

GEOLOGICAL
and
GEOCHEMICAL REPORT

on the

NOP 1 to 10 MINERAL CLAIMS,
Clear Creek,
Dawson Mining District

by

R. J. Joy &
R. E. VanTassell

Sheet No. 115P-14

Latitude 63° 50'N

Longitude 137° 04'W

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

\$2510.23

J. B. Craig

Resident Geologist or
Resident Mining Engineer

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

[Signature]

Commissioner of Yukon Territory

Date Aug. 26th to Sept. 6, 1971

2510.23

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I N T R O D U C T I O N -

The NOP Claims, 1-10 inclusive were staked on March 2nd, 1971, following the release of a preliminary report, "Molybdenum and Tungsten in some Acidic Plutonic Rocks of Southeast Yukon," by R. G. Garrett (G.S.C. open File No. 51).

A two man party worked the claim group from August 26th to September 6th, 1971 inclusive.

The whole claim group was rock chip sampled on a 300 foot x 300 foot grid. These samples were lamped for tungsten mineralization.

Archer, Cathro and Associates apparently using rock chip samples outlined an anomalous area, part of which was on NOP No. 10 Mineral Claim. This information prompted the soil sampling of this claim.

H I S T O R Y -

Clear Creek was an important area for placer gold. It was worked for many years previous to 1943 by primitive methods. In 1939 the first steel sluice boxes to be used in the Yukon were set up on Clear Creek.

From 1943 to 1954 a diesel operated dredge worked the creek, but no production records are available.

The creek was also worked from 1961 to 1964 when production yielded 2,408 ounces of Gold.

No mention is made in any written reports of tungsten.

Government records show that eight claims had been staked in 1962. These were recorded on July 16/62 by T. Gergich. It isn't known for what mineral or minerals the ground was staked. The claims are plotted incorrectly on the staking sheet. The actual location is approximately 2 miles northwest of where they have been plotted.

Archer and Cathro and Associates are known to have carried out a reconnaissance type program in this general area in 1969.

Following the staking of the NOP Claim Group, Silver Standard and Archer, Cathro and Associates have located claims to the west, east and north respectively. A & C are known to have done rock chip sampling and geological mapping.

PROPERTY -

The NOP Claim Group consists of 10 contiguous claims as follows:

<u>Claim Name</u>	<u>Grant Nos.</u>	<u>Location Date</u>	<u>Record Date</u>	<u>Expiry Date</u>
NOP 1-6	Y57673-Y57678	2/3/71	16/3/71	16/3/72
NOP 7-10	Y57679-Y57682	2/3/71	16/3/71	16/3/72

LOCATION AND ACCESS -

The property is located on west Ridge, approximately 225 miles NNW of Whitehorse. The Claim Group lies at the headwaters of Left Clear Creek, Latitude 63° 50'N and Longitude 137° 04'W on NTS Sheet 115P-14.

The property is situated approximately twenty miles north of the Stewart Crossing-Dawson Road and is best accessible by helicopter. The old road which extends as far as the old placer workings on Clear Creek is impassable using ordinary vehicles. The workings are about three miles from the property.

PHYSIOGRAPHY -

The Claim Group lies in mountainous terrain and has elevations ranging from 4,500 to 5,400 feet. Relief is moderate on the Claim Group but becomes more pronounced away from the claims. The highest elevation in the surrounding area is 6,000 feet and the relief is moderate to pronounced.

Tree line is approximately at the 4,100 foot elevation. Vegetation on the property is sparse and consists of shrub grasses, buck brush, willows, and small shrub spruce in sheltered areas.

ACKNOWLEDGEMENTS -

The authors wish to thank G. W. Gilbert for valuable discussion while compiling this report. Also, G. H. Seale for map preparation.

GENERAL GEOLOGY -

The oldest rocks in the area are the Yukon Group metasediments. The Yukon Group consists predominantly of interbedded quartz mica schists and quartzites.

These are intruded by acidic to basic rocks ranging in age from Tertiary to Paleozoic (?), (Bostock, 1948). The intrusives occur as

small isolated stocks and/or narrow dykes.

G E O L O G I C A L S U R V E Y -

A. GENERAL - A pace and compass type grid was completed over the Claim Group using the claim baselines as a grid control line. Rock samples were taken at 300 to 500 foot intervals along the baseline (N-S) and at 300 foot intervals perpendicular to the baseline (E-W). In this manner approximately 270 rock samples were collected.

Outcrop exposure accounts for approximately 1 percent of the Claim Group. However, float and/or scree covers approximately 3-5 percent of the area.

Rocks which crop out in the area consist of the Yukon Group metasediments and intrusives.

B. DETAILED GEOLOGY -

Yukon Group Metasediments - These rocks are composed of quartz mica schist and quartzite. Generally, they are light brown in color and are fine grained. Colorless to milky quartz veins are present and range up to approximately 3 inches in width. To the east of the claim group quartz veins were encountered which range up to 1 foot in width. No scheelite mineralization was seen to occur within these veins.

Intrusives - The intrusive outcrop and float consists of porphyritic monzonite and quartz monzonite. This rock is generally greyish in color and is medium grained. Slight iron oxide staining is present at a number of localities. Felspar phenocrysts are abundant in most areas and range in size from 1/4 inch to 3/4 inch.

Fine grained quartz monzonitic and granitic rocks were seen as very narrow dykes.

The porphyritic rocks have been intruded by quartz veins up to approximately 2 inches wide.

C. STRUCTURE -

The only outcrop of intrusive is on the north side of the stream valley on claims 7 and 8. In this area three directions of fracturing were noted, namely, 335, 100 and 035 degrees.

Those fractures which strike at 335° generally dip at 57° to the northeast. Fine grained non-porphyritic dykes up to approximately 8" wide have been intruded along the fractures. One such dyke (5" wide) has a central vein of quartz and a black, very fine-grained material.

This probably represents two stages of fracturing:

1st fracturing with intrusion of fine grained dyke.

2nd re-fracturing along dyke permitting the introduction of quartz and a very fine grained material.

Float in this area has the appearance of an intrusive breccia. Fractures striking at 035 are not well defined and have variable dips. Dykes do not appear to be associated with these fractures.

Fractures which strike at approximately 100° have either a vertical dip or dip at 50° to the north. These features have quartz or quartz-felspar veins along them. Some of these have black very fine grained material in the quartz. The veins are usually up to two inches wide and are separated by a few feet of porphyritic monzonite or quartz monzonite.

Float on the side of the stream valley indicates the presence of a highly oxidized shear or fault zone. This zone probably has a northerly trend.

D. MINERALIZATION -

Minor scheelite was seen in the quartz veins which outcrop in the stream valley.

On Claim Number 10 scheelite is present in the quartz veins and is also disseminated in the porphyritic rock around the vein margins. A few fine grained float on scree boulders contain disseminated scheelite. It could not be determined if this scheelite was also associated with quartz veins. Occasionally, scheelite was seen in the porphyritic rock with no visible quartz vein float.

E. ASSAYS -

The following results are from mineral light selected samples.

<u>Sample No.</u>	<u>w%</u>	<u>Mo%</u>
06674	.05	Nil
06675	.065	Nil
06676	.63	Tr
06677	.40	Nil
06678	Tr	Nil
06679	.05	Nil
06680	Tr	Tr
06681	Tr	Tr

A number of random chip samples gathered while prospecting the claim group were made into three samples. These samples were checked for the presence of tin and returned the following:

<u>Sample No.</u>	<u>Sn%</u>
06687	less than .005
06688	" " .005
06689	" " .005

All assaying was done by the Whitehorse Assay Office.

G E O C H E M I C A L S U R V E Y

A. GENERAL -

Claim Number 10 baseline was used as a grid control for soil sample collection. The north-south claim line was chained and marked at 300 foot intervals. Samples were then taken employing a pace and compass method at 100 foot intervals on east-west lines. The whole of the claim was sampled in this manner.

A total of 90 samples were taken on the claim.

All samples were analyzed by the Falconbridge Vancouver Geochemical Laboratory for tungsten and molybdenum.

Fairly good soil was available on the grid and samples were taken within 15 inches of the surface.

B. LAB PROCEDURES -

The initial laboratory techniques and methods were set up and supervised by Dr. Ivor L. Elliot, Chief Geochemist, Falconbridge Nickel Mines Limited, Vancouver, B.C.

(a) Tungsten Analysis - The samples are dried in a gas fired hot air drier and then hand screened through 80 mesh nylon screens.

0.25 grams of the -80 mesh fraction is taken and fused with an alkaline flux. This fusion is dissolved in demineralized water. An aliquot of this solution is taken for analysis. Tungsten is determined by forming the colored dithiol complex which is blue at temperatures above 60°C. The colored complexes are usually assessed against standards prepared in a similar way.

(b) Molybdenum Analysis - The samples are dried and screened as above.

0.25 grams of the -80 mesh fraction is taken and fused with an alkaline flux. This fusion is dissolved in demineralized water. An aliquot of this solution is taken for analysis. Molybdenum is determined by forming the colored dithiol complex which is green at temperatures below 30°C. The colored complexes are visually assessed against standards prepared in a similar way.

C. INTERPRETATION OF RESULTS -

All samples taken were analyzed for tungsten and molybdenum, even though the main interest was for tungsten.

Tungsten - This metal was contoured as being anomalous at 100 p.p.m. and greater. Tungsten analysis indicates an overall northwesterly trend. However, secondary highs having a northerly trend are present and may reflect downhill creep or solifluction.

Tungsten mineralization is present in the area and is reflected by the soil sampling, but further work would be required to access the relationship of the two.

Molybdenum - When contoured at 5 p.p.m., the molybdenum values indicate very weak isolated anomalies. These have a northerly trend and show slight correlation with the secondary trends of the tungsten anomaly.

It is not expected that molybdenum should reflect tungsten in any way, other than molybdenum is a common accessory mineral of some intrusives. No molybdenite was noted during the course of mapping.

C O N C L U S I O N S

The limited exposure (approximately 1%) on the NOP Claim Group greatly hampered a geological survey.

Approximately 3 to 5 percent of the claim group is covered by float and/or scree.

Rocks are predominantly intrusive consisting of porphyritic quartz monzonite and monzonite. Minor quartzite and quartz-mica schist of the Yukon Group are present.

The rock sample survey indicated minor scheelite in the intrusive. Scheelite appears to be associated with quartz veining and is crystalline within the veins and disseminated away from the margins of the veins.

Quartz veins in the metasediments do not appear to have any associated tungsten mineralization.

Soil sample results indicate an overall northwesterly trending tungsten anomaly with secondary highs having a northerly trend.

Molybdenum analysis yielded a very low order anomaly which shows slight correlation with the tungsten analysis.

Only a minor amount of quartz vein float or scree was seen on the claim group.

Assaying of selected grab samples returned rather low tungsten results. The Molybdenum results were nil and/or trace.

If the amount of quartz vein float noted reflects the percentage of quartz veins in the intrusive then it is very unlikely that economic tungsten occurs on the property.

R E C O M M E N D A T I O N S

It is recommended that further prospecting be done in the area and that the NOP Claims be held pending results of further prospecting in the area.

R E F E R E N C E S C I T E D

Bestock H. S. 1948, Paper 48-25, G.S.C., Preliminary Map,
McQuesten, Yukon Territory

SUMMARY OF WORK

1. Geological Mapping August 26th - September 6th. One man prospected and collected rock chip samples on the 10 claim area. Pace and compass methods were employed using the claim location line as a base.
2. Geochemical Survey - 90 samples were collected and samples analyzed by Falconbridge Nickel Mines Vancouver Geochemical Laboratory.

COSTS

A. Labour

1 party chief at 700.00 per month by 13 days	\$293.55
1 assistant at 500.00 per month by 13 days	<u>209.68</u>
	503.23

B. Geochem Analysis

90 soil samples for Molybdenum and Tungsten at \$1.40 per metal	252.00
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C. Helicopter

13.0 hours of Hiller 12E helicopter time at \$135.00 per hour	1,755.00
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Helicopter utilized as follows:

August 26th - moving in	5.2 hours
September 3rd - visit & supplies	3.5 hours
September 6th - moving out	<u>4.3 hours</u>
Total	13.0 hours

TOTAL COST	\$2,510.23
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Note: The above costs do not include food, camp equipment & supplies, supervision, office overhead or map and report preparation.

A F F I D A V I T

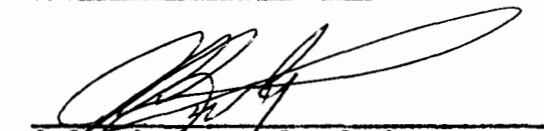
I, Robert E. Van Tassell, of Whitehorse, in the Yukon Territory,
Exploration Superintendent, do solemnly declare:

1.

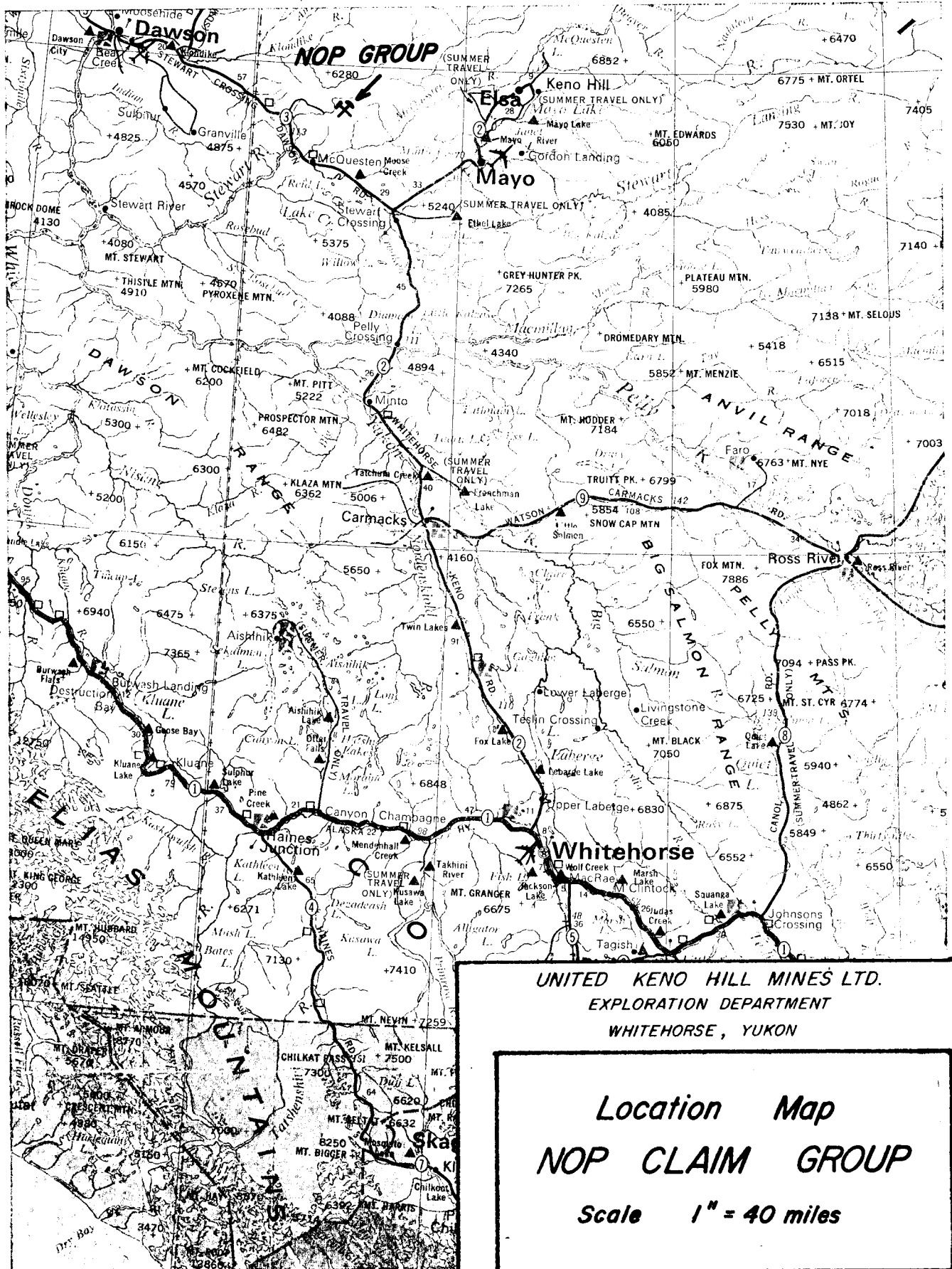
That I am duly appointed agent of United Keno Hill Mines Limited,
and except where otherwise stated have a personal knowledge of the
facts and matters herein declared.

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
WHITEHORSE, Y.T., in
the Yukon Territory,
this 2nd day of
March 1972.



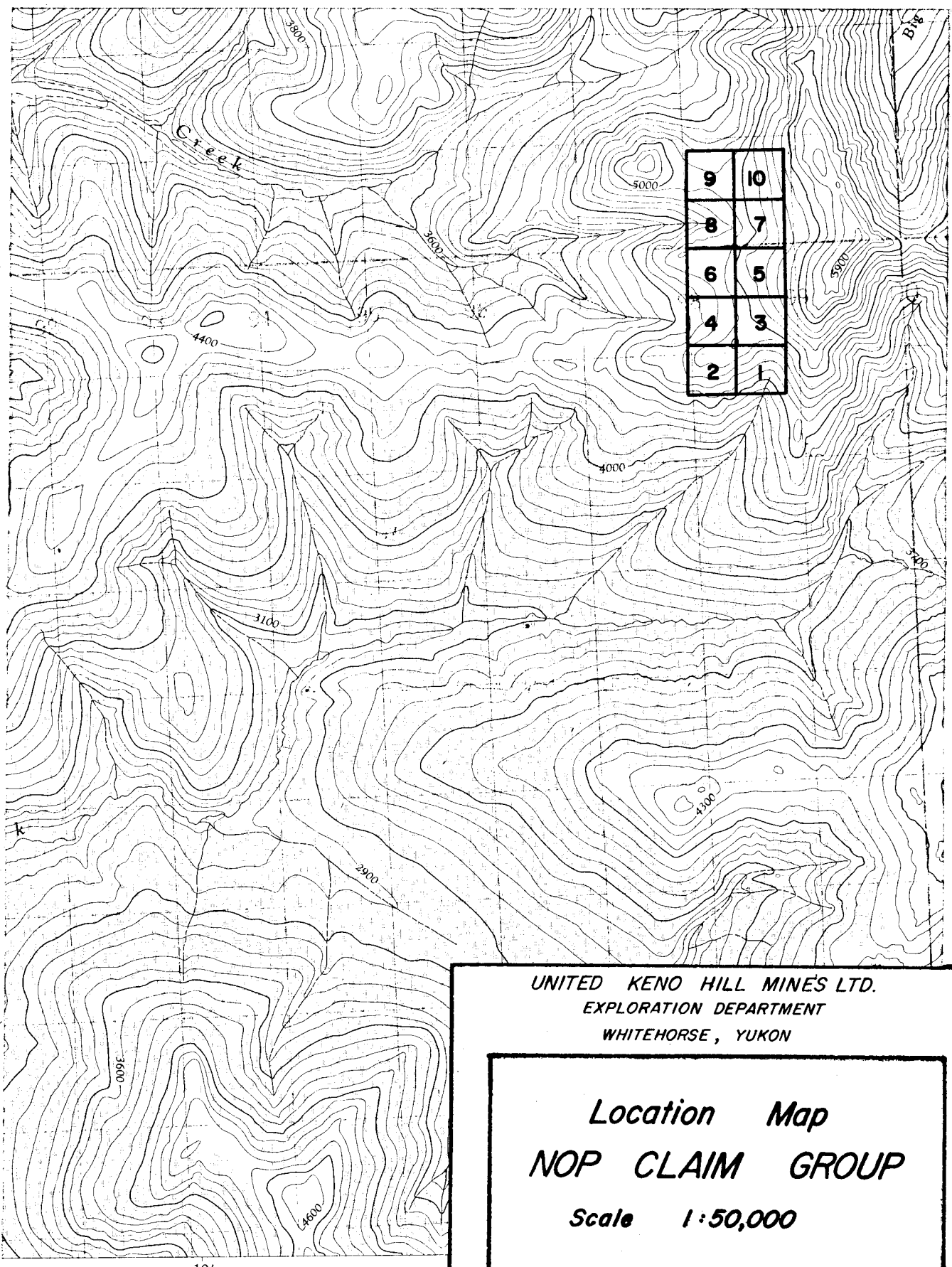
~~A. G. ...~~
~~Notary Public~~
NOTARY PUBLIC



UNITED KENO HILL MINES LTD.
 EXPLORATION DEPARTMENT
 WHITEHORSE, YUKON

Location Map
NOP CLAIM GROUP

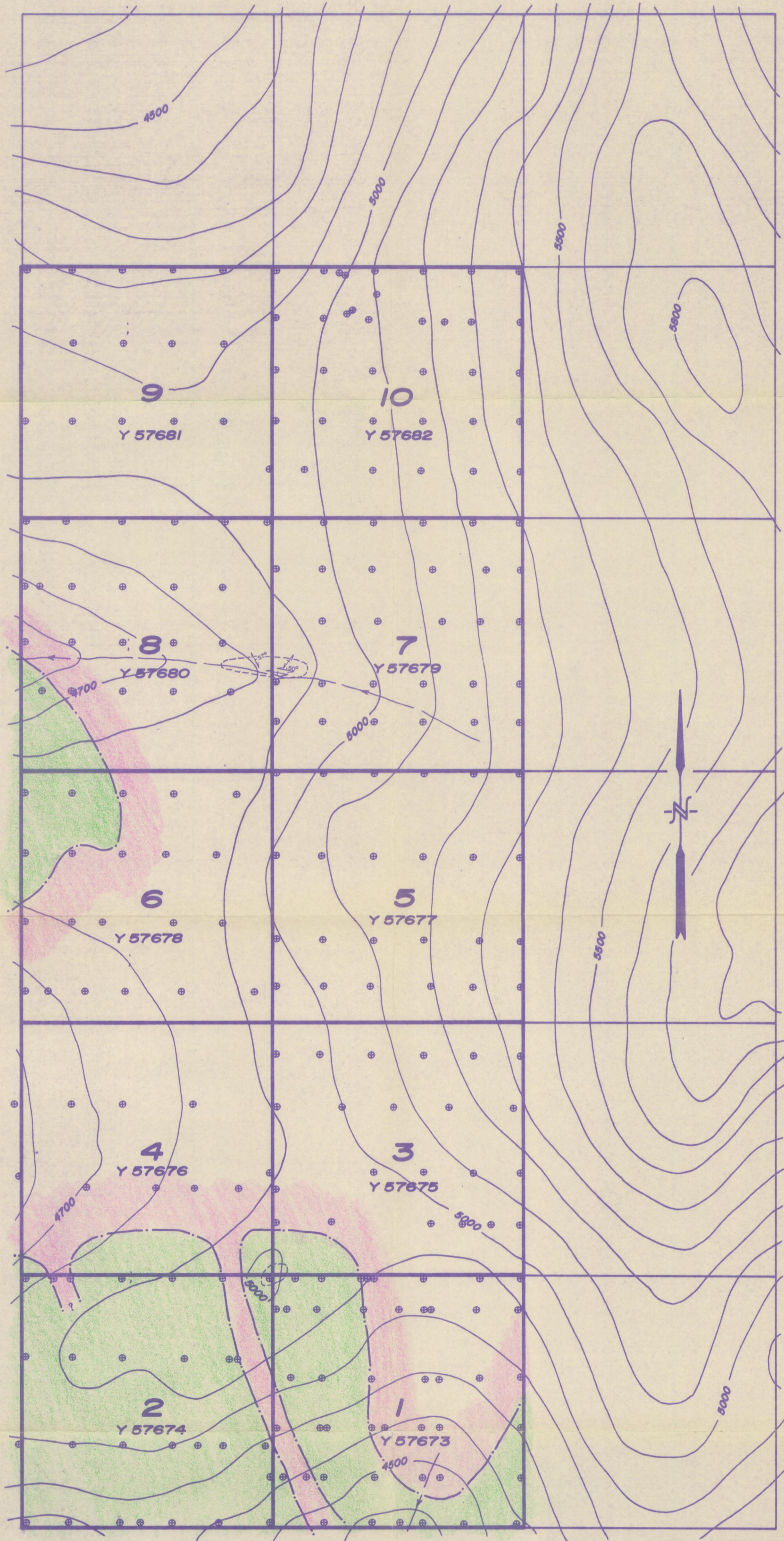
Scale 1" = 40 miles


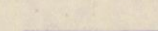



UNITED KENO HILL MINES LTD.
EXPLORATION DEPARTMENT
WHITEHORSE, YUKON


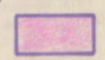
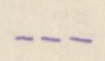
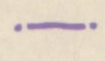

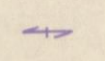

Location Map
NOP CLAIM GROUP

Scale 1:50,000



 creek
 NOP claim line
 adjacent claim line
 NOTE: topographic contours approximate

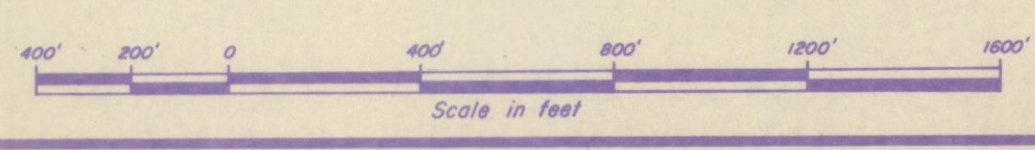
LEGEND

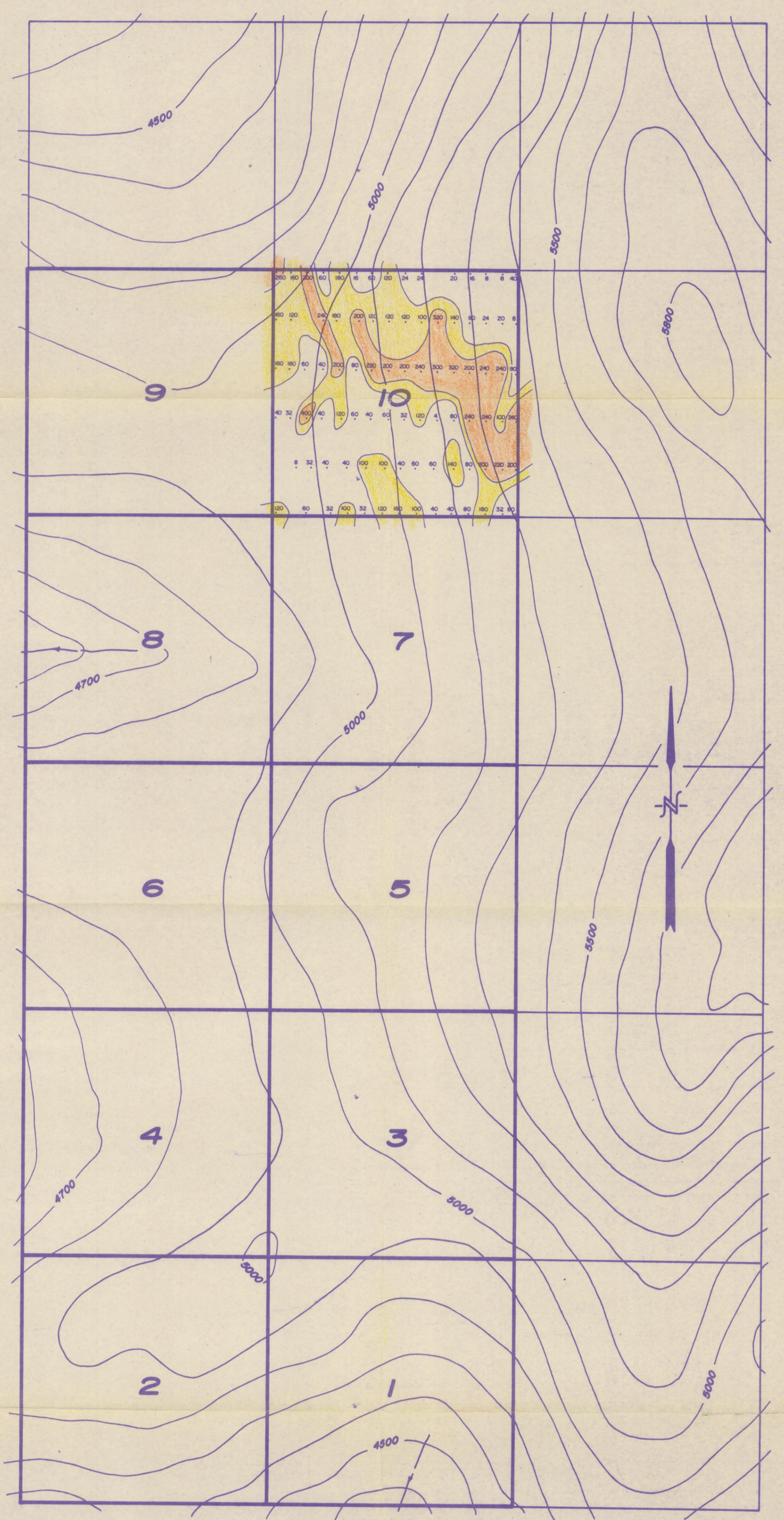
-  schist and quartzite (YUKON GROUP)
-  intrusive (porphyritic quartz monzonite and monzonite)
-  outcrop boundary
-  contact
-  joints and fractures - inclined
-  joints and fractures - near vertical
-  rock chip sample location

UNITED KENO HILL MINES LTD.
 EXPLORATION DEPARTMENT WHITEHORSE, Y. T.

NOP CLAIM GROUP
 CLEAR CREEK SHEET 115-P-14

GEOLOGY





PPM TUNGSTEN

	0 - 100
	100 - 200
	200 - 400

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 EXPLORATION DEPARTMENT WHITEHORSE, Y. T.

NOP CLAIM GROUP
 CLEAR CREEK SHEET 115-P-14

**SOIL SAMPLING
 TUNGSTEN PLOT**

