PRELIMINARY GEOLOGIC REPORT

on the

POLARIS MINERAL CLAIMS

N.T.S. 106-E-1

65°02'N 134°17'W

December, 1976

by

D. Yeager -Geologist
C. K. Ikona- P.Eng.

096198

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of $3000.00

D. B. Craig

Resident Geologist or ~~Resident Mining Engineer~~

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

B. R. BAXTER
Supervising Mining Recorder

Commissioner of Yukon Territory

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INTRODUCTION

The POLARIS mineral claims were staked in January, 1976 by Andrew Harman to cover geologic units in the Quartet Lakes region favourable to copper and uranium mineralization.

During the period July 30 to August 6, 1976, a preliminary geologic investigation was carried out by Harman Management Ltd.

LIST OF CLAIMS

Claim Name	Recording Date	Grant No.
POLARIS 1-30	February 3, 1976	YA1673-YA1702

LOCATION AND ACCESS

The POLARIS claims are located in the Mayo Mining District at 65°02' N. latitude and 134°17'W. longitude on N.T.S.106-E-1.

Access to the property is by float equipped aircraft from the town of Mayo, Y.T. to Quartet Lakes, a distance of 115 miles. Both helicopter and fixed wing aircraft as well as full expediting services are available in Mayo.

From Quartet Lakes it is approximately 9 miles southwest to the property. Helicopter support from Quartet Lakes is necessary to establish a camp within the claims area.

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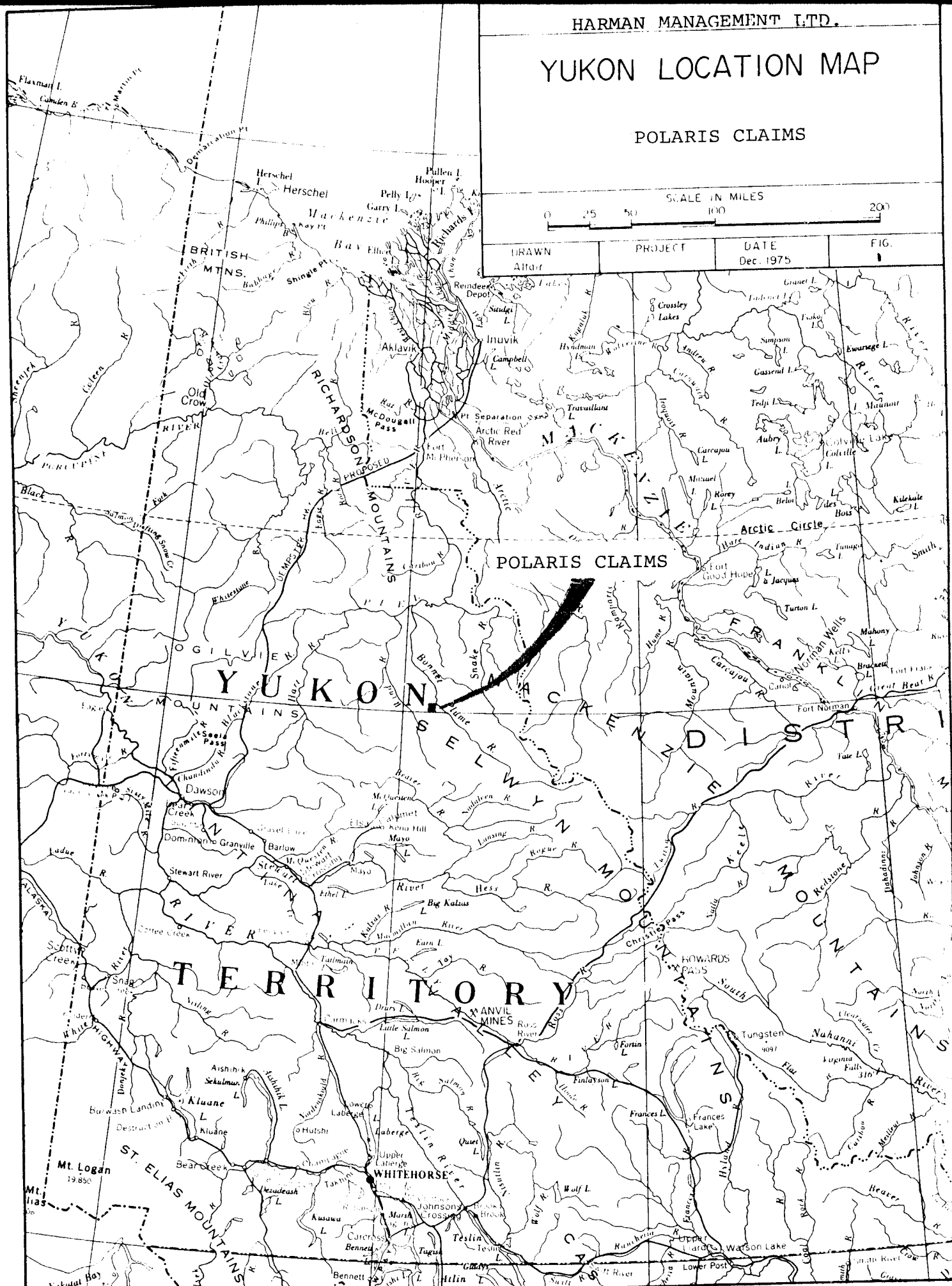
YUKON LOCATION MAP

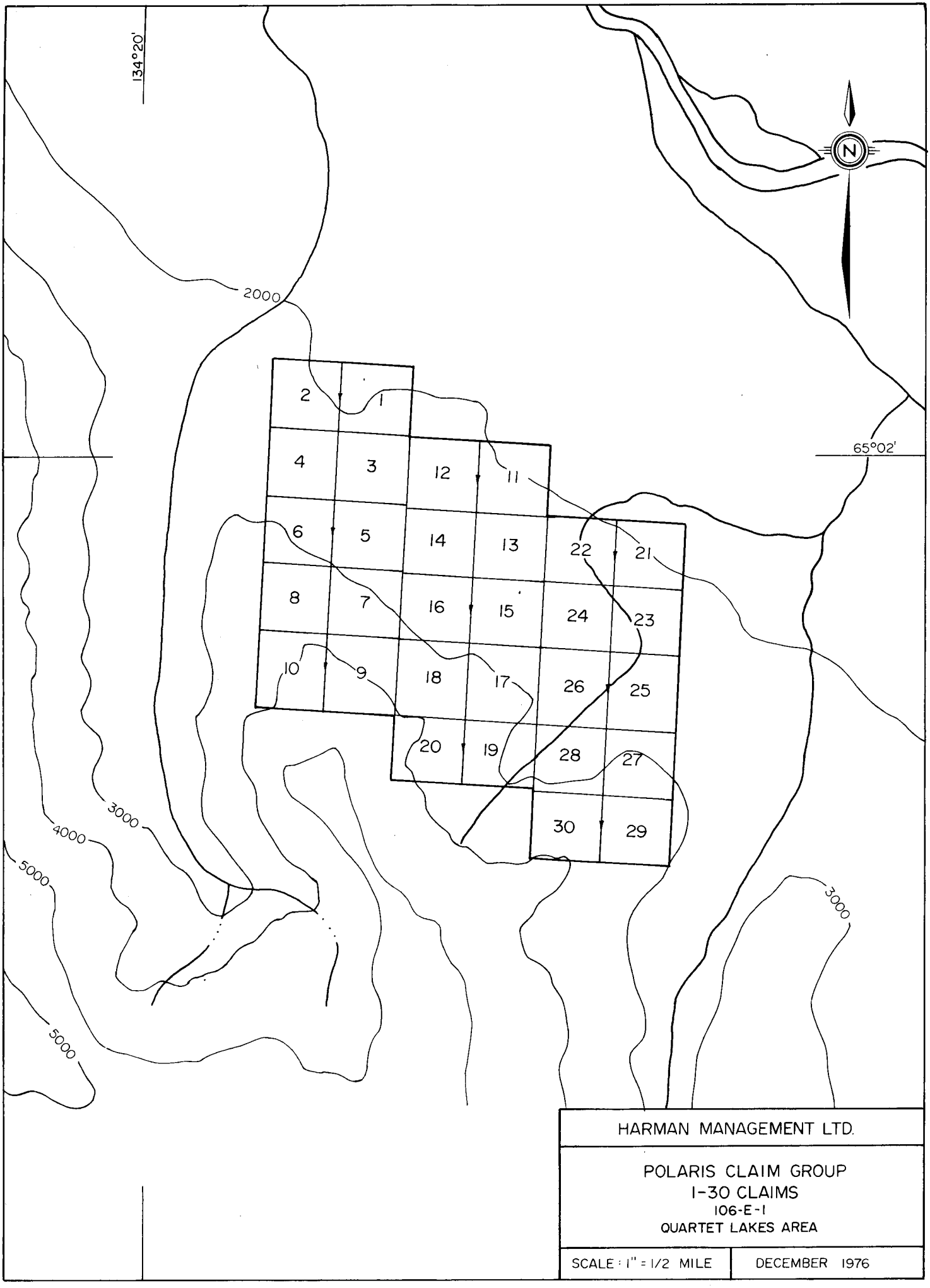
POLARIS CLAIMS

SCALE IN MILES

0 25 50 100 200

DRAWN	PROJECT	DATE	FIG.
Allan		Dec. 1975	





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POLARIS CLAIM GROUP
1-30 CLAIMS
106-E-1
QUARTET LAKES AREA

SCALE : 1" = 1/2 MILE | DECEMBER 1976

REGIONAL GEOLOGY

The Quartet Lakes region lies in the Wernecke Mountains of the north eastern Yukon Territory. In the general area, the Werneckes consist of local ranges which include the Rackla Range, Bonnet Plume Range and Knorr Range. Topography is normally moderate to rugged with elevations ranging from 2,000 to 6,500 feet. The major river valleys are broad, timbered and extensively overburden covered, while most mountain slopes present greater than 60% outcrop above the 4,000 foot level.

The entire area has been mapped by the Geological Survey of Canada and three separate publications are presented. The following memoir and open file reports give 1" = 4 miles geological coverage of the Nash Creek, Nadaleen River, Wind River and Snake River map areas.

(1) Geology of Nash Creek, Larsen Creek and Dawson Map-Area, Yukon Territory by L.H. Green 1972 (Memoir 354).

(2) Open File 205 (Geology of Nadaleen River and Bonnet Plume Lake Map sheets by S. Blusson) 1975.

(3) Open File 279 (Geology of Snake River and Wind River sheets by D.K. Norris) 1975.

In the Quartet-Fairchild-Gillespie Lakes region Helikian rocks are exposed over an area of some 1,500 square miles in a

roughly circular fashion centered near Longitude 134°00'W and Latitude 65°00'N.

These rocks, which represent early deposition in the northern portion of the Selwyn Basin or Richardson Trough, have been described as Units 1 & 2 by L. Green on the Nash Creek Sheet.

Unit 1 is composed of a thick succession of moderately metamorphosed slates, argillites, phyllites and quartzites with interbedded dolomites. The lowest subdivision of Unit 1, whose base is not exposed, consists of chloritic-schists and calc-silicates all probably of volcanic origin.

Unit 2, which conformably overlies the uppermost slate-quartzite section of Unit 1, consists mainly of thickly bedded orange weathering dolomites. The base of the Unit is marked by a series of transitional beds of alternating buff weathering dolomites and interbedded slates and quartzites.

Erractically distributed thorughout the Proterozoic metasediments are irregularly shaped breccia bodies. The breccia zones vary from tens of feet to several thousand feet in size and appear as cross cutting pipe-like features at all levels in the stratigraphic column. Several varieties exist but all exhibit an assortment of angular clasts derived from rock types common to the area. Hornfels margins observed at several localities indicate an intrusve origin.

A common association with many of the breccia bodies are zones of veining or locally pervasive feldspar alteration seen as internal features within the breccias or in host rocks adjacent to them.

The alteration zones are pink in colour due to either K-spar or strong hematization and in some instances contain varying amounts of specularite, chalcopyrite and minor uranium mineralization.

STRUCTURE

Two major periods of deformation have taken place within the Wernecke Mountain region. During the first period or Racklan Orogeny, the Proterozoic rocks of Units 1 and 2 underwent intense folding and faulting. Folds are tight to isoclinal with the development of strong axial plane cleavage and commonly an almost vertical foliation.

A major unconformity of Lower Hadrynian age forms the upper contact of Unit 2. In many localities, erosion beneath this unconformity has resulted in the complete removal of Unit 2 and the strong angular relationship between the relatively flat lying Cambrian and younger rocks directly overlying Unit 1 is apparent.

Further unconformities near the Upper Hadrynian, Lower Cambrian and Upper Cambrian margins leave Devonian

carbonates directly over the Helikian section.

The second period of deformation, which involves both Paleozoic and Proterozoic strata, is weak compared to the first. This is particularly evident in the younger carbonate sections to the west and southwest where deformation consists mainly of broad open folding and minor overthrusting.

LOCAL GEOLOGY

The POLARIS claims are underlain by rock types assigned to the Lower Proterozoic Unit Ho as described in the G.S.C. Open File 279, covering the geology of the Wind River and Snake River map sheets. The unit is lithologically described as containing mainly dark grey, grey green, and black, thin bedded argillite, slate, and phyllite; minor grey quartzite, orange weathering dolomite, and conglomerate.

The rocks exposed at higher elevations on the property are mainly dark brown to black thin bedded slates interbedded with dark green phyllite units. Intense folding within the slate/phyllite sequence makes structural interpretation impossible without detailed geologic mapping. The lower elevations on the claim group are almost entirely overburden covered; however, several areas of outcrop indicate mainly thin bedded slates. A strong slatey cleavage in a grey slate unit in the central portion of the claims strikes

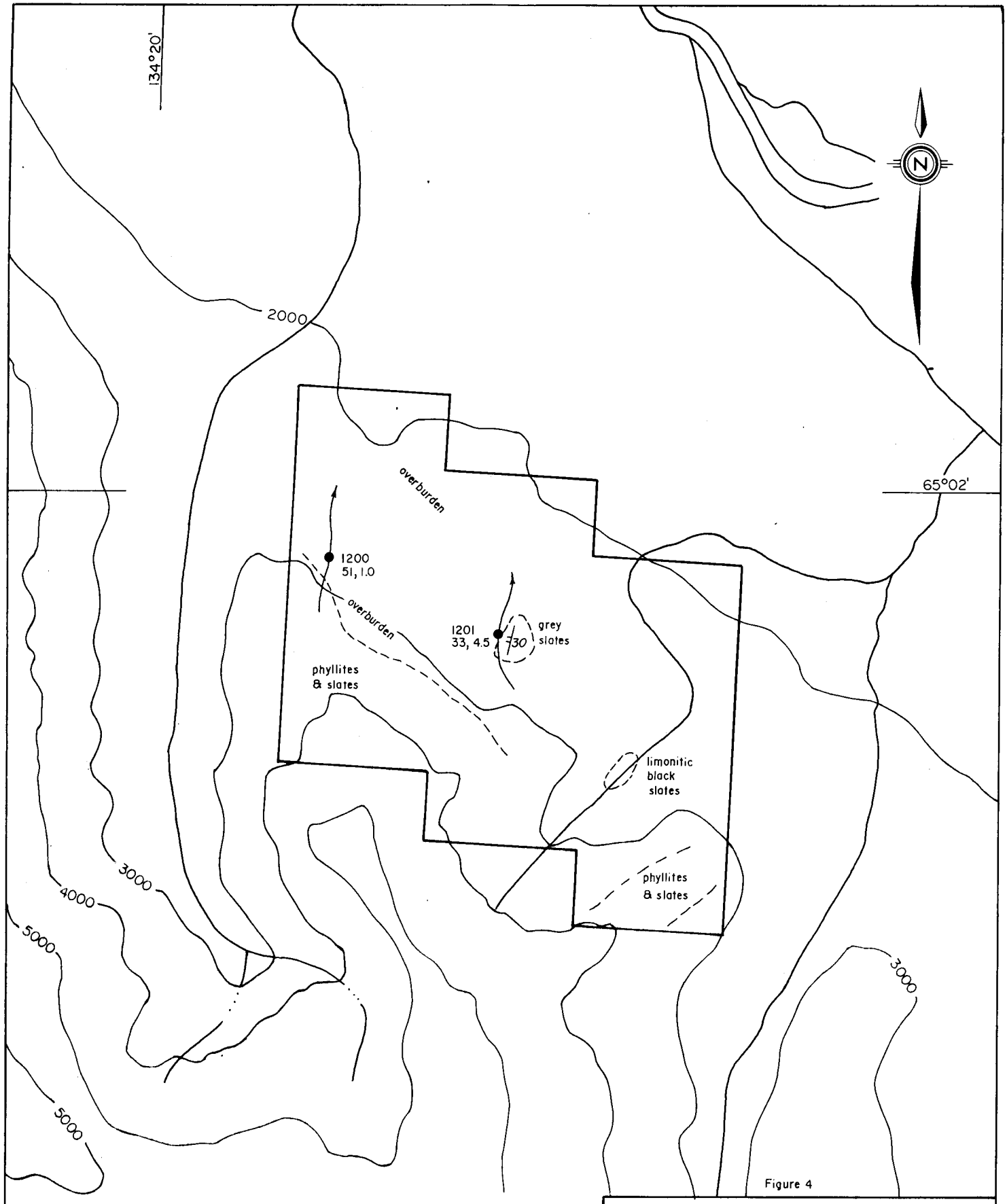

Figure 4

LEGEND

30 — Slatey cleavage

Silt sample location:

1200
51, 1.0 — sample number
ppm Copper, ppm Uranium

Approximate geologic contact

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POLARIS CLAIM GROUP
PRELIMINARY GEOLOGY
106-E-1
QUARTET LAKES AREA

SCALE : 1" = 1/2 MILE | DECEMBER 1976

approximately 010° and dips 30° to the west. Approximately 4000 feet to the southeast, extremely limonitic black slates occur low in a creek cut canyon. The slates are intruded by a swarm of quartz veinlets ranging in width from 1/8 inch to 1/4 inch and exhibiting grey, drusy boxwork zones in some of the vein walls.

GEOCHEMISTRY

Two silt samples were taken from streams on the property. The samples were selected from silt and sand size sediments and special care was taken to ensure that no organic material was included. The samples were placed in numbered Kraft envelopes in which they were dried prior to shipment to Chemex Labs Ltd. in North Vancouver, B.C.

Upon receipt at Chemex Labs, the samples were screened to -80 mesh. For copper analysis, a 1/2 gram portion of the screened material was digested in perchloric-nitric acid and ppm copper determined by standard atomic absorption procedures. For uranium analysis, a 1/4 gram portion was digested with dilute HNO_3 and ppm uranium determined by standard flourometric procedures.

The values in parts per million copper and uranium for each of the samples are plotted on Fig. 4 at a scale of 1" = 1/2 mile. Sample 1200 gave values of 51 ppm copper and

1.0 ppm uranium. These values fall within normal background limits for the area. Sample 1201 gave values of 33 ppm copper and 4.5 ppm uranium. The copper value may be considered background but the uranium value is considered anomalous in the area.

DISCUSSION AND RECOMMENDATIONS

Preliminary geologic mapping has confirmed that the claims are underlain by favourable Unit Ho rocks. The favourable geology combined with the occurrence of uranium anomalous stream sediments in the central portion of the claims make the POLARIS claims a favourable exploration target.

It is recommended that a detailed prospecting program be carried out to determine the cause of the geochemical anomaly. In addition, silt samples should be taken from all the drainages on the property and a reconnaissance soil sample survey should be conducted on the overburden covered portions of the claims.

Respectfully submitted,

David A. Yeager

D. Yeager - Geologist

APPENDIX I

LIST OF PERSONNEL

W. Harrison, 623 Chatsworth, Richmond, B.C.	Prospector	August 6,7,8, 1976
D. Fulcher, 918 Leovista Ave., North Vancouver, B.C.	Prospector	August 5, 6, 7, 8, 1976
N. DeBock, General Delivery, Clearwater, B.C.	Prospector	August 6/7, 1976
J. Cohn, 4726 West 4th, Vancouver, B.C.	Prospector	August 6/7, 1976
D. Yeager, Box 261, Christina Lake, B.C.	Geologist	August 5, 6, 1976 October 15/16/17, 1976
A. Harman 2293 West 33rd Ave., Vancouver, B.C.	Supervisor	August 6/7, 1976

STATEMENT OF EXPENDITURES
POLARIS MINERAL CLAIM GROUP
FOR THE PERIOD
JULY 1-AUGUST 31, 1976

Wage Expense	$1,781.43
Grocery Expense	408.84
Fuels Expense	321.06
Rentals/Contract Expense	608.95
Airfares/Airfreight Expense	134.31
Fixed Wing Charter Expense	576.50
Helicopter Charter Expense	1,116.00
Room & Board Expense	132.83
Sundry/Administration expense	184.50
	$5,264.42

APPENDIX III

CANADA) In the matter of a geological and geochemical survey
) and report on the POLARIS 1-30 MIneral claims
)
TO WIT) on behalf of Andrew Harman

I, A.Harman of 2293 West 33rd Ave., Van.,B.C. do solemnly declare that geologic mapping and geochemistry programs were carried out on the POLARIS 1-30 claims during the period July 1-Aug.31/76

The following expenses were incurred during the course of this work and in the compiliation and reporting of the results:

Wage Expense	$1,781.43
Grocery Expense	408.84
Fuels Expense	321.06
Rentlas/Contract Expense	608.95
Airfares/Airfreihgt Expense	134.31
Fixed Wing Charter Expense	576.50
Helicopter Charter Expense	1,116.00
Room & Board Expense	132.83
Sundry/Administration Expense	184.50
	$5,264.42

And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

Declared before me at Vancouver)
in the Province of British)
Columbia this 24 day of)
JANUARY, 1977

Andrew Harman

John E. Rogers

Commissioner for Oaths for
British Columbia or Notary Public
in and for ~~the~~ B.C.

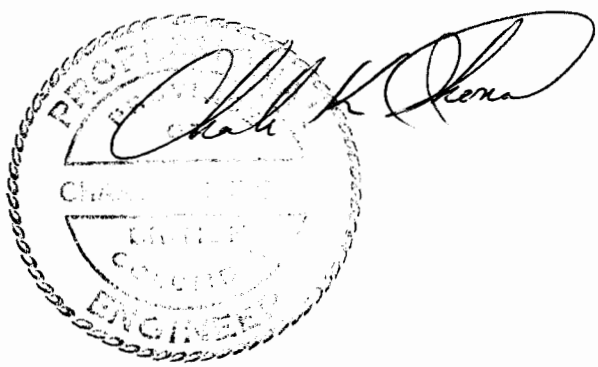
APPENDIX IV

ENGINEERS CERTIFICATE

I, CHARLES K. IKONA of 2614 St. Johns St., Port Moody, in the Province of British Columbia DO HEREBY CERTIFY THAT:

1. I am a Consulting Mining Engineer with offices at 610 - 850 West Hastings St., Vancouver, B.C.
2. I am a graduate of the University of British Columbia with a degree in Mining Engineering.
3. I am a member in good standing of the Association of Professional Engineers of British Columbia.
4. I am familiar with the area in which the POLARIS claim group is located.
5. The accompanying report is based upon the work of D. Yeager, Geologist, whom I have worked with for several years and in whom I have complete confidence.
6. I have examined the data upon which this report is based and am satisfied that the work reported on was conducted in a satisfactory manner.

Charles K. Ikona, P.Eng.
December, 1976



HARMAN MANAGEMENT LTD.
#907 - 675 West Hastings St.,
Vancouver, B.C.

A. Harman,
2293 West 33rd,
Vancouver, B.C.

September 30, 1976

INVOICE

RE: CHARTER OF HELICOPTER CF-OQI
TO SUPPORT POLARIS PROPERTY WORK
PROGRAM AS FOLLOWS:

August 5	2.1 hours
August 6	2.0 hours
August 8	3.1 hours
	7.2 hours

at a rate of $155.00/hour = $1,116.00

AREA OF RECENT STAKING

POLARIS CLAIMS

Quartet Lakes

Fairchild Lake

BONNET

PLUME R.

BEAR R.

Gillespie

Pinguicula Lake

McClusky L.

WIND RIVER

RACKLA R.

North Rackla R.

134°00'

64°45'

N

LEGEND

QUATERNARY

26	Unconsolidated glacial and alluvial deposits.

CRETACEOUS & TERTIARY

20a	Orange-to brown-weathering diorite and gabbro; altered equivalents.

DEVONIAN

10	Limestone, dark grey, brown and black, massive to thin-bedded, very fine grained, buff-grey-weathering.

ORDOVICIAN & SILURIAN

8	Grey-and buff-weathering dolomite and limestone, mostly medium to thick bedded; minor platy black argillaceous limestone and dolomite.

PROTEROZOIC

2	Orange-weathering, platy, grey green dolomite, dark slate, minor phyllite and quartzite.
1	Mainly dark grey, grey green, and black, thin bedded argillite, slate, and phyllite; minor grey quartzite, orange-weathering dolomite and conglomerate.

MESOZOIC CENZOIC — PALEZOIC — PRECAMBRIAN

SYMBOLS

- Geological boundary
- Bedding tops known (horizontal, inclined, vertical)
- Bedding tops unknown (dip known)
- Bedding-foliation; (horizontal, inclined, vertical) (dip, m-medium, s-slight)
- Fault (defined, approximate, assumed)
- Anticline (defined, approximate, arrow indicates plunge)
- Syncline (defined, approximate, arrow indicates plunge)

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GEOLOGY- SECTION OF OGILVIE MTNS.

OUTLINE OF PROTEROZOIC BASIN

SCALE IN MILES 4 2 0 4 8

DRAWN	PROJECT	DATE	FIG.
Altair		DECEMBER 1976	3