



GEOLOGICAL AND GEOCHEMICAL SURVEYS
ON THE
PIX GROUP OF MINERAL CLAIMS
(Claim Sheets 105K-2 and 105K-3)
ROSS RIVER AREA, YUKON TERRITORY
(130° 00' W; 62° 05' N)

017737

This report has been examined by
the Geological Evaluation Unit.
Approved as to technical worth by:

D. C. Gillies
RESIDENT GEOLOGIST

BY

Approved as to cost in the amount
of: \$ 81⁰⁰/₁₀₀

R. S. Huber
RESIDENT MINING ENGINEER

Accepted as representation work
under Section 53(4) Yukon Quartz
Mining Act.

James Frank
COMMISSIONER OF YUKON

J. E. TILSLEY
R. MORGAN

AUGUST 19 to SEPTEMBER 22, 1967

REPORT ON THE
GEOLOGICAL and GEOCHEMICAL SURVEYS
PARLIAMENT MINES LIMITED
PIX GROUP
PELLY RIVER AREA, YUKON

BY

R. MORGAN
J. E. TILSLEY, F. G. A. C.

REPORT NO. 98
TORONTO, ONTARIO

NOVEMBER, 1967

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R. MORGAN

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Report No. 96
G E O C H E M I C A L S U R V E Y
J. E. Tilsley

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REPORT ON GEOLOGICAL SURVEY

PARLIAMENT MINES LTD.

PIX GROUP

PELLY RIVER AREA, YUKON.

BY

A. C. A. HOWE INTERNATIONAL LIMITED

R. MORGAN

REPORT NO. 93

NOVEMBER, 1967

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SUMMARY

This report and the accompanying map is based on a geologic mapping survey done on the property of Parliament Mines Ltd., near Ross River, Yukon Territories, during August and September, 1967.

The property is underlain by a series of metamorphosed sedimentary rocks, of probably Paleozoic age.

There are no exposed zones of mineralization on the property, although rock types considered to be favourable hosts for base metals have been mapped. The results of the geological survey will be used in conjunction with those of other surveys in appraisal of the mineral potential of the claim group.

PROPERTY

Parliament Mines Ltd., holds a group of located mineral claims, designated PIX 1-27, inclusive. The claims are shown on Mineral Claim Sheets 105K-2 and 1 5K-3, Department of Northern Affairs and Natural Resources, Canada.

LOCATION AND ACCESS

Approximate co-ordinates: 133°00'W; 62°05'N

The property is located 23 miles northwest of the village of Ross River, on the Watson Lake-Carmacks Highway (Yukon 9). It is to the north-east of the valley occupied by Buttle Creek, and about 3 miles southwest of the Pelly River and from the junction of the Orchay and Pelly Rivers.

Ross River is accessible from Whitehorse Y.T. via the Canol Road, a distance of 225 miles and from Watson Lake Y.T. via the Watson Lake-Carmacks Highway, also 225 miles. Both are gravel roads.

GENERAL INFORMATION

Ross River is a small village with a population of two to three hundred people. Facilities include a general store, restaurant, motel, tavern, Chevron Gas Station, and a school, with grades 1 to 8. There are two government offices: - an R.C.M.P. detachment, with one officer and the Yukon Forest Service.

Both fixed-wing aircraft and helicopters are available for charter. There is an airstrip about 3/4 mile out of town.

Mail service is only once or twice a week at the present time. There is a local telephone service, but outside communication is by means of radio through Whitehorse. Regular long distance telephone communication is expected shortly.

Yukon Hydro has just announced that it intends to put in a powerline from Whitehorse to the property of Anvil Mines Ltd. This facility may be eventually extended to Ross River.

Mining activity in the area has increased partly as a result of construction of the Watson Lake-Carmacks Highway. The following companies are engaged in active exploration: -

Anvil Mines Ltd., Kerr Addison Mines Ltd., Silver Key Mines Ltd., Silver Titan Mines Ltd., Dynasty Exploration Ltd., Atlas Exploration Ltd., and Spartan Explorations Ltd.

TOPOGRAPHY

The property occupies a ridge between the Watson Lake-Carmacks road, and the valley of Buttle Creek. Relief is about 1500', elevations ranging from about elevation 2500' A.M.S.L. at the road to about 4000' A.M.S.L. at the top of the ridge.

VEGETATION

Tree cover is mainly spruce 25-40' high with occasional birch on the hill sides. The forest floor is usually moss covered where the timber is heaviest. Buck brush cover is usual in the more open areas. Muskegs are developed in the depressions between the ridges.

HISTORY

During the late summer of 1966, 35 miles of grid lines were cut on the property at 400 foot intervals, and electromagnetic and magnetometer surveys were completed. Results of these surveys have been recorded in reports to Parliament Mines Ltd. by A. C. A. Howe, dated November 17th, 1966 and August 3rd, 1967.

REGIONAL GEOLOGY

Ref: J. R. Johnston - "A reconnaissance of Pelly River
between MacMillan River and Hoale Canyon, Yukon"
- G.S.C. Mem 200, 1936
L. H. Green - G.S.C. Paper 65-19, 1964
- G.S.C. Tay River Geological Sheet
No. 13-1961

The area is underlain mainly by low grade metamorphic rocks, probably of the Paleozoic Era. Green classified these rocks as Mississippian or later, and Johnston classified them as lower Paleozoic. Both authors, however, admit a possible Pre-Cambrian Age.

Johnston identified the rock-types in the unit as quartzite, chert, argillite, limestone, slate, phyllite and greenstone schist. Green's rock types are banded quartzose granulite, green and purplish banded skarn, quartz sericite schist, hornfels and phyllite, and chlorite schist.

Immediately to the south-west of the property, there is a small pluton of granodiorite related to other intrusive rocks in the area. Green has assumed a fault at the contact of the granodiorite and Paleozoic sediments. Johnston noted that the north-eastern contact of the intrusive rocks in the area were, in general, steep and well defined, whereas the southwestern contacts were gently dipping and irregular. He also recognized a band of syenite along the north-eastern front of the intrusives south of the Pelly River. The granodiorite in the vicinity of the property is foliated.

GEOLOGY OF THE PROPERTY

General

The rocks on the property have been divided into three main types. These are quartzose granulitic rock, silicified pelitic hornfels with interbedded chert, and chert with interbedded hornfels. All the

rocks are foliated, in varying degrees, and in general the foliation strikes northwest, and dips gently to the southwest. There are a few outcrops of younger poorly sorted and poorly consolidated sediments in the northwestern area of the property.

Description of Rock Types

The rock unit of greatest extent is hornfels, with interbedded chert. The most common rock in this unit is a dark reddish brown colour, very fine grained, foliated, hard, and usually appears to be silicified. Other rocks in the unit vary from this in colour, hardness, foliation and occasionally in grain size and general appearance.

As well as the reddish brown rock, there are greenish, dark greenish-grey and dark grey rocks. These rocks are usually fine grained, vary in amount of silicification, and often occur intimately with the reddish brown hornfels.

Foliation in these rocks varies from well defined to weak. Where the foliation is well defined, the rock fractures in planes, and has a slaty appearance. The rocks often appear to be massive in hand specimens, but usually a weak foliation can be seen in the outcrops.

One rock included in this unit is quite different in appearance and grain size. It is a dark greenish colour, usually quite soft, and is weakly foliated. It could be the chlorite and greenstone schist, referred to earlier, but in any case it does not occur in great enough abundance to be grouped separately.

Other variations in the grain size of hornfelsic rock are a result of scattered grains of quartz and, perhaps feldspar. One rock in particular is a dark grey colour, massive, and has about 10% scattered quartz grains about 1mm in diameter. Other hornfelsic rocks in the unit also have scattered quartz grains, usually along foliation, and usually close to areas of quartzose granulitic rock.

Chert is interbedded with the hornfels throughout the unit. there are many outcrops that are entirely chert, and occasionally they group up to some extent. Where this occurs, the chert appears to pinch out along strike. The chert here was not grouped separately, because of the fact that it is interbedded with hornfels in most places.

Frequently the chert is very light grey, with a brownish and occasionally greenish cast. In many outcrops, it is highly and irregularly fractured, and very thin stringers of chlorite occupy the fracture planes. This gives the rock a brecciated appearance. Occasionally, chlorite stringers are much thicker (1/8 - 1/4") and individual chert fragments have been displaced showing that there was a certain amount of mobility involved in brecciation.

The quartzose granulitic rock is exposed mainly in the north-western part of the property although some occurs in the southwestern part. There are three main types of rock included in this unit. The most common is coarse grained, and foliated. It consists mainly of quartz grains and perhaps feldspar with a varying grain size of 3mm.

There is a dark fraction (10-15%) which consists in part of biotite, and also of other chloritized mafic minerals. In outcrops, the rock has a banded appearance consisting of quartzose bands, and bands of quartz and dark minerals. Foliation in layers is very pronounced and is on a scale of $\frac{1}{4}$ to $\frac{1}{2}$ inch.

Another type of rock in this unit is quite similar, but is usually finer grained (1mm) and the dark fraction (25%) is definitely fine grained and likely argillaceous. In a few places, the dark fraction has a reddish brown cast and looks similar to the hornfelsic rocks previously described.

The third rock type is also similar. It usually has a grain size about 1mm. The dark fraction is also more abundant (25%), but consists of chloritized mafic minerals and biotite, as in the coarse grained rock. These last two rock types may be the banded skarn as named by Green.

The third basic unit, chert with interbedded hornfels, is exposed on the northwestern section of the property. Hornfels, and some of the chert in this unit, are similar to those already described. The main rock however, is a light greenish to bluish grey colour. It appears to be quite soft, and has the appearance of an argillaceous limestone. Fresh surfaces however, are generally darker in colour, and are hard. The rock is weakly foliated, and foliation looks like the pencil fracture in shale. The rock appears to be mainly a chert, with a soft, light bluish grey weathered film on fractured surfaces.

Interpretation of Rocks

The rocks on the property, in particular the hornfels, are usually quite highly silicified. This could be a result of contact metasomatism. The reddish brown colour of some of the hornfels, could, in part, be due to garnet, and would indicate that the original sediments were calcareous. In general it appears that the rocks have been subjected to low grade regional metamorphism, which induced the foliation, and to low grade contact metasomatism which caused the silicification.

The quartzose granulitic zone has likely been formed by stronger metasomatism or by hydrothermal activity. The facts that the quartzose granulitic zone decreases gradually and that in many places the dark fraction is argillic, and would seem to indicate that the quartz in this rock is not original. Also, in support of this, is the fact that the quartzose granulitic zone does not appear to conform with stratigraphy in the southwestern part of the property.

Structure

The rocks in general, have a thin foliation, which is quite uniform in strike and dip. No distinction was made between bedding and foliation. Although in places the foliation is undulose, neither major or minor folding was recognized. Also, neither major or minor faulting was recognized. Jointing is not conspicuous, but is in places transverse to the foliation.

ECONOMIC GEOLOGY OF THE REGION

Some large lead-zinc deposits have been proved up in the area. The deposit on Mye Mountain occurs in similar sediments to those occurring on the property and close to the granodiorite contact. The contact here is with quartz-sericite schist.

In the vicinity of the property sediments of the same unit as on Mye Mountain are in contact with granodiorite. However, there are several significant differences.

- 1) The contact is steeply dipping, and occurs on an assumed fault zone.
- 2) The granitic intrusive is much smaller than the one on Mye Mountain.
- 3) No quartz-sericite schist was encountered in the property.

ECONOMIC GEOLOGY OF THE PROPERTY

There are no showings of economic mineralization on the property. There are traces of sulfides in most of the rocks, usually occurring as small crystals and grains. These sulfides are mainly pyrite and pyrrhotite, with occasional chalcopyrite. The occurrence of sulfides in the rocks is much less than one per cent.

The zone of quartzose granulite is the most probable place for occurrence of mineralization, although usually it does not appear to contain any more sulfide mineralization than the rest of the rocks on the property. As mentioned before, it may be a zone of intense contact metasomatism or hydrothermal alteration. On one outcrop,

within the unit, there is a rock that looks like a syenite with aligned mafic minerals. It may be a dyke-like intrusion but is not well enough exposed to be positively identified. Quartz granulite rock occurs very near it, on the same outcrop, so in any case, it is a localized zone. Quartz in the area close to the syenite, was found to contain clusters, streaks and occasional small grains of magnetite. The rocks in the vicinity of the syenite contain more sulfides (mainly pyrite) than the rest of the rocks on the property, but still less than one per cent.

There is a possibility that the syenite is an apophyses related to the nearby granodiotite intrusion, or the main intrusion. The quartzose granulitic zone may be an expression of contact metamorphism associated with the syenite intrusion.

RESULTS OF PREVIOUS SURVEYS

As mentioned before, the results of a previous magnetometer survey and an electromagnetic survey, have been reported by A. C. A. Howe International Limited. The results are as follows: -

a) Magnetometer Survey

A magnetically anomalous area from line 12W to line 48W, stations 9+00N to 18+00N.

b) Electromagnetic Survey

The anomalous areas - 2400' to 3400' N of base line, lines 36E to 48E 2600' to 3200' N of base line, lines 20W to 36W. Also, two one-line anomalies were reported at 7+00S, line 32E and 8+00S line 8W.

The electromagnetic responses were considered to be a result of fault structures, or disseminated sulfides; the magnetic anomalies was thought to be a result of an intrusive dyke, or magnetic sulfides.

The two electromagnetic anomalies are on areas where there is no outcrop. The anomaly on the northwestern part of the property is on the edge of a swamp, near the part that is underlain by poorly consolidated stream sediments. The anomaly on the northeastern portion of the property, is in an area of muskeg, and the nearest outcrop is chert.

The magnetic anomaly is in an area underlain by quartzose granulite. The area of highest response is where the syenite outcrops, and where magnetite occurs in the quartz nearby. The anomaly is probably associated more with the syenite, than with quartzose granulite, because similar magnetic relief does not occur in other areas of the property, where the quartzose granulite outcrops.

REPORT ON
GEOCHEMICAL SURVEY
OF
PIX GROUP, YUKON
PARLIAMENT MINES LIMITED

BY

A. C. A. HOWE INTERNATIONAL LIMITED

J. E. TILSLEY, F. G. A. C.

TORONTO, ONTARIO
REPORT NO. 96

NOVEMBER, 1967

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SUMMARY

Five anomalous areas have been indicated by the Total Heavy Metal (C_x) geochemical surveys carried out during the summer of 1967.

In order to further assess the importance of the anomalous areas, a selection of samples showing high total heavy metals should be tested by hot acid extraction means to establish the metals present and their ratios one to another.

The cost of the additional geochemical work is estimated at \$500.00.

Any further work would depend on results of the detailed geochemical analysis correlated with previous survey information.

PROPERTY

The property consists of a group of located mineral claims, designated PIX 1-27, inclusive. The claims are shown on Mineral Claim Sheets 105K-2 and 105K-3, Department of Northern Affairs and Natural Resources, Canada.

The claims are presently in good standing until March 28, 1967. The geochemical and geological surveys carried out on the claims during 1967 can be applied toward assessment work requirements.

LOCATION AND ACCESS

Approximate co-ordinates: 133° 00' W
62° 05' N

The property is located 23 miles northwest of the village of Ross River, on the Watson Lake-Carmacks Highway (Yukon 9). It is to the north-east of the valley occupied by Buttle Creek, and about 3 miles southwest of the Pelly River and from the junction of the Orchay and Pelly Rivers.

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VEGETATION

Tree cover is mainly spruce 25 - 40' high with occasional birch on the hill sides. The forest floor is usually moss covered where the timber is heaviest. Buck brush cover is usual in the more open areas. Muskegs are developed in the depressions between the ridges.

GEOCHEMICAL SURVEY

Sampling

Samples were collected where possible from the "B" soil horizon. This was not always possible due to difficulties in penetrating the permafrost with the sampling auger. The "B" horizon is reported between 12 and 24 inches below surface. No samples were possible or useful in areas of outcrop. These locations have been shown on the accompanying map by "N S" symbol.

Sample Preparation

The samples were collected in heavy kraft paper bags designed especially for this work. The samples were air dried to reduce the moisture content before shipping to the A. C. A. Howe International permanent geochemical laboratory.

Upon receipt at the laboratory the samples were further dried at 180° F in a gas fired dryer until the soil could readily be sifted through an 80 mesh nylon screen.

A portion of the -80 mesh soil (0.1 to 0.3 gm.) was weighed and transferred to 18 m.m. X 120 m.m. culture tubes.

Analysis

Each sample was digested for 15 minutes in 5 c.c. of ammonium citrate buffer solution (T.H.M., pH 8.65) at ambient temperature (20° C.).

The quantity of cold extractable copper + lead + zinc was indicated by titration with a dithizone indicator (diphenyl-thiocarbazone 0.001% in xylene).

The total heavy metal content was calculated by arbitrary formula which assumes that 7% of the total metal is extracted by the reagents used.

Reporting of results

Results of the analysis have been plotted on the accompanying plan of the property. All values less than 30 ppm Cu + Pb + Zn have been

reported as 30 ppm. Where, due to permafrost or outcrop samples could not be collected the symbol N S (no sample) appears. The values considered to be anomalous have been circled in order to be more easily distinguished.

Areas of anomalous values have been outlined and numbered for easy reference. Not all the samples within an "anomaly area" show higher than normal T.H.M. values, since the outline is based on a general interpretation of the values, drainage, type of sample recovered and vegetation. Further laboratory work is required to give sufficient information to define the area of real anomalies and determine the metal chiefly responsible for the T.H.M. values indicated.

CONCLUSIONS

Five areas in which anomalous quantities of Total Heavy Metals (Cu. + Pb. + Zn.) occur in the soil cover of the property have been outlined by a T.H.M. C_x geochemical survey.


Final interpretation of the results will require approximately 250 analysis for copper, lead and zinc using hot acid extraction methods. This analysis will show the relative quantities of metals in the samples and assist in determining the most favourable areas for additional exploration.

RECOMMENDATIONS

In order to determine if further work is warranted and, if so, what area of the property should receive attention, additional analysis for copper, lead and zinc separately will be required. It is recommended that these analysis be done and results be correlated with information from surveys previously completed.

Respectfully submitted,

A. C. A. HOWE INTERNATIONAL LIMITED,


James E. Tilsley, F.G.A.C.

DATED AT TORONTO, ONTARIO THIS 30th DAY OF NOVEMBER, 1967.

CERTIFICATE

I, James E. Tilsley, of the Village of Cooksville, the County of Peel, in the Township of Toronto, in the Province of Ontario, hereby certify that:

1. I am a Geologist and reside at 3219 Ibbetson Crescent, Cooksville, Ontario.
2. I am a graduate of Acadia University with the degree of B. A., 1959, and have practiced my profession since that time.
3. I am a Fellow of the Geological Association of Canada.
4. I have not, nor do I expect to receive, any direct or indirect interest in the properties or securities of Parliament Mines Limited.
5. This report is based on a study of Government maps and reports and supervision of the exploration program.


James E. Tilsley, F.G.A.C.

DATED AT TORONTO, ONTARIO THIS 30th DAY OF NOVEMBER, 1967.

A P P E N D I X

CLAIM HOLDERS

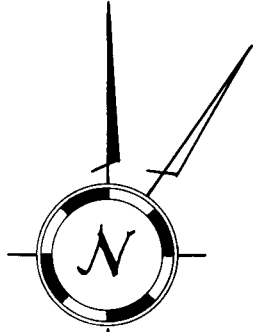
Pix 1-24 (incl.) Y-3792 - Y-3797 (incl.), and Pix 25-27 (incl.) Y-5308 - Y-5310 (incl.) are held by J. A. Gilbert. Work in the 1967 season was performed by A. C. A. Howe International Limited, for Parliament Mines Limited.

EMPLOYEES

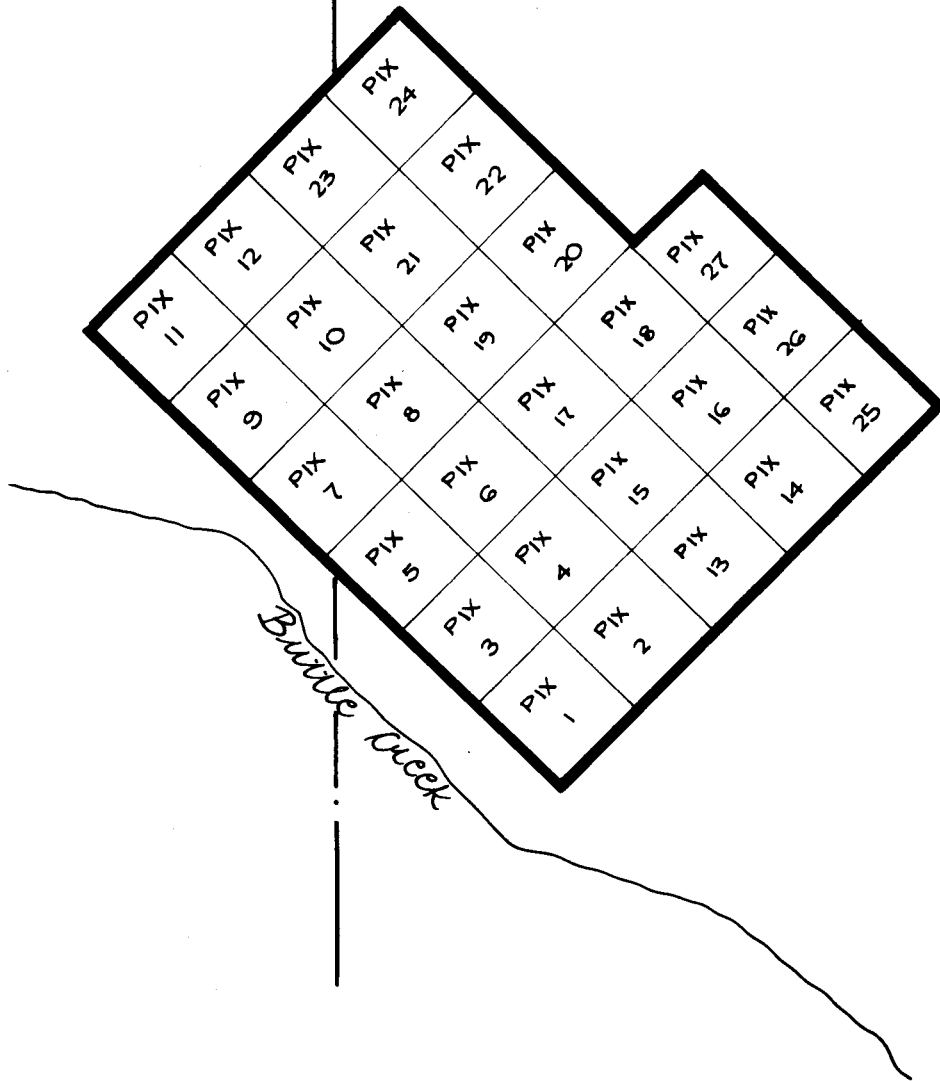
The following people were employed on the property from the dates August 19, 1967 to September 22, 1967: -

Richard Morgan	Suite 401-543 Granville Street, Vancouver 1, B. C.
Larkin Ross	Suite 826, 159 Bay Street, Toronto 1, Ontario.
Mike Murphy	Suite 826, 159 Bay Street, Toronto 1, Ontario.

The program was supervised by James E. Tilsley, Suite 826, 159 Bay Street, Toronto 1, Ontario.



105K - 3
105K - 2

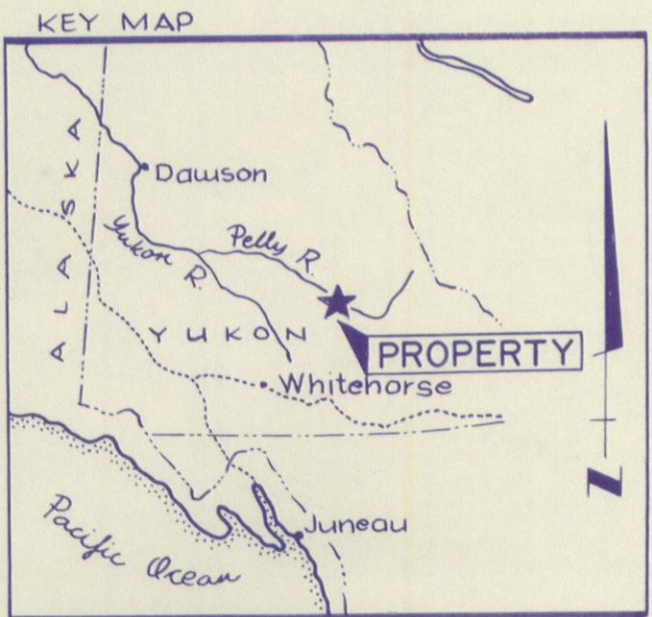
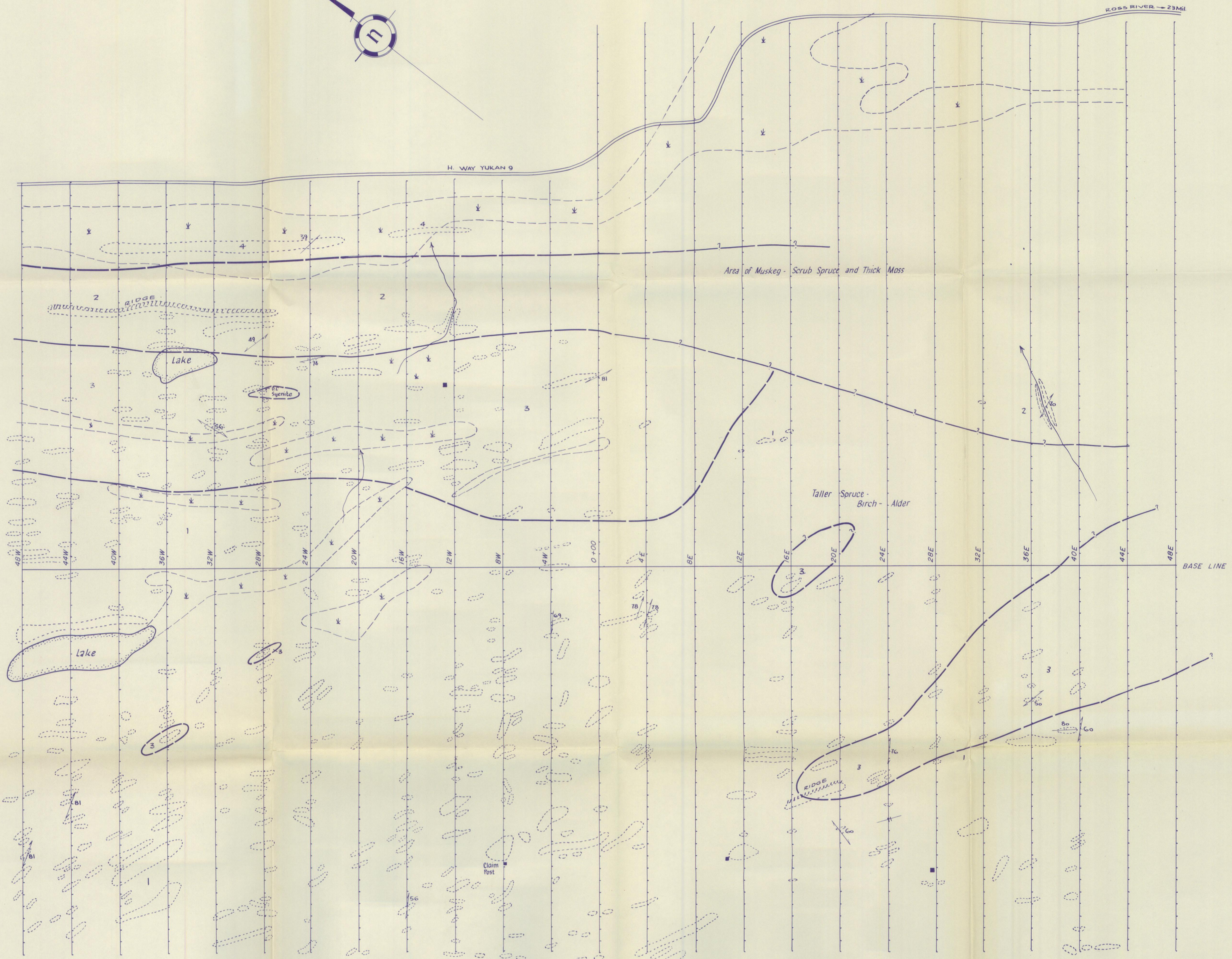
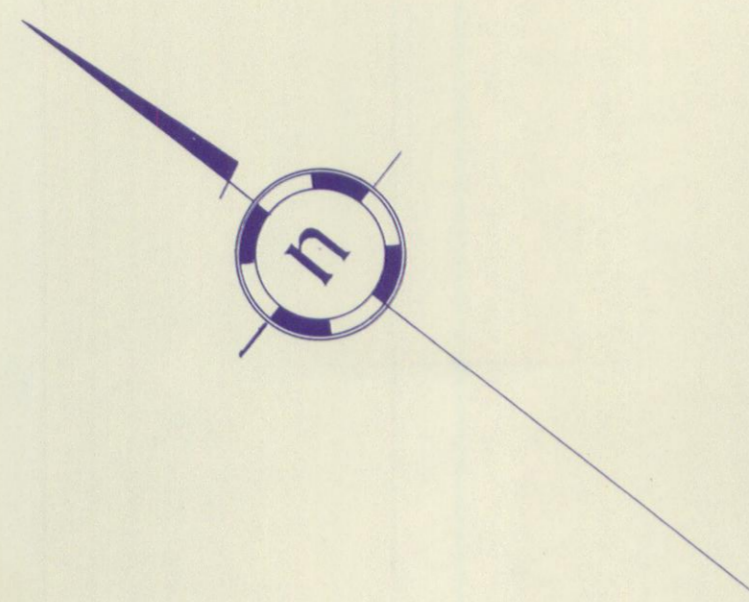


Claims location map

PARLIAMENT MINES LTD.

PELLY RIVER AREA, YUKON TERRITORY

SCALE: 1 IN TO 1/2 MILE



LEGEND

 1	Silicified Pelitic Hornfels and Interbedded Chert		Strike & dip of Foliation
 2	Chert and Interbedded Hornfels		Strike & dip of Joints
 3	Quartzose Granulitic Rock		Strike & dip of Bedding
 4	Younger Stream Sediments - Sandstone, Grit and Pebble Conglomerate		Strike & Plunge of Lineation
	Geological Contact (Assumed)		
	Swamp		
	Claim Post		
	Outcrop		

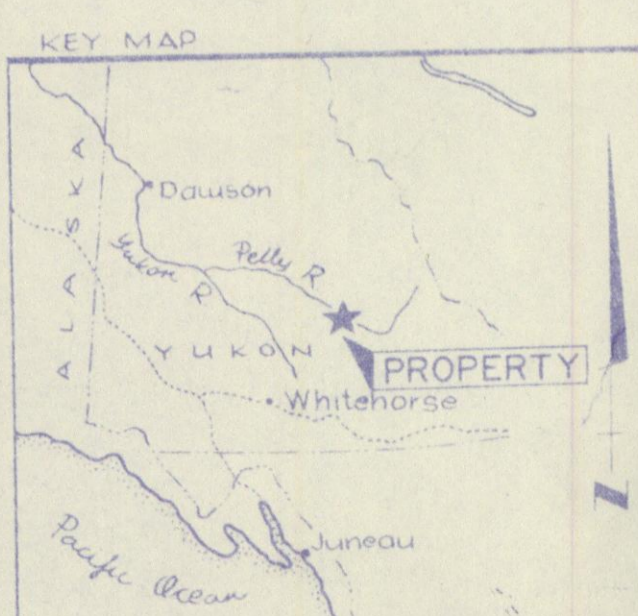
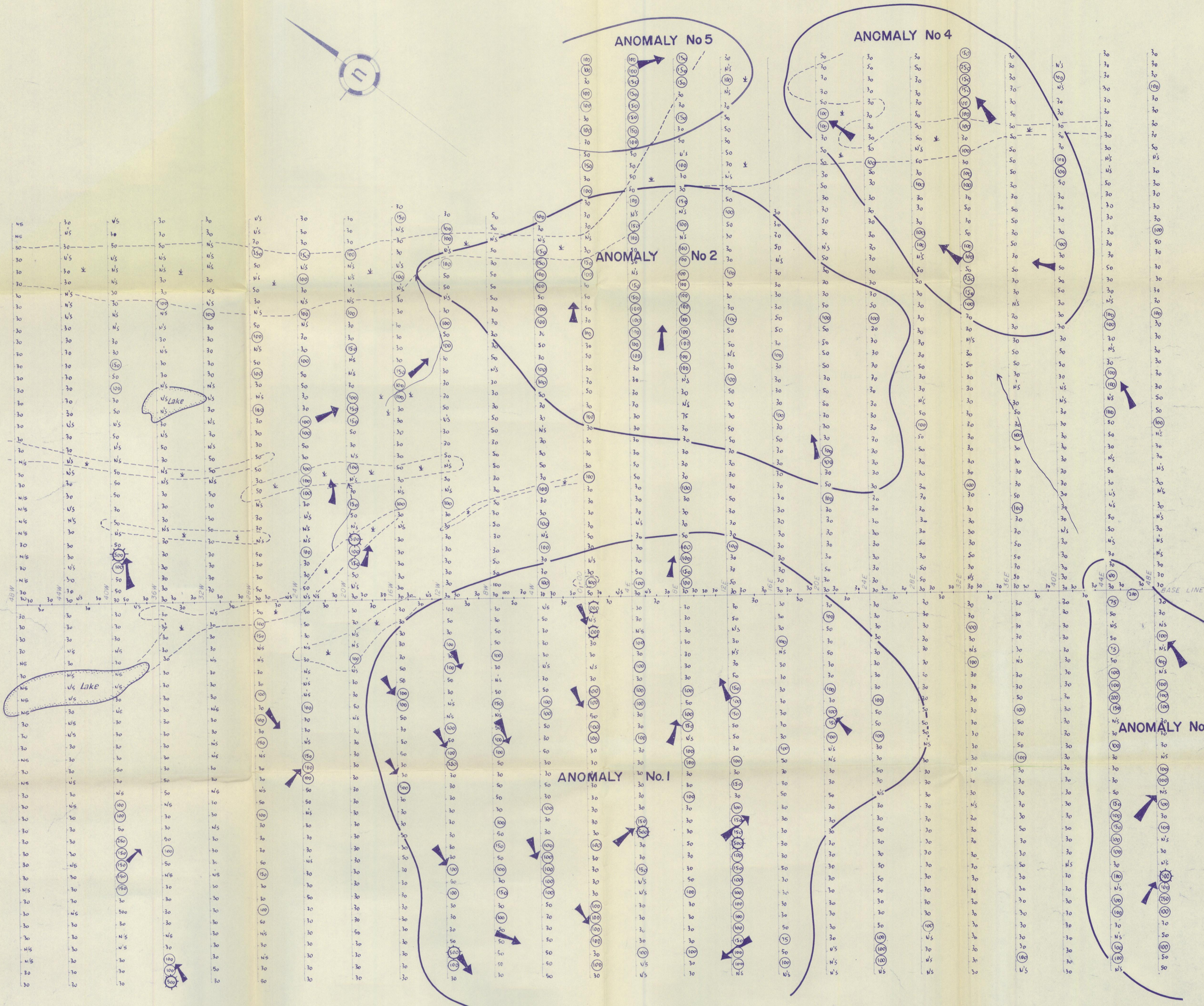
PARLIAMENT MINES LTD.
PELLY RIVER AREA, YUKON TERRITORY

GEOLOGY

by
A.C.A. HOWE & ASSOCIATES LTD.
TORONTO & VANCOUVER, CANADA



Richard Morgan

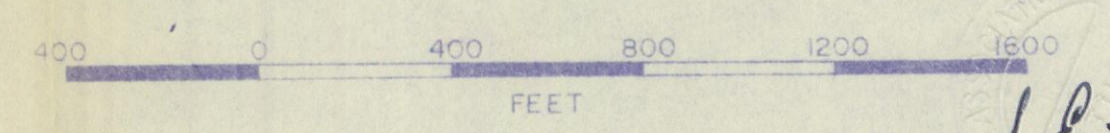


NOTES
 VALUES REPORTED IN PARTS PER MILLION
 OF TOTAL HEAVY METALS COLD EXTRACTABLE
 VALUES 30 PPM & LESS REPORTED AS
 30 PPM.
 N/S NO SAMPLE
 ○ 75-500 T.H.M. VALUES IN P.P.M.
 ○ 500+
 ➔ AVERAGE DIRECTION OF DRAINAGE

PARLIAMENT MINES LTD.
 PELLY RIVER AREA, YUKON TERRITORY

GEOCHEMICAL SURVEY
 PIX GROUP

A.C.A. HOWE & ASSOCIATES LTD.
 TORONTO & VANCOUVER, CANADA



A. C. Tilsley
 OCTOBER 1967