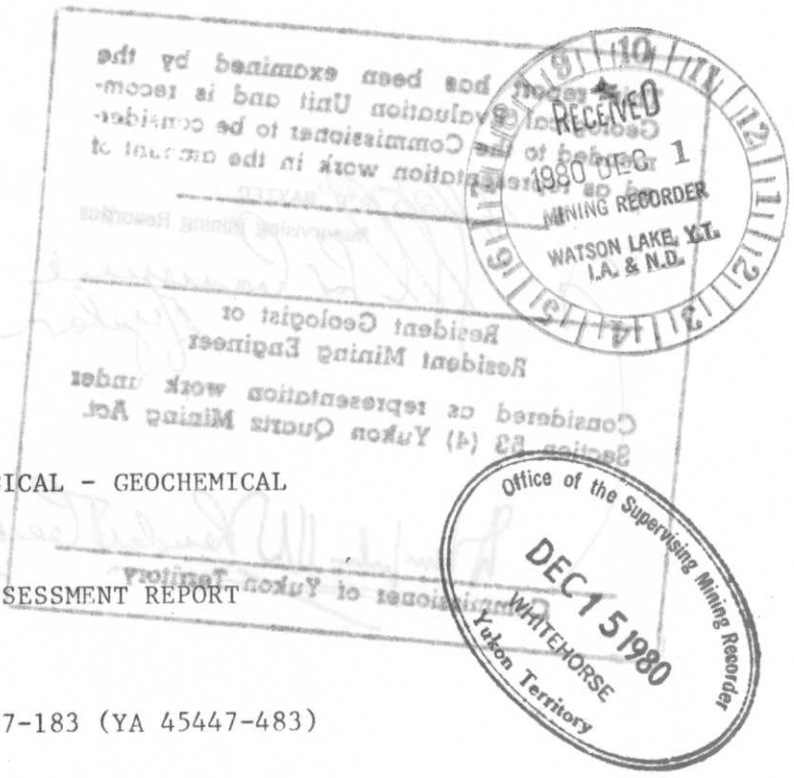


GEOLOGICAL - GEOCHEMICAL

ASSESSMENT REPORT

TOM 147-183 (YA 45447-483)

63°08'N 130°06'W

WATSON LAKE MINING DISTRICT - 105-O-1

AUGUST 17-25, 1980

R. STROSHEIN

NOV. 1980

090678

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

$ 4,625.00

R. R. BAXTER
Supervising Mining Recorder

Resident Geologist or
Resident Mining Engineer

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

Resident Geologist

~~Commissioner of Yukon Territory~~

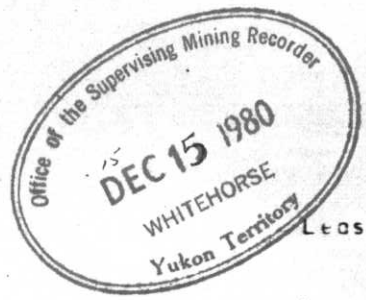
INDIAN and NORTHERN AFFAIRS

TRANSMITTAL FORM

MR File No _____
S.M.R File No _____
Date Fwd 12 Dec 80

FROM Mining Recorder at ....WATSON LAKE.....

TO Supervising Mining Recorder at Whitehorse, Y.T.



FOR ACTION ARE

☐ NEW APPL'N for PLACER LEASE to PROSPECT: Name.

☐ RENEWAL APPL'N PLACER LEASE to PROSPECT: Name. Lease No .....

☐ AFFIDAVIT of EXPENDITURE on PLACER LEASE. Name Lease No .....

☐ ASSIGNMENT of PLACER LEASE No. .....
From To:

☐ GROUPING APPL'N UNDER SEC. 52(2) PLACER MINING ACT.
Owner:

☐ DIAMOND DRILL LOGS.
Claims Claim sheet no.

☑ QUARTZ ASSESSMENT REPORT
Claims: Tom 147-183 Claim sheet no. 105-O-1

Type of report.
Geological, Geochemical.

Submitted by:
Hudson Bay Exploration and Development Company Limited

Cls. work performed on:
Tom 167, 169

$ Req. for ren. application
$ 4,625.00

Signature

REPLY ACTION Date Ret.

Signature

GROUP THREE

Department of Indian Affairs and Northern Development

YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

RECEIVED
9 SEP 1980
MINING RECORDER
WATSON LAKE, Y.T.
I.A. & N.D.

OFFICE DATE STAMP

I (Name) Gerald E. Bidwell Occupation Geologist

(Postal Address) 62 Klondike Road, Whitehorse, Yukon

MAKE OATH AND SAY, THAT:-

1. I am the owner, or agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have done, or caused to be done, work on the following mineral claim(s):
(Here list claims on which work was actually done by number and name)

YA 45467 - Tom 167

YA 45469 - Tom 169

situated at 63°08'N 130°08'W Claim Sheet No. 105 0/01

in the Watson Lake Mining District, to the value of at least 1250.00

dollars, since the 1st day of August 19 80,

to represent the following mineral claims under the authority of Grouping Certificate No. 2651 (green)
(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested).

YA 45447 - YA 45456 TOM 147 - 156) 1.25 years renewal requested for each claim to November 27, 1981.

Total of 12.5 years

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

Geological mapping and geochemical sampling - August 17 to August 26, 1980.

(See accompanying letter.)

Sworn before me at WHITEHORSE, YUKON

this ____ day of SEP 08 1980 19__

M. Southcott
Notary Public

Applicant.

TABLE OF CONTENTS

LIST OF FIGURES

1. INTRODUCTION:

The Tom Claims Tom 147 - Tom 183 were staked and recorded during August 1979. The claims were staked to cover the possible southern extension of the ore zone located on the Tom lease (Tom 1-146).

The claim group was explored between August 17, and August 25, 1980. Geological mapping was primarily directed toward outlining the stratigraphic units of the Tom deposit area. Rock samples were collected and analyzed for Pb/Zn/Ag content along the 3a-3b contact.

A small soil sample grid was established to cover the contact in an overburden covered valley area. The baseline was run approximately parallel to the expected bedding attitude and transverse section lines were run at 100 meter intervals. Soil samples were collected at 25 meter intervals along the section lines adjacent the baseline and at 50 meter intervals over 100 meters from the baseline. Soil samples were analyzed for Pb/Zn/Ag content in parts per million.

All samples were analyzed by Bondar-Clegg and Company Limited of 136B Industrial Road, Whitehorse, Yukon Territory.

All results and data were compiled at the Whitehorse office of Hudson Bay Exploration and Development, Company, Limited and are here in presented.

2. LOCATION AND ACCESS:

The Tom claims (147-183) are located in the Watson Lake Mining District on claim sheet 105-O-1 approximately centered at $63^{O}08'N$ $130^{O}06'W$.

The claims are accessible by helicopter from the Macmillian Pass airstrip which is 5 miles north west of the property. The airstrip is located along the North Canol Road approximately 140 miles north of Ross River.

The claims are adjacent the south east boundary of the Tom mineral lease as indicated in Figure 1.

3. PERSONNEL:

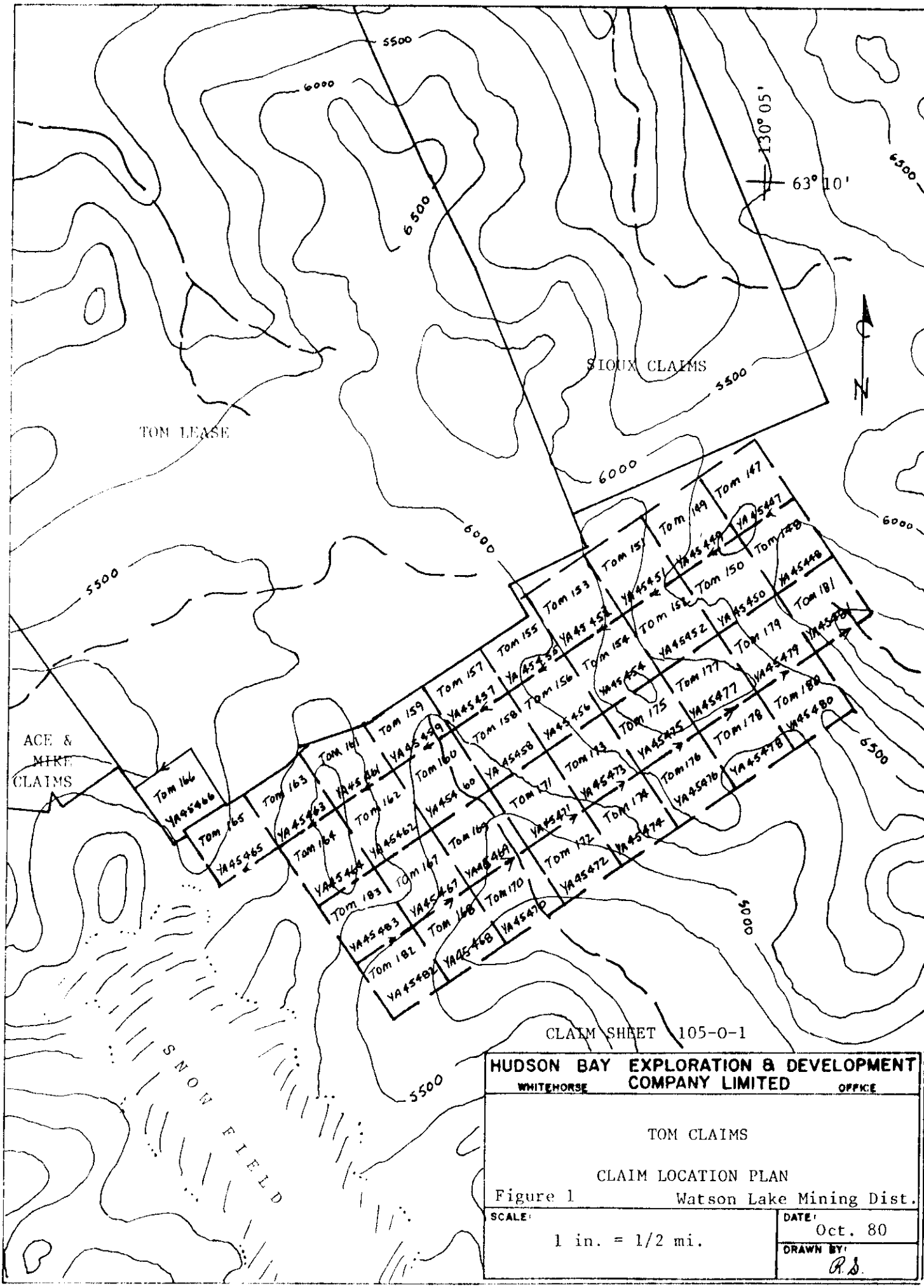
The personnel assigned to the project were:

R. Stroshein	Project Supervisor
D. MacFarlane	Field Geologist
R. Francey	Field Assistant
C. Morgan	Field Assistant

All personnel were employed by Hudson Bay Exploration and Development Company, Limited and can be contacted through 100-10 Burns Road, Whitehorse, Yukon Territory. Y1A 4Y9.

4. CLAIM OWNERSHIP:

The exploration report covers the claim group Tom 147-183 (YA45447-YA45483). See Figure 1. The total number of claims is 37 all are wholly owned by Hudson Bay Exploration and Development Company, Limited of 100-10 Burns Road, Whitehorse, Yukon Territory. Y1A 4Y9.



CLAIM SHEET 105-O-1

HUDSON BAY EXPLORATION & DEVELOPMENT COMPANY LIMITED

WHITEHORSE OFFICE

TOM CLAIMS

CLAIM LOCATION PLAN

Figure 1 Watson Lake Mining Dist.

SCALE:	DATE:
1 in. = 1/2 mi.	Oct. 80
	DRAWN BY: R.S.

5. GEOLOGY:

See Figure 2. Tom Claims Geology.

The area outlined by Tom claims 147-183 covers the southern portion of the Tom paleo-sub-basin which was of tectonic origin. Hydrothermal systems were active in the basin at several localities and different times as evidenced by the deposits of the Tom and Jason properties. Under these circumstances any area of the basin is a potential exploration target.

The identification of the geological outline of the basin into the claims area led to the staking of the ground and the subsequent exploration. Geological mapping was used to locate the geological units relative to the units recognized near the Tom deposit. The unit divisions and nomenclature recognized in the Tom deposit area is used in the new claim area.

The oldest unit outcropping on the claims is the lower Canol Formation Unit 1. The unit is comprised of grey to grey-brown weathering silty shale and siltstone beds.

Unit 2 overlying the silty shale unit consists of massive chert pebble conglomerate with minor quartzite and cherty argillite interbeds. The chert pebble conglomerate is composed of rounded to sub rounded clasts of chert, shale and argillite in a fine siliceous matrix. It is believed the unit was deposited as a debris flow which occurs extensively in the region.

The overlying Unit 3a is composed of dark grey to black sand banded argillite. Bands are generally very fine and commonly can be termed laminated. The silty bands commonly contain finely disseminated pyrite.

The overlying Unit 3B is composed of silver-grey weathering carbonaceous argillite. The west zone deposit on the Tom is hosted by the 3b unit at the lower contact with the Unit 3a. The argillite is locally siliceous and referred to as cherty. Generally the unit is very thin bedded yielding wafer thin talus. Locally some beds are marginally thicker and upper sections include interbedded platey black carbonaceous limestone beds.

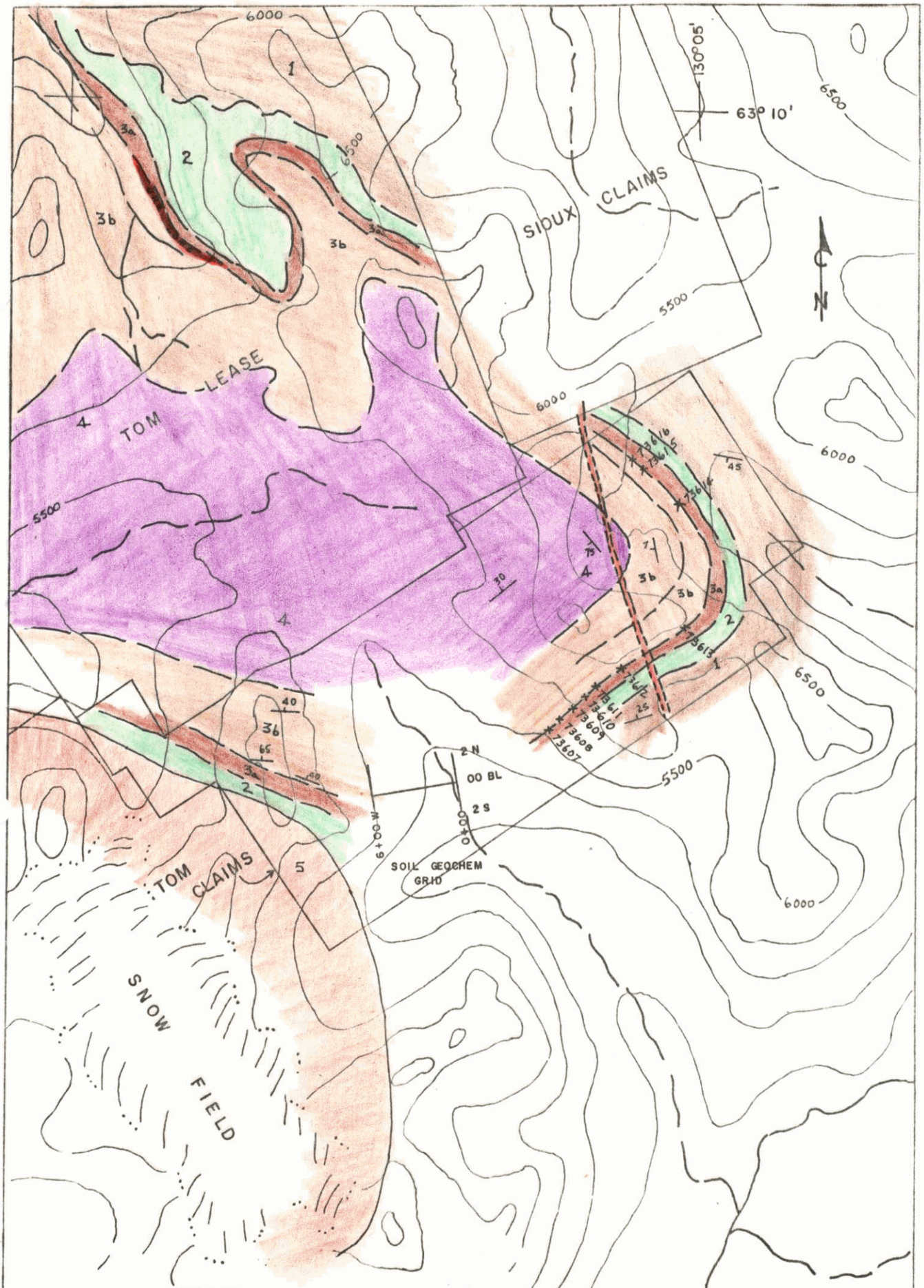
The youngest sedimentary unit is correlative with the lower Imperial Formation, Unit 4. The unit consists of brown weathering well bedded siltstone and silty shale beds.

A medium grained granodiorite cretaceous stock has intruded the sediments in the south western area of the claim group. A narrow acid dyke probably related to the granodiorite stock cuts the sedimentary units in the north-eastern area of the claim group. Contact metamorphic aureoles occur adjacent both intrusive bodies.

6 GEOCHEMISTRY:

The geochemical prospecting conducted this season was directed to exploring for near surface deposits along the 3a-3b contact. To test the horizon, rock samples were collected from available outcrops and a small soil sampling grid was established in the overburden covered stream valley.

The locations of rock samples are indicated on Figure 2. The samples were analyzed by Bondar-Clegg and Company Limited of Whitehorse, Y. T. for Pb/Zn/Ag content and are reported in % values.



LEDGEND:

- 5 Unit 5 : Granitic intrusion
- 4 Unit 4 : Quartzite and Siltstone
- Unit 3b : Carbonaceous Argillite
- 3a Unit 3a : Sand-banded Argillite
- 2 Unit 2 : Chert Pebble Conglomerate
- 1 Unit 1 : Silty Shale and Siltstone

CLAIM SHEET 105-O-1

HUDSON BAY EXPLORATION & DEVELOPMENT COMPANY LIMITED	WHITEHORSE OFFICE
TOM CLAIMS	
GEOLOGY	
Figure 2	Watson Lake Mining Dist.
SCALE: 1 in. = 1/2 mi.	DATE: Oct. 80
	DRAWN BY: R.S.

The results reported are as follows:

Sample No.	Sample Width (m)	Pb%	Zn%	Ag oz./ton
73607	3	0.05	0.01	0.15
73608	3	< 0.01	<0.01	<0.05
73609	3	0.13	< 0.01	<0.05
73610	3	<0.01	<0.01	<0.05
63611	3	<0.01	<0.01	<0.05
73612	3	<0.01	<0.01	<0.05
73613	3	<0.01	<0.01	<0.05
63614	3	<0.01	<0.01	<0.05
63615	3	<0.01	<0.01	<0.05
63616	3	<0.01	<0.01	<0.05

All results are insignificant except sample number 73607 and 73609. These results are only marginally interesting because they are slightly higher than the remainder of the samples

The results of the soil sampling survey are indicated in Figures 3, 4 & 5. Results are reported in parts per million of Pb/Zn/Ag. Analysis was conducted by Bondar-Clegg and Company Limited of Whitehorse by Atomic absorption.

The following is the result of statistical analysis of the data for each element:

Element	n	$\bar{x}$	σ	Poss Anom	Anom.
Pb	87	22	8	30	38
Zn	87	52	55	107	162
Ag	87	.6	.7	1.3	2.0

All results are in ppm.

Possibly anomalous values are 1 standard deviation above the mean value.

Anomalous values are 2 standard deviations above the mean value.

The contours for the mean value, possibly anomalous and anomalous thesholds are indicated in the figures.

No significant patterns have been indicated. There is a concentration of anomalous Ag values in the eastern area of the grid. This in the area closest the stream in the valley bottom.

7. CONCLUSIONS AND RECOMMENDATIONS:

Geological mapping on the property indicates the extension of the Tom paleo-sub-basin. Hydrothermal systems have been active within the basin at different localities and at different times.

The results of rock and soil sampling this past season do not indicate the presence of near surface economic sulphide deposits along the 3a-3b contact.

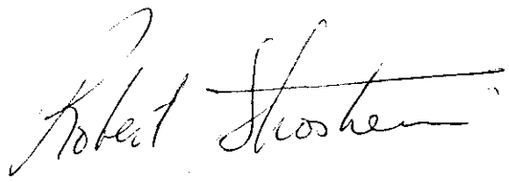
The potential for economic deposits does exist on the property. Further exploration should be directed toward the possibilities of deposits at depth or at different horizons within the stratigraphic section.

To explore for these possibilities is recommended to:

1. Conduct a magnetic survey over the property. The initial survey should be a reconnaissance nature which can be filled in contingent on the results.

2. Conduct a systematic rock sampling survey from all units at various locations on the property. The samples should be analyzed for possible hydrothermal system indicator elements. A closer examination and sampling of the 3a-3b contact area in the vicinity of rock samples 73607-609 is also recommended.

The metallogeny of shale hosted sulphide deposits accents the importance of exploration for similar deposits within tectonically controlled sub-basins of known occurrences. All areas of the Tom paleo-sub-basin warrant detailed evaluation.



6 W | 5 W | 4 W | 3 W | 2 W | 1 W | 0 + 00

.17	.14	.16	.34	.15	.9	.46
.19	.13	.11	.15	.23	.11	.23
.37	.28	.24	.13	.16	.17	.29
.24	.26	.17	.20	.17	.18	.17
.29	.46	.26	.17	.19	.13	.18
.29	.24	.23	.13	.14	.35	.16
258° ← 23	22	26	21	14	28	38
.36	.25	.28	.18	.23	30	.23
34	.24	.23	.20	22	.27	.34
	.26	.29	.16	.19	.25	.10
	.32	.21	.18	.25	.19	.14
	.26	.26	.20	.27	.14	.17
	.26	.22	.25	.18	.4	.15

2+00 N
1+00 N
00 BL
1+00 S
2+00 S

22
30
38

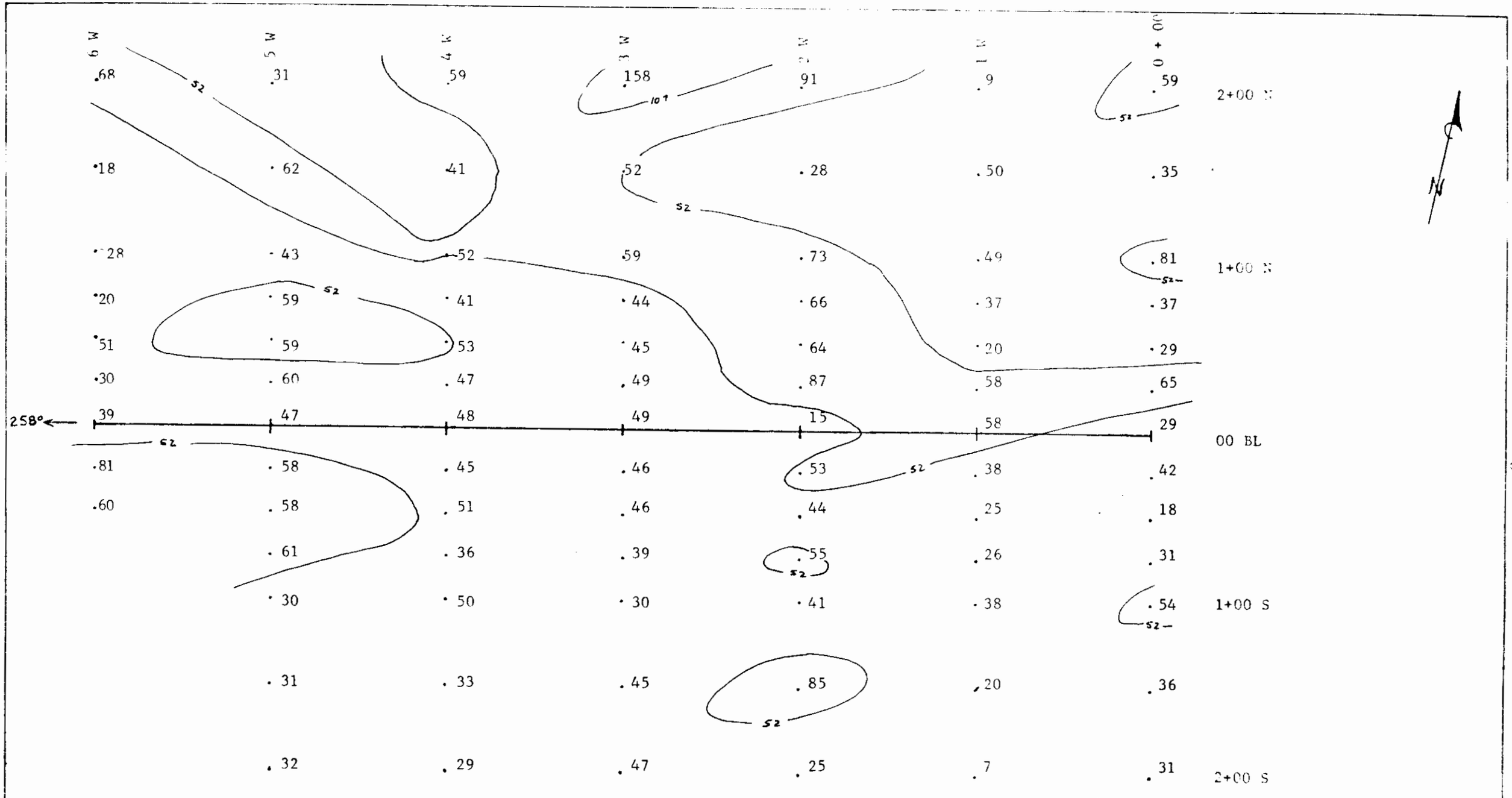
All results in parts per million

Figure 3

HUDSON BAY EXPLORATION & DEVELOPMENT COMPANY LIMITED
WHITEHORSE OFFICE

TOM CLAIMS
SOIL GEOCHEMISTRY
LEAD

SCALE 1:2500 (1 cm.= 25 m.)
DATE Nov. 80
DRAWN BY R.S.



All results in parts per million

Figure 4

HUDSON BAY EXPLORATION & DEVELOPMENT COMPANY LIMITED
WHITEHORSE OFFICE

TOM CLAIMS

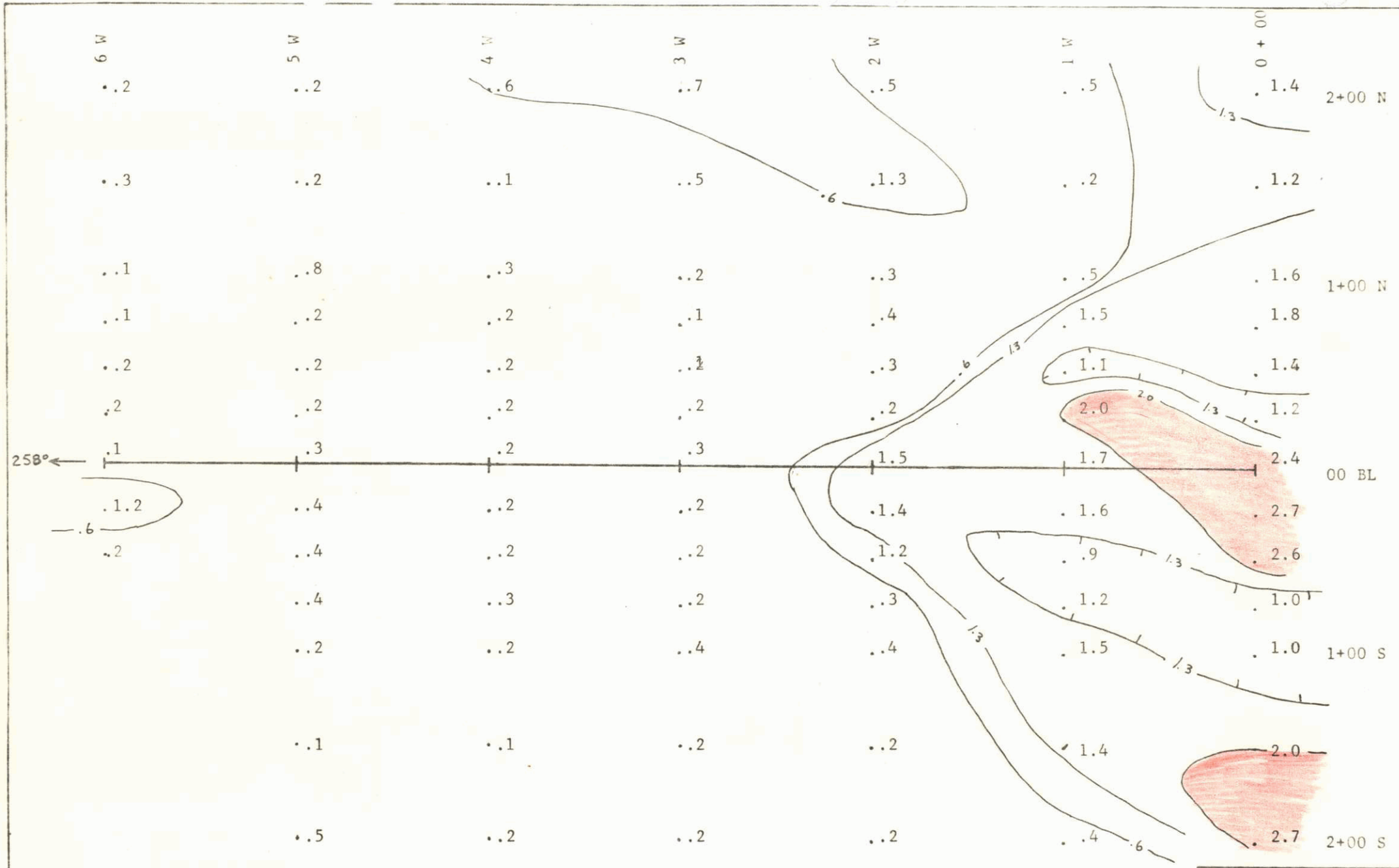
SOIL GEOCHEMISTRY

ZINC

SCALE 1:2500 (1 cm. = 25 m.)

DATE Nov. 80

DRAWN BY A. S.



All results in parts per million

Figure 5

HUDSON BAY EXPLORATION & DEVELOPMENT COMPANY LIMITED	
WHITEHORSE OFFICE	
TOM CLAIMS SOIL GEOCHEMISTRY SILVER	
SCALE 1:2500 (1 cm.= 25 m.)	DATE NOV. 80 DRAWN BY R.S.

APPENDIX I

REVIEW OF EXPENDITURES

TOM 147 - 183

AUGUST 17 - 25, 1980

WAGES	
3 men x 10 days x $50.00/day	1,500.00
HELICOPTER FEES	
4.6 hrs. @ 375$/hr.	1,725.00
FUEL COSTS	
105 gals. @ 3.00$/gal.	315.60
ASSAY COSTS	
10 rock samples @ 18.00$/sample	180.00
Sample prep. 10 @ 2.00$/sample	20.00
87 Soil samples @ 3.15$/sample	274.05
Sample prep. 87 @ .50$/sample	43.50
CAMP COSTS	
3 men x 10 days @ 25$/day	750.00
TOTAL -	$ 4,808.15

APPENDIX II

ROBERT W. STROSHEIN

ADDRESS: #303 - 504 Drury Street,
Whitehorse, Yukon Territory.
Y1A 1T4

EDUCATION: B. Sc. (Geological Engineering) from
University of Saskatchewan
Graduated in 1973

EMPLOYMENT: 1973 - 1980 Hudson Bay Exploration & Development Co. Ltd.

Flin Flon Office 1973 - 1975
Drill Geolgist - field supervisor of diamond drill projects Northern Manitoba and Saskatchewan.

Whitehorse Office 1975 - 1980
Project Geolgist - field supervisor of geological mapping, geophysical, geochemical and prospecting programs in the Yukon Territory.
Included report preparation and assessment.