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Gladys Lake
Molybdenum Prospect
Atlin, B.C. - Area

By
R. G. Hilker, P. Eng.
Whitehorse, Y.T. - February 5th, 1970

104 NIA



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WHITEHORSE, YUKON TERRITORY
"LAND OF THE MIDNIGHT SUN"

Geological
Property Examination & Evaluation
of
Gladys Lake Claim Group
Pip 1 - 10, Dip 1 - 10, Sip 1 - 32 & 35 - 40,
Dell 1 - 54 and Joy 1 - 112 & 125 - 132
Atlin Mining Division - Atlin, B.C.
Area - British Columbia
Molybdenum Prospect

For

Mr. George Simmons - Carcross, Y.T.
Mr. Aubrey Simmons - Vancouver, B.C.

By

R. G. Hilker, P. Eng.
Consulting Geologist
Whitehorse, Yukon Territory
February 5th, 1970

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INTRODUCTION

A preliminary property examination and evaluation was conducted in the area immediately southwest of Gladys Lake, in the Atlin, B.C., Mining District, on behalf of Mr. J. A. Simmons on August 3rd, 1969. At this time, the writer, accompanied by Mr. G. R. Craft, examined several molybdenite showings on the Pip 1 - 10, Sip 1 - 20 and Dip 1 - 10 claims.

Following the property examination, additional claims were thought warranted. During the period of August 7th - 16th, 1969, the Sip 21 - 32, Sip 35 - 40, Joy 1 - 112 & 125 - 132 and Dell 1 - 54 claims were staked to the north, east and west of the original claims. The staking brought the total claims in the area to 232.

On September 9th, 1969, the writer, accompanied by Mr. G. Mead, again visited the property for the purpose of examining the ground covered by the additional claims. Molybdenite mineralized float was examined in seventeen areas along claim lines on the Joy and Dell claims. The mineralized float was angular and appeared to be vertically frost heaved to the surface. This type of frost action is common in the Yukon.

LOCATION AND ACCESS

The claims are located on the southwest shore of Gladys Lake in the Atlin Mining District of northern British Columbia at approximately 59° 53' N latitude and 133° 00' W longitude (National Topographic Survey designation: 104-N-14). The claim group is situated on the northerly slope of the height of land formed by the Surprise Lake batholith. Elevation in the vicinity of the claim group range from 2915 feet (Gladys Lake) to 5000 feet near the head of Davenport Creek. Peaks in the Surprise Lake batholith to the south range to elevation of 6500 feet.

A truck road to Gladys Lake is located 6 miles north of Atlin, the road is passible by truck for a distance of 24 miles. The town of Atlin is located 30 air - miles southwest of the property and is a means of access to the claim by air either from Atlin or from Whitehorse, Y.T. Gladys Lake is more than adequate for float plane operations. Atlin is accessible by 66 miles of gravel road from Mile 866 of the Alaska Highway. Total road distance from Whitehorse to Atlin is 110 miles. Total air distance from Whitehorse to Atlin is approximately 85 miles.

The hamlet of Atlin has very few facilities for exploration crews, or to purchase supplies. There is no hotel or restaurant presently in Atlin, although a few cabins are available for rental if not occupied by tourists.

The B.C. Government Agent's Office is located in Atlin, the Government Agent also being the Mining Recorder. There is also a Government Liquor Store, a school and the R.C.M.P. in the hamlet. B.C. Hydro and Power supplies local electricity for homes in Atlin, with a diesel-powered generating plant. There is a small grocery store that sells limited food supplies. The main supplies for exploration or for any mining venture would be required to come from Whitehorse, in the Yukon Territory, and brought in to the area for convenience, as there is simply nothing available in Atlin.

SKETCH #1

ALASKA

Fairbanks

Dawson
• City

Peel

BEAR

BONNET PLUME
River

Keno Hill

Mayo

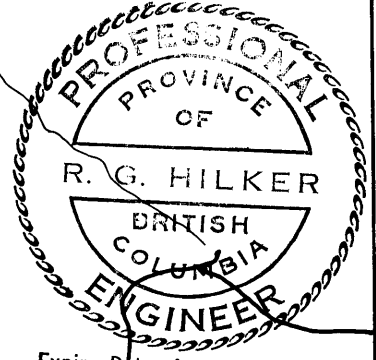
River

Stewart

Macmillan River

DAWSON RIVER
YUKON RANGE
TERRITORY

Carmacks



Expiry Date: August 5, 1970

HAINES
JUNCTION

WHITEHORSE

Carcross

BRITISH

COLUMBIA

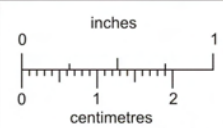
GLADYS LAKE
CLAIM GROUP

Skagway

ATLIN

ALASKA
PANHANDLE

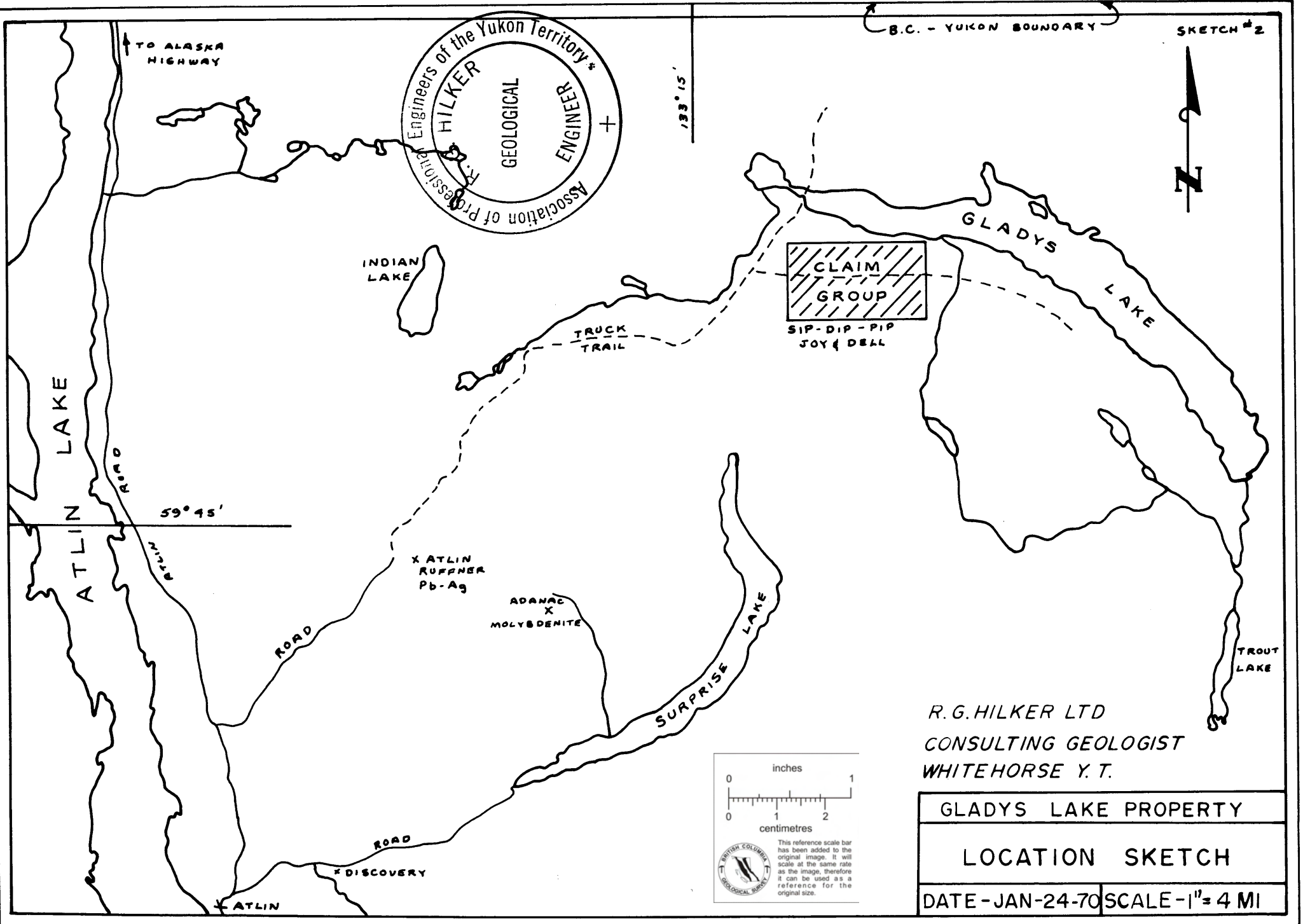
PACIFIC
OCEAN



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.

GLADYS LAKE CLAIMS

Scale: 1" = 50 miles.



CLAIMS

The following information on the claim group was obtained from the Atlin, B.C., Mining Recorder on December 23rd, 1969, by telephone. Further checks should be made on the Grant Numbers of the claims.

<u>Claim</u>	<u>Grant No.</u>	<u>Tag No.</u>	<u>Anniversary Date</u>
Pip 1		9671M	June 24/70
Pip 2 - 10		9652M - 9660M	June 24/70
Dip 1 - 10		953049 - 953058	July 21/70
Sip 1 - 2	13164H - 13165H	953059 - 953060	July 21/70
Sip 3 - 18	13166H - 13181H	979901 - 979916	July 21/70
Sip 19 - 20	13182H - 12183H	979919 - 979920	July 21/70
Sip 21 - 32	13370K - 13381K	24367M - 24378M	August 22/70
Sip 35 - 40	13382K - 13387K	24361M - 24366M	August 22/70
Dell 1 - 18	13388K - 13405K	24379M - 24396M	August 22/70
Dell 19 - 24	13406K - 13411K	17981M - 17986M	August 22/70
Dell 25 - 28	13412K - 13415K	24397M - 24400M	August 22/70
Dell 29 - 36	13416K - 13423K	17961M - 17968M	August 22/70
Dell 37 - 46	13424K - 13433K	17987M - 17996M	August 22/70
Dell 47 - 54	13434K - 13441K	17969M - 17976M	August 22/70
Joy 1 - 60	13442K - 13501K	24301M - 24360M	August 22/70
Joy 61 - 100	13707M - 13746M	24861M - 24900M	September 5/70
Joy 101 - 112	13747M - 13758M	24801M - 24812M	September 5/70
Joy 125 - 132	13759M - 13766M	24825M - 24832M	September 5/70

Total Claims - Pip 1 - 10, Dip 1 - 10, Sip 1 - 32 & 35 - 40,
Dell 1 - 54, Joy 1 - 112 & 125 - 132.

Total Claims - 232

REGIONAL GEOLOGY

The area immediately south and west of Gladys Lake consists of a group of sediments, metasediments and minor volcanic in contact with a major batholith.

The sediments, metasediments and volcanics are referred to by J. D. Aitken (G.S.C. Memoir 307) as the Cache Creek group (Map Unit 1) and dated as being Pennsylvanian and Permian. The Cache Creek group is characterized by an abundance of dark grey to black cherts which occasionally grade into argillites which, in turn, may grade into shales and siltstones. Limestones also constitute a major portion of the Cache Creek group and are most commonly grey to black, weathering to lighter shades. The volcanics included in the group are greenstones consisting of altered lavas, pyroclastic rocks and intrusions.

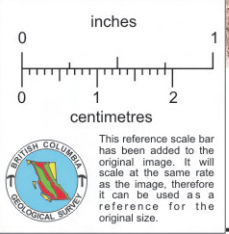
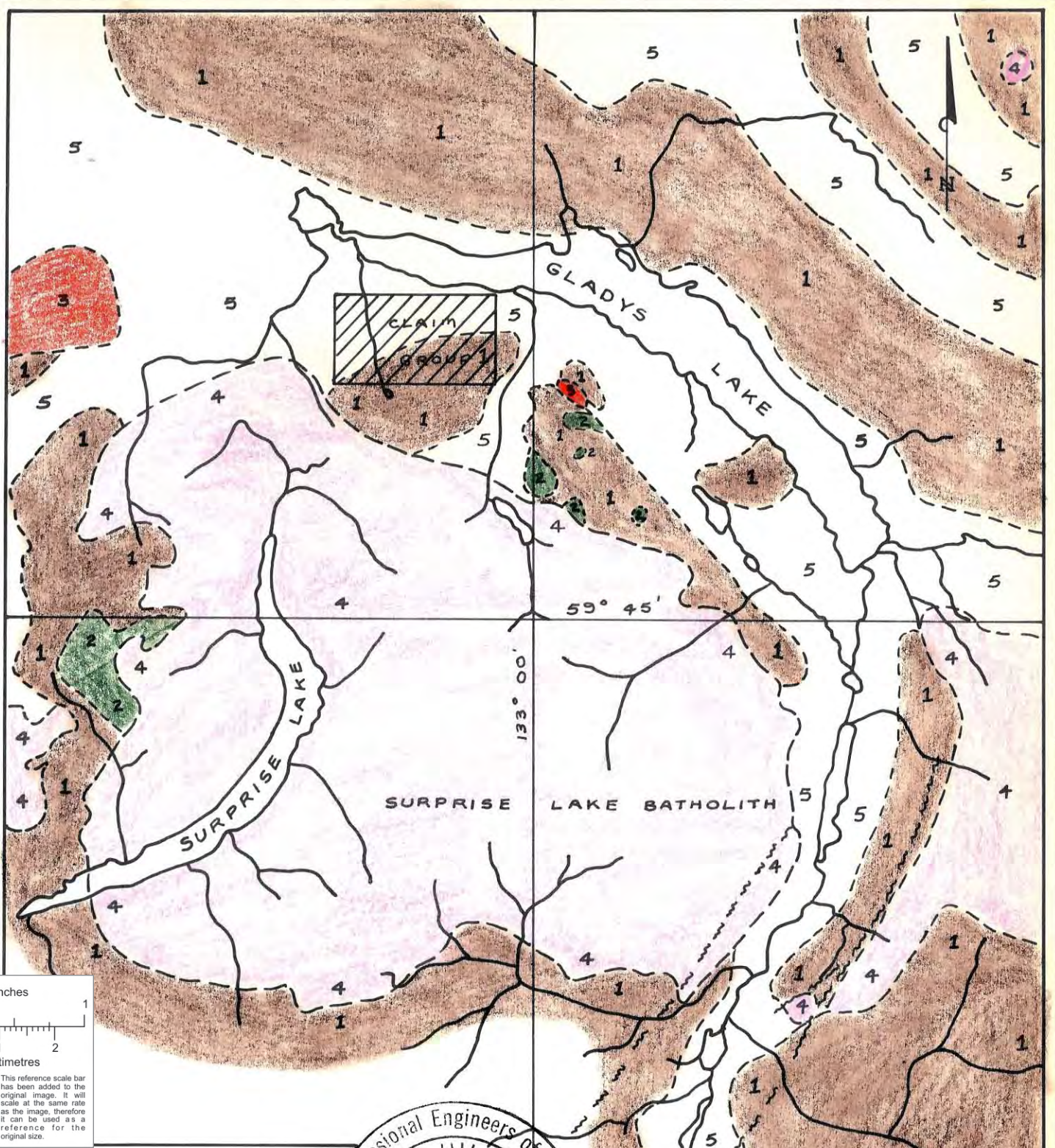
Closely associated with the greenstones of the Cache Creek group are small bodies of ultramafic rocks, termed Atlin Intrusions (Map Unit 2) ranging in composition from dunites to peridotites. The intrusions in the vicinity of Gladys Lake are highly serpentized and occasionally carry appreciable talc.

The granitic intrusions (Map Unit 3) in the Atlin area have been termed Coast Intrusions and dated as being of Jurassic age. The intrusions generally occur as major batholiths which are usually zoned (granodiorite, quartz-monzonite, monzonite, pink granite, quartz diorite).

The Surprise Lake batholith (Map Unit 4), covering over some 400 square miles, consists primarily of Cretaceous alaskite, which is characterized by light brown highly weathered outcrops. The batholith generally cuts across the structure of the country rocks (Cache Creek group) with the contacts dipping steeply outward.

Aitken (G.S.C. Memoir 307) suggests that the Surprise Lake batholith intruded and destroyed an earlier forcefully emplaced intrusion (possibly granodiorite) in a complex series of events. Contact metamorphism has developed occasionally skarn zones where pure limestone has come into direct contact with the alaskite. These skarns are occasionally mineralized with galena, chalcopyrite, molybdenite and magnetite. Aitken also states that contact- metamorphic effects are not usually visible more than half a mile from the alaskite contact.

Reference to the geology of the Atlin area is in the Geological Survey of Canada, Memoir 307 - "The Atlin Map Area - British Columbia" 104N by J. D. Aitken (1959), and the Geology Map No. 1082A entitled "The Geology of the Atlin - Cassiar District, British Columbia", scale 1" = 4 miles.



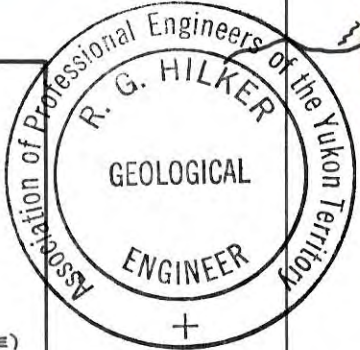
LEGEND

CENOZOIC

- QUATERNARY
- 5 GLACIAL DRIFT; ALLUVIUM
- CRETACEOUS
- 4 ALASKITE
- JURASSIC
- 3 COAST INTRUSIONS (GRANITE)

PALAEOZOIC

- PENNSYLVANIAN(?)
- 2 PERIDOTITE
- 1 CHERT, ARGILLITE, GREENSTONE LIMESTONE.



AFTER G.S.C. MAP 1082A

GLADYS LAKE PROPERTY	
REGIONAL GEOLOGY	
DATE- JAN-3-70	SCALE - 1" = 4 MI.

TABLE OF FORMATIONS

CENOZOIC

Quaternary

[5] - Glacial Drift, Alluvium

Cretaceous

[4] - Alaskite, with molybdenite mineralization.

Coastal Intrusions

[3] - granite, granodiorite.

PALAEZOIC

Pennsylvanian and Permian

Atlin Intrusions

[2] - Peridotite, ultramafic rocks.

Cache Creek Group

[1] - Chert, argillite, chert pebble conglomerate, quartzite, sandstone and shale, greenstone, volcanic greywacke limestone and limestone breccia.

After (J.D. Aitkens, 1959)

CLAIM GEOLOGY

During the property examination on August 3rd and September 9th, 1969, the discovery showing of molybdenite mineralization was observed. The mineralized showings are located on the Pip #1 claim, Tag No. 9671M. The claim posts of the Pip 1, Pip 2, Pip 7 and Pip 8 were located and the molybdenite mineralization is located approximately 500 feet southeast of the claim posts. The molybdenite mineralization occurs in a sandstone-siltstone host rock that has been fracture filled or intruded with quartz veins. The quartz veins vary from a maximum of 3 inches to a minimum of 1/2 inch and pinch and swell. Bladed molybdenite mineralization occurs between the wall rock and the veins or veinlets. The molybdenite occurs bladed and the form is a distinctly different characteristic from other molybdenite occurrences observed by the writer. The blades are approximately 3 to 4 millimeters long, 1 millimeter wide and a half a millimeter thick. Finely disseminated molybdenite occurs approximately 6 inches from the veins in the sandstone host rock. The showing is located in a ravine at an elevation of 4000 feet, south of the showing large felsmeer sized sandstone blocks have tumbled from a 200 foot high cliff. The felsmeer sized blocks are dense to fine grain sandstone and contain finely disseminated molybdenite. A small outcrop, in bedrock, approximately 20 feet -

southeast of the Pip #1 claim post, finely disseminated molybdenite mineralization was observed. The sandstone is dense, fine grained to coarse grained, a medium brown colour, stained an orange-brown and weathered colour, thick bedded, in parts a siltstone, and can be described as greywache in parts. The sandstone-siltstone or greywache are part of the Cache Creek group of rocks and are Pennsylvanian-Permian in age. The Cache Creek group of rocks are exposed along Davenport Creek and the ravine that runs east-west from the main showing. Approximately 1/2 to 3/4 of a mile, south of the showing an alaskite intrusive occurs at the 5000 foot elevation. Approximately 75% of the claim group is covered by overburden that is approximately 5 - 10 feet in thickness. In places the overburden cover is 1/2 a foot or less. The claim lines that were traversed on September 9th, to the east of Davenport Creek through the Joy 41 - 56, a number of mineralized frost heaved boulders were noted to contain molybdenite mineralization.

The sandstone host rock appears to have sufficient porosity and permeability to have permitted fluids and gases carrying molybdenum to pass through and deposit molybdenite mineralization.

In the Ruby Creek area, to the north of Surprise Lake, molybdenite mineralization occurs in a transitional rock type adjacent to the alaskite intrusive, Adanac and Canadian Johns Mansfield are drilling this zone and Adanac -

Mansville

quotes tonnages of approximately 70 million tons of molybdenum.

The molybdenite mineralization contained in a sandstone-siltstone greywache rock type is somewhat different from molybdenite mineralization occurring in an igneous intrusive. There is a possibility that the alaskite intrusive does not extrude to surface in the Gladys Lake area and the sedimentary sandstone is a cap rock and mineralization has migrated towards surface.

ECONOMIC GEOLOGY

The Pip #1 claim contains an outcrop of sandstone with molybdenum mineralization occurring in quartz veins. In areas adjacent to the outcrop, with quartz veins, sporadic molybdenite mineralization occurs finely disseminated in sandstone-siltstone rock type. In addition to the molybdenum mineralization, values of tungsten WO_3 were found to occur in the samples that were assayed for molybdenum. The following table describes the rock types with the values of MoS_2 and WO_3 that occur on the Pip #1 claim in the Gladys Lake area.

<u>Rock Description</u>	<u>Sample No.</u>	<u>MoS_2</u>	<u>WO_3</u>
Sandstone - fine grained, no visible molybdenite, brownish colour.	#3723	0.018	0.016
Sandstone - course grained, no visible molybdenite, dark brown colour.	#3724	0.015	0.017
Quartz Vein - dense, no visible molybdenite, milky white and stained light brown colour.	#3725	0.023	0.104
Quartz Vein - as above with minor visible molybdenite.	#3726	0.017	0.020
Quartz Vein - as #3726	#3727	0.042	0.030
Sandstone - fine grained	#3728	0.010	0.004
Sandstone - fine grained	#3729	0.008	0.008

Sandstone - with quartz vein, visible blades of molybdenite.	#3730	0.570	0.008
Sandstone - medium grained with 1/4 inch thick quartz vein that contains molybdenite blades.	#3731	0.293	0.016

All of the assayed samples are from the discovery showing on the Pip #1 claim and are grab samples. The sandstone outcrop, that contains the quartz veins, is approximately 50 feet long in a north-south direction and mineralization is contained in the host rock over a width of 4 - 5 feet. 50' x 5'

The tungsten value obtained in sample #3725 suggests that scheelite or wolframite occurs in the quartz veins.

Copies of the assay certificates are contained in the next pages of this report.

P.O. Box 566

Whitehorse, Yukon Territory

Received from R. G. Hilker Limited
Gladys L



Date August 12, 1969

Samples Grab

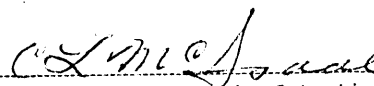
Certificate of
ASSAY OF
LORING LABORATORIES LTD.

629 BEAVERDAM RD., N.E., CALGARY 67
PHONE 277-6797

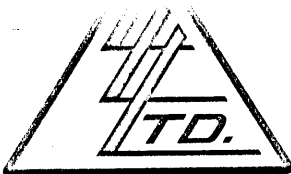
SAMPLE No.	RECOVERABLE MoS ₂ %
3723	.018
3724	.015
3725	.023
3726	.017
3727	.042
3728	.010
3729	.008
3730	.570
3731	.293

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Subjects Retained one month.
Pulps Retained one month
unless specific arrangements
made in advance.


Provincial Assayer of British Columbia

Mr. F. G. Hilker
P. O. Box 566
Whitehorse, Yukon Territories



Date August 26, 1969

Samples Pulps

Certificate of
ASSAY of
LORING LABORATORIES LTD.

629 BEAVERDAM RD., N.E., CALGARY 67
PHONE 277-6797

SAMPLE No.	WO ₃ %
3723	.016
3724	.017
3725	.104
3726	.020
3727	.030
3728	.004
3729	.008
3730	.008
3731	.016

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.
Pulps Retained one month
unless specific arrangements
made in advance.

Provincial Assayer of British Columbia

CONCLUSIONS

The molybdenite and tungsten mineralization that occurs on the Pip #1 claim is of sufficient economic value as to warrant a detailed surface exploration program.

Frost heaved molybdenite mineralized boulders occur on the east side of Davenport Creek, they do not appear to have been transported far from bedrock.

Before any of the surface overburden is disturbed or transported, a detailed geochemical survey is warranted on the Gladys Lake claim group to fully evaluate the potential of the area. A four hundred foot spaced hand-slashed linecutting grid will be necessary for survey control for the geochemical survey.

Geological mapping should be conducted on the south half of the Gladys Lake claims as abundant rock outcrops through the overburden.

The Gladys Lake claim group is geologically interesting and warrants the following expenditures on a surface exploration program.

RECOMMENDATIONS

The following expenditures for a surface geological exploration program will access the economical potential of the Gladys Lake claims:

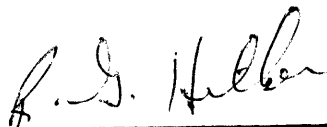
Truck road improvements to property	\$ 3,000
Linegrid - 150 linemiles @ \$85/linemile	12,750
Geochemical Soil Sampling - 7,500 samples	7,500
Geochemical Determinations - 7,500 samples @ \$2.20 ..	16,500
Geological Mapping - 75 linemiles	7,500
Camp Costs	5,000
Catering Costs	15,000
Transportation	1,000
Radio	500
Contingencies	6,850
	<hr/>
Total Program	<u>\$75,600</u>

CERTIFICATION

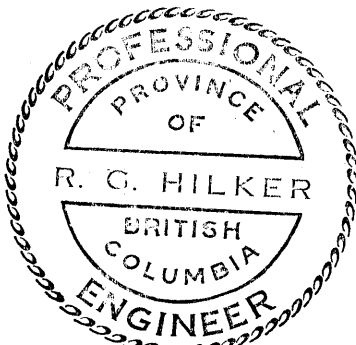
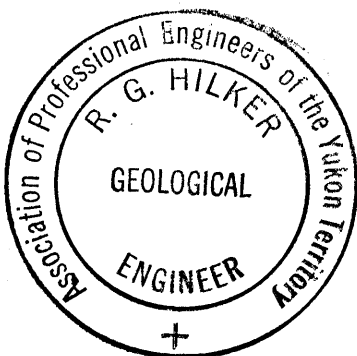
I, ROBERT G. HILKER of #6 Chalet Crescent Hillcrest, in the City of Whitehorse, in the Yukon Territory, DO HEREBY CERTIFY:

1. THAT I am a Consulting Geologist, with an office located at #8 Northern Metallic Building and postal address, P.O. Box 566, in the City of Whitehorse, in the Yukon Territory.
2. THAT I am a graduate of the Michigan Technological University located in Houghton, Michigan, U.S.A., where I obtained a Bachelor of Science Degree in Geological Engineering (Exploration Option) in 1962.
3. THAT I am a registered member in good standing of the Association of Professional Engineers of the Yukon Territory, and am registered with a non-residence license in the Association of Professional Engineers of the Province of British Columbia.
4. THAT I have practiced my profession as an engineer and geologist for the past seven years.
5. THAT I have personally examined the Gladys Lake claim group located in the Atlin Mining Division of British Columbia on August 3rd and September 9th, 1969.
6. THAT I have no direct or indirect interests in any of the mineral claims, held by Messrs. George Simmons and Aubrey Simmons, nor do I expect to receive any.

DATED this 4th day of February, A.D., 1970



R. G. Hilker, P. Eng.



Expiry Date: August 5, 1970

YUKON

BOUNDARY



FOR MINERAL CLAIMS
& PLACER LEASES
SEE R.M. 78 M 1

FOR MINERAL CLAIMS
& PLACER LEASES
SEE R.M. 78 M 3

FOR MINERAL CLAIMS
& PLACER LEASES
SEE R.M. 78 M 4

This map is prepared to serve as a guide only.
Positions of surveyed claims and leases
are plotted from locators' stamens
and are not guaranteed.
Letters "C.C." indicate claim is Crown-Granted.
Symbol "C" indicates claim has been leased.
U.S. DEPARTMENT OF MINES

For up-to-date information on
claims in any area you should apply
to the Mining Recorder for the
Mining Division concerned.

78 M

SCALE: 1 INCH = 2 MILES

