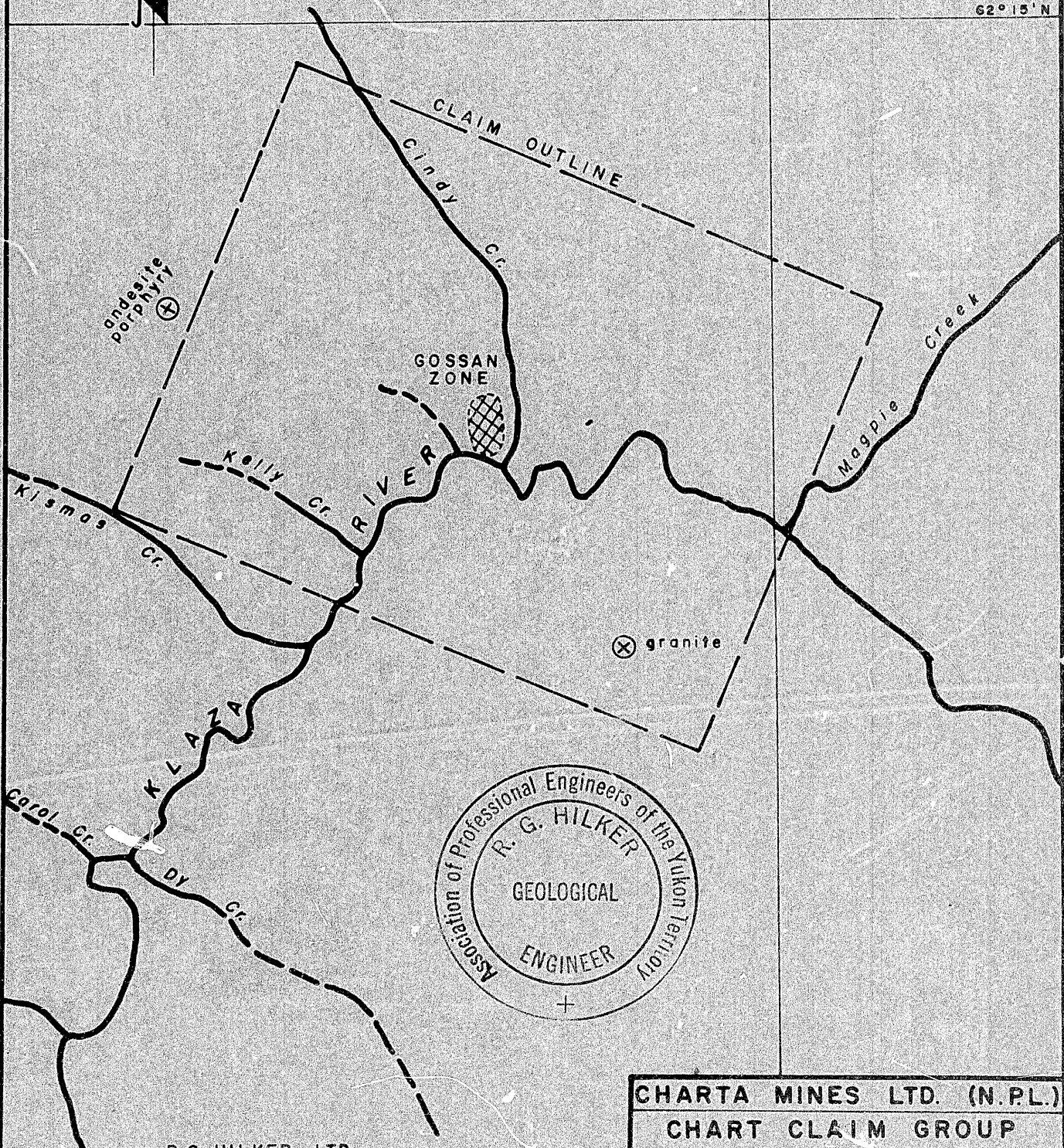
1. Mineralization due to contact between volcanics and granite.
2. Mineralization due to structure control, e.g., Cindy Creek appears to be a fault or shear zone and a cross structure may occur in the valley of the Klaza River.
3. Alteration of the granite due to younger igneous intrusions within earlier granite stocks or a possible porphyry copper type of deposit.

For the above reasons, the property should be given a thorough examination.



137° 45' W

62° 15' N



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CHARTA MINES LTD. (N.P.L.)	
CHART CLAIM GROUP	
GOSSAN ZONE	
DATE: Jan. 14 / 71	SCALE: 1" = 1/2 mi.



CONCLUSIONS

The granites within the Dawson Range have been proven to be a favorable host-rock for copper-molybdenum mineralization, at the Casino Mines discovery on Casino Creek, and on Hayes Creek by International Mines. Cuprite mineralization, occurring in a schist host-rock in the Yukon Group, has been discovered on Merrice and Williams Creeks.

There is reported mineralization in the vicinity of the CHART claims, and a geological and geochemical survey is recommended to prove mineralization and to outline areas of interest. The geochemical program should be made in conjunction with geological mapping, and if warranted a magnetics survey should be made to delineate overburden-covered contacts between volcanics and granite.

A grid system should be established over the claim group, with 400-foot line spacings. The geochemical sampling done at 100-foot intervals on the grid lines, should be followed or accompanied by geological mapping and a magnetics survey.

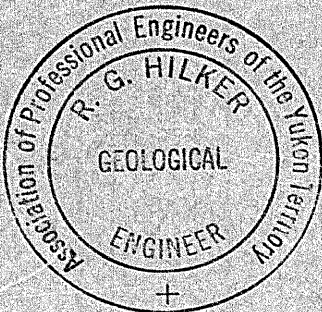


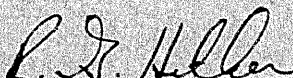
RECOMMENDATIONS

The following expenditures on the CHART 1-48 claims located in the Dawson Range - Yukon Territory, are recommended to fully evaluate the potential of the claim group:

Linecutting - 20 linemiles @ \$100/mile .....	\$ 2,000
Geological Mapping - 20 linemiles @ \$100/mile ....	2,000
Magnetics Survey - 20 linemiles @ \$75/mile .....	1,500
Geochemical Sampling - 20 linemiles @ \$100/mile .....	2,000
Geochemical Determinations - 1040 samples @ \$1.60 .....	1,664
Transportation for Crews - helicopter & truck ....	2,036
Camp Rental .....	500
Camp Supplies .....	1,000
Radio .....	300
Drafting Data .....	500
Report on Property .....	1,000
Contingencies .....	<u>1,300</u>
TOTAL PROGRAM .....	\$ <u>15,800</u>

The initial camp is to be established by two linecutters on the CHART claim group. Upon completion of the linegrid the two linecutters would move out of the camp when the four-man exploration crew is mobilized to the property.



  
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Consulting Geologist  
January 14th, 1971