

## SUMMARY REPORT

Trans Yukon Exploration Ltd.  
Lindsay Group, Quiet Lake Area  
105-C-14, Whitehorse, M.D., Y.T.

by  
P.H. Sevensma, Ph.D., P.Eng.

### SUMMARY

During May, June and July 1968, general exploration was conducted on an area covered by 204 claims of the Lindsay Group. No work was done on the 32 claim Joe Group.

Finding of high nickel-manganese values in rusty spring deposits on the NE side of an ultrabasic intrusive led to an airborne EM and magnetic survey in February 1968, to examine the area surrounding the ultrabasic for conductive and or magnetic zones which could reflect the presence of sulphide occurrences.

Two grids with 800' line spacing, totalling 30 line miles, were cut in the areas where the airborne survey had revealed the existence of conducting zones.

A.R. Parker and Associates took a number of soil samples of which 320 at 400' spacing were submitted for assay.

A Sharp SE 300 EM survey and a MFl magnetometer survey was conducted by the same firm over these grids.

A late spring and from 3' to 5' of packed snow in May slowed down the surveys on the initial stages.

Some conductive and magnetic zones were located on the ground on the SW grid, but none were found to be associated with any significant geochemical anomalies.

The SE grid did not reveal any conductive zones nor any significant geochemical values; in this area, the lack of outcrop suggests a significant thickness of overburden, possibly exceeding 100', which

explains the lack of any geochemical or ground electromagnetic anomalies.

Some check sampling in the NE area confirmed a weak lead anomaly previously located by Newmont Mining Corp. and associated with a conducting zone and an elongated magnetic high.

Soil samples in the mineral spring area failed to find high nickel values; previous samples of the gossan taken by the writer have revealed significant values in this metal.

The general conclusion from the soil sampling and the geophysical work carried out is that there is no evidence of any significant sulphide zone with an outcrop in the bedrock; there is, for instance, no accumulation of basic-metal in the central depression extending south from Quiet Lake.

The areas of remaining interest may be listed as follows:

1. SW grid, line 16+00 N at 1000'W:

60PPM Pb and 125PP Ni at the end of the line, about 1000' South of the Newmont line showing higher lead values. Some prospecting and additional soil sampling is justified, as a base metal source could lie West of the SW grid in this area.

2. The weak lead anomaly from line 20 S to line 30 S in the old Newmont grid, which lies on the flank of a topographical high, along a near-coincident magnetic and EM anomalous zone. Stripping and more detailed soil sampling should indicate whether drilling of this anomaly is justified.

3. The high nickel values previously found in the gossan associated with the mineral spring. It is not likely that in this environment high nickel will result from the breakdown of the normal nickel content in the nearby basic intrusive. Further bulldozer stripping and sampling in this locality would enable a better assessment of the gossan, which remains the most intriguing feature of the property.

4. The Joe claims, where copper-bearing float has been reported, should be prospected in detail. Confirmation of a float occurrence here could be very significant.

5. An EM-16 survey on lines 16 N to 64 N in the SE grid and some soil sampling between contour lines 2500' and 2600' to the SE of the grid would show whether any base metal drains out of a conductor lying under deep overburden. This work should be undertaken after prospecting of the nearby Joe claims has been completed, as the follow-up of a reported float occurrence must have first priority.

The cost of a program covering these five features is estimated at \$10,000.00.

This program should decide whether any of these target areas warrants drilling.

If so, a drilling program of from 1500' - 4000' may be indicated at an estimated cost of from \$25,000.00 - \$50,000.00.

PROPERTY

The property consists of the following claims:

| <u>Name</u>                 | <u>Grant No.</u>       | <u>Record Date</u> |
|-----------------------------|------------------------|--------------------|
| Hidden Minerals             | Y 8289                 | June 2             |
| Mineral Springs             | Y 8290                 | June 2             |
| Mineral 1-16 inc.           | Y 9773 - Y 9788 inc.   | Aug 1/66           |
| Spring 1-16 inc.            | Y 9789 - Y 9804 inc.   | Aug 1/66           |
| Gossan 1&2, 4-7 inc.        | Y 9805 - Y 9810 inc.   | Aug 1/66           |
| Gossan 8                    | Y 20926                | Sept 11/67         |
| M.S. 32-46 inc.             | Y 10415 - Y 10429 inc. | Sept 9/66          |
| Quiet 1-10 inc.             | Y 20916 - Y 20925 inc. | Sept 11/67         |
| South 1-6 inc.              | Y 20927 - Y 20932 inc. | Sept 11/67         |
| Core 1-14 inc.              | Y 20933 - Y 20946 inc. | Sept 11/67         |
| South 1-6 inc.              | Y 23325 - Y 23330 inc. | Jan 29/68          |
| Lakeshore 1-30 inc.         | Y 23275 - Y 23304 inc. | Jan 29/68          |
| West 1-20 inc.              | Y 23305 - Y 23324 inc. | Jan 29/68          |
| South 7-40 inc.             | Y 23831 - Y 23864 inc. | Feb 22/68          |
| West 21-30 inc.             | Y 23865 - Y 23874 inc. | Feb 22/68          |
| Joe 5,6, 17-26 inc.         | Y 23956 - Y 23967 inc. | Mar 11/68          |
| M.S. 47,48,51,52,54-60 inc. | Y 23968 - Y 23978 inc. | Mar 11/68          |
| Joe 1-4, 7-16 inc.          | Y 22751 - Y 22764 inc. | Mar 15/68          |
| Lakeshore 31,33,34          | Y 22771 - Y 22773 inc. | Mar 15/68          |
| Lakeshore 32                | Y 22777                | Mar 15/68          |
| Joe 27-32 inc.              | Y 22765 - Y 22770 inc. | Mar 15/68          |
| M.S. 53,49,50               | Y 22774 - Y 22776 inc. | Mar 15/68          |

(236)

The group lies nearly entirely on claim sheet 105-c-14, south of Quiet Lake, between elevations of 2500' and 3500' in a well forested area

of rolling hills, with direct access from the Canol road which lies just east of the eastern property boundary.

Access is by road from Whitehorse, a distance of about 135 miles by road.

#### GEOLOGY

In May, geological mapping was carried out by T.J. Sadlier-Brown of the firm of P.H. Sevensma Consultants Ltd. As no new geological information has been uncovered since the date this report was written, it has been incorporated in this report as originally written.

The only change in this report is the age of the ultrabasic, which is very likely to belong to the Paleozoic group of ultrabasics, and not the Mesozoic ones known elsewhere in the Yukon.

THE GEOLOGY  
of

THE LINDSAY GROUP OF CLAIMS  
Quiet Lake Area, Yukon  
June 7, 1968, by T.J. Sadlier-Brown

1. INTRODUCTION

Early in May, 1968, line cutting and survey work was initiated in the part of the claim group known as the southwest grid area. A base line 15,300 feet long and bearing  $40^{\circ}$  was put in along the trend of an airborne EM anomaly which appeared to be associated with basic rocks known in the area. Cross lines were cut at 800 foot intervals along the line and geochemical sampling, magnetometer, and EM surveys were carried out on the grid by Ace Parker and Associates of Whitehorse. Results were plotted at a scale of 200' to the inch.

A geological survey of the grid and adjacent areas was carried out late in May and results have been plotted on a reconnaissance scale of 1000' to the inch.

2. GEOLOGY

Outcrop in the map area is not common being almost completely restricted to either creek beds or mountain tops. Overburden consists for the most part of well bedded gravel, sand and clay. In the north-south trending valley south of Quiet Lake no outcrop at all has been seen and overburden is probably very thick. The southern two thirds of the southwest grid, however, are on the east slope of a mountain and, although overburden cover is nearly complete, it is probably comparatively shallow; to the order of five or ten feet.

The oldest rocks in the area are the metamorphics of the Big Salmon Complex (1), a series of Mississippian schists, quartzites, and

and gneisses. These appear to underly much of the property and are present to the east and southeast of Quiet Lake as well as to the south part of the grid and adjacent areas.

In the vicinity of the grid the strata have a general northwesterly strike and northeasterly dip. Folding, however, has been observed in the banks of Quiet Creek west of the grid.

Except for a few flecks of pyrite, no sulphide mineralization has been seen in these rocks, but boulders of graphite-bearing quartz occur in the trench 4500' east of the north end of the base line. These are probably derived from graphitic quartz veins cutting the schist and quartzite.

The metamorphics appear to have been intruded by both granitic (?) and ultra-basic (3) rocks.

Immediately west of the southern end of the grid is the assumed location of a north-south striking contact between the bedded rocks to the east and a body of Cretaceous granite to the west. The contact extends northwest for an undetermined distance and south for at least 4000 feet.

For the most part the granite is medium to coarse grained, white, or faint pink, and massive. In the bed of Cottonwood Creek immediately south of the grid, however, and probably fairly near the contact the rock is fractured, extensively weathered, and rust stained. Dominant joints are at  $320^{\circ}$ .

Signs of old workings were found in a canyon in the granitic rocks on Cottonwood Creek, but these are thought to be left over from a small placer operation.

Only small amounts of pyrite were seen in the wall of the canyon and panning the creek gravels produced negative results. A rock chip

sample from the outcrop was taken for geochemical analysis and gave the following results: Cu- 63 PPM; Mo- 15 PPM.

Granitic rocks have been observed at one other locality on the claim group; the small circular hill about a mile east of the south end of Quiet Lake between the access road and the little lake at elev. 2854. The west side of the hill is composed of fine to medium grained white granite with sparse chloritized mafic material. It is massive and in places has a sugary texture.

Striking north-south through the middle of the hill is a sharp contact between the granite and a band of grey-brown schistose and gneissic rocks believed to be part of the Big Salmon Complex. These underlie the eastern half of the hill and are composed of mica, quartz, white feldspar, chlorite, some small garnets, and a few flecks of pyrite. A rock chip geochemical sample ran Cu- 156PPM, Ni- 48PPM. Soil overlying the schist on the north slope of the hill ran Cu- 90PPM, Ni- 42PPM.

The central portion of the southwest grid is underlain by fine grained Mesozoic (?) ultrabasic rocks which are fairly well exposed on the banks of Quiet Creek. They form a body of irregular shape which seems to extend off the grid to the southeast. The rock types comprising the body are serpentized dunite, steatite, and possibly peridotite. All are strongly magnetic and undoubtedly cause the magnetic anomaly south of Quiet Lake on the government aero mag sheet (105-C-14).

The rocks are usually massive although foliation was noted in an outcrop north of the creek between lines 16N and 24N at about 6+00 E. It's strike is roughly  $100^{\circ}$  with a vertical or near vertical dip. A geochemical rock chip sample from this ultrabasic body at 7N, 10E on the grid ran

Cu- 810PPM and Ni- 768 PPM.

About 5000 feet up Quiet Creek and due west of the point where it intersects the base line is a small ultrabasic body separated from the one on the grid by about 2000 feet of metamorphic rocks. It is similar in appearance to the larger intrusive and like it, quite magnetic. A rock chip sample of this ultrabasic ran as follows:

|            |              |
|------------|--------------|
| Cu- 30 PPM | Ni- 1992 PPM |
| - 15 PPM   | - 1332 PPM   |

The magnetite occurring in these rocks seems to have two modes of occurrence; either as fine individual disseminations or as very narrow parallel streaks or bands. These do not appear to be related to the foliation mentioned earlier and, in the particular outcrop described, are almost at right angles to it.

Pyrite has been seen only in very small quantities disseminated in the outcrops in the creek bed between lines 16N and 24N east of the base line.

The claim area appears to have been cut by a number of faults which are expressed as topographic linears on the air photographs.

The most prominent of these probable faults have been marked on the map.

Several gossan areas occur on the property. Two were seen in the depression roughly 3000 feet east of the end of line 81N. The most northerly is on a south facing slope which is possibly underlain by the quartzites of the Big Salmon Complex which are seen in the trench 1000 feet north of it. The other is associated with a mineral spring to which considerable previous attention has been given. A sample of ochreous material from the exposed gossan downhill from the spring ran Cu- 90PPM, Pb- 64 PPM, Zn- 112 PPM, Ni- 42 PPM. These values are somewhat different from earlier ones but

different parts of the area might be expected to produce varying results. Furthermore a seasonal variation could occur.

The spring, it should be mentioned, lies on or near an east-west trending topographic linear which may or may not be a fault.

A third gossan lies in the low area about 2 miles due south of the spring; where seen by the writer, it appears to be more dispersed than in the mineral spring area and consisted mainly of rust adhering to plant stems and leaves in a swamp. The area was partly covered by the southeast grid but no significant results were obtained from the geochemical samplings.

### 3. DISCUSSION & RECOMMENDATIONS

Geological mapping of the grid and adjacent area did not turn up any mineralization of significant economic value. Several localities are, however, recommended for closer prospecting.

Near the western limit of the map sheet is a limited area of ultrabasic rocks in which high nickel and low copper values were detected. Samples ran Cu- 30 and 15 PPM and Ni- 1992 and 1332 PPM. Chips of steatized ultrabasic from the main body ran by comparison Cu- 810 PPM and Ni- 768 PPM.

Because of the relatively higher Ni values which appear to be associated with the smaller body, it is suggested that closer prospecting be carried out over it. Preliminary examination of the Ni geochemical map suggests that the higher Ni values over the main body tended to come from it's western end.

A low priority could be placed on further prospecting in the granitic rocks present in the canyon on Cottonwood Creek due south of the south end of the grid. A chip geochem sample of granite from the locality ran Cu- 63 PPM and Mo- 15 PPM. The copper is slightly anomalous.

The general area in the western part of line 8S may be worth further work as conductive material was detected there. This may be significant as, although in a magnetically flat area, it is near the contact between the ultrabasic rocks and the metamorphics.

Further recommendation will be based on the complete interpretation of the geophysical results.

Respectfully submitted,

A handwritten signature in cursive script, reading "T.J. Sadlier-Brown".

T.J. Sadlier-Brown,  
Geologist,  
P.H. Sevensma Consultants Ltd.

STATISTICS:

Grids cut were as follows:

|                      | <u>S.W. Grid</u> | <u>S.E. Grid</u> | <u>Total</u> |
|----------------------|------------------|------------------|--------------|
| Basic line, feet     | 15,300           | 17,000           | 32,300       |
| Picket lines, feet   | 67,000           | 54,500           | 121,500      |
| Total                | 82,300           | 71,500           | 153,800      |
| Soil samples assayed | 197              | 123              | 320          |

Base lines were cut with a bulldozer where possible.

Soil samples were assayed by Whitehorse Assay Office, by hot extraction and atomic absorption.

Some assay difficulties were encountered and where as the Newmont lead values show about 30-70PPM over a background of from 15-20PPM, the last assay-series by Whitehorse Assay Office on the same area showed 20-40 PPM over a background of from 4-8PPM Pb.

RECOMMENDATIONS

It is recommended that further work be initiated by prospecting the Joe claims, where copper-float is said to have been found. If this can be substantiated and this float is of interest, further work on the remaining claims will be greatly influenced by the geological conditions under which this float occurs. If mineralization is found in place, this will have considerable bearing on further work in the area.

The mineral spring area is located near the intersection of major lineaments and along one of the major directions and the explanation of this feature should be sought within the immediate area.

The weak lead anomaly discovered by Newmont cannot be discounted as it lies astride an elongated moderate magnetic high and is associated with a conducting zone. It also lies on a gentle ridge.

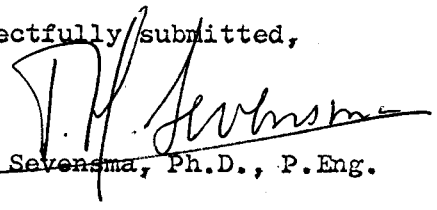
This feature is best investigated by bulldozer trenching including

trenching accross it at about 3400' south. Soil sampling in the trenches should reveal whether the lead values increase with depth and whether this target warrants drilling.

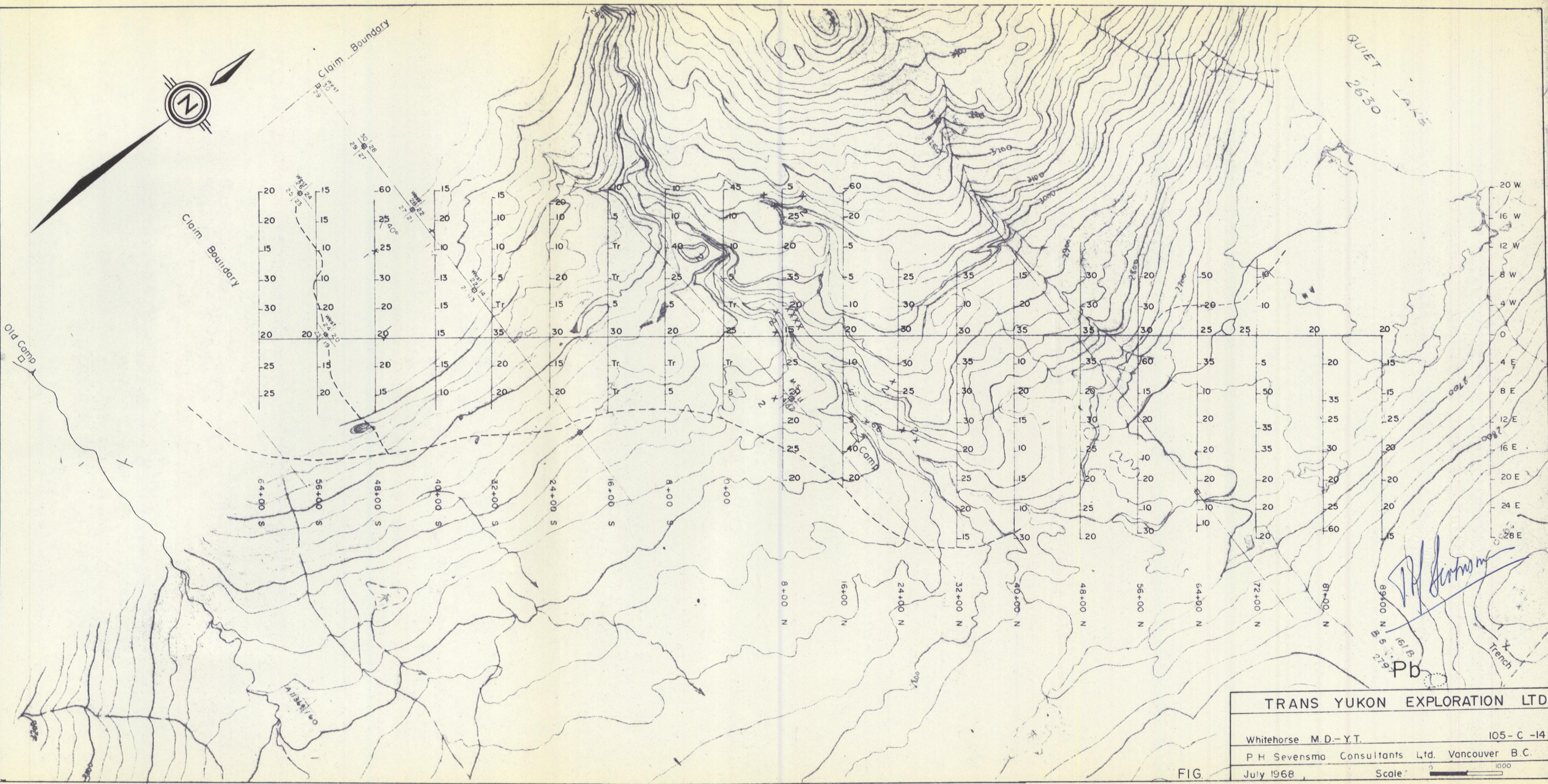
Providing a bulldozer can be made available without much ferrying cost, a budget of \$10,000.00 should be sufficient for this program.

Any success on the Joe claims could lead to a new program in the area, and it is essential that this ground be prospected first.

Respectfully submitted,

  
P.H. Sevensma, Ph.D., P.Eng.

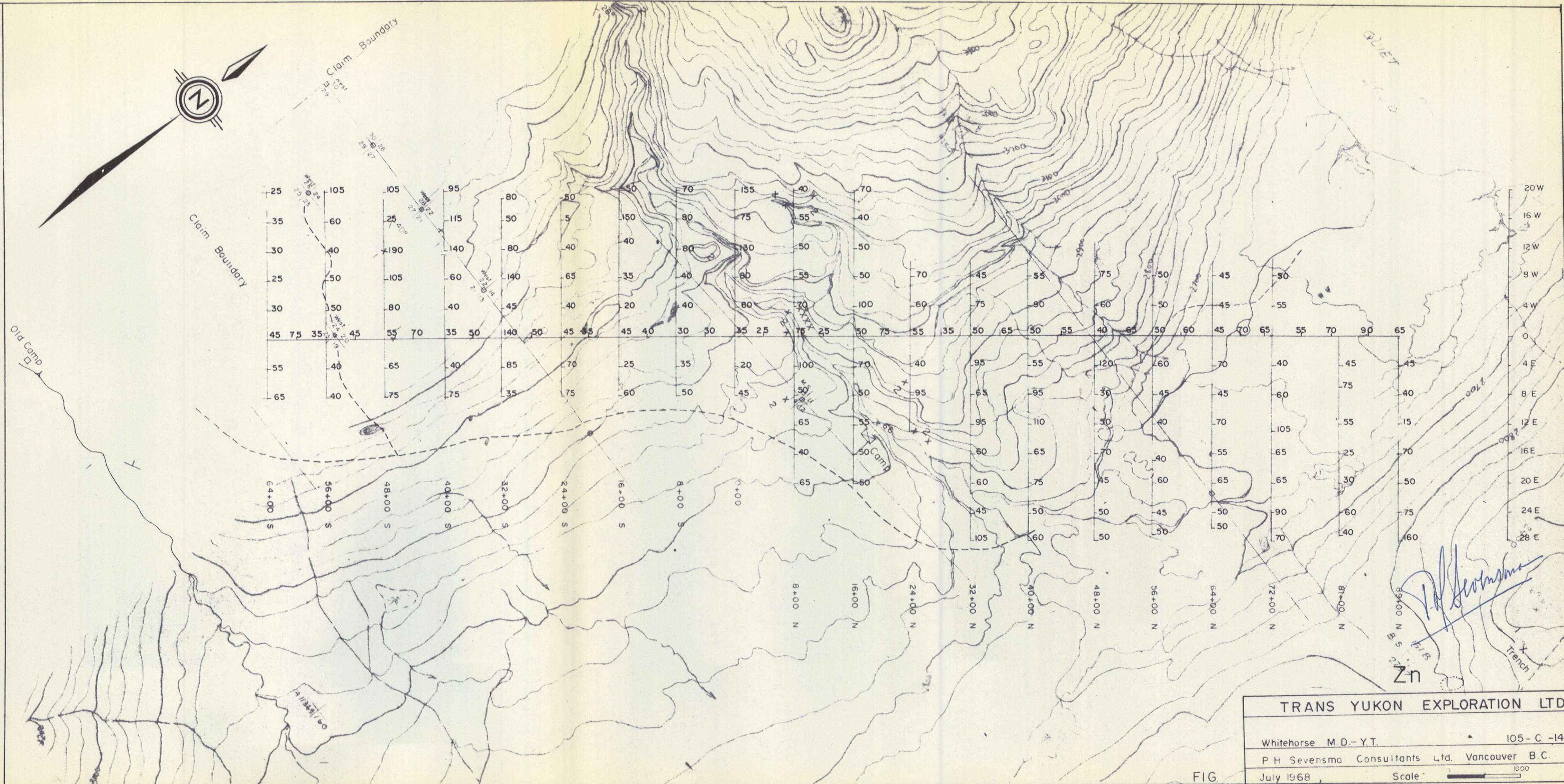
August 15, 1968.



|                                              |       |                                                                                       |
|----------------------------------------------|-------|---------------------------------------------------------------------------------------|
| TRANS YUKON EXPLORATION LTD                  |       |                                                                                       |
| Whitehorse M.D.-Y.T.                         |       | 105-C-14                                                                              |
| P H Sevensma Consultants Ltd. Vancouver B.C. |       |                                                                                       |
| July 1968                                    | Scale |  |

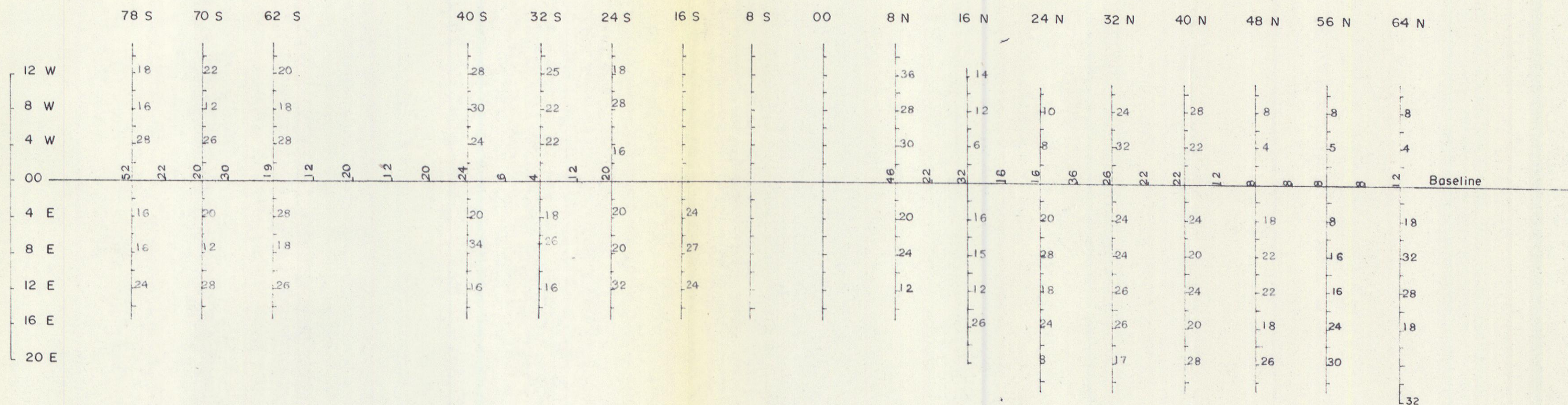
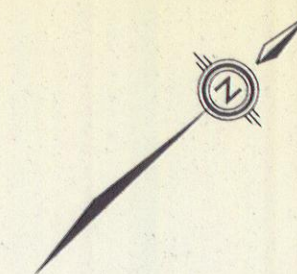
FIG.





| TRANS YUKON EXPLORATION LTD                   |       |          |
|-----------------------------------------------|-------|----------|
| Whitehorse M.D.-Y.T.                          |       | 105-C-14 |
| P.H. Sevensma Consultants Ltd. Vancouver B.C. |       |          |
| July 1968                                     | Scale | 1000     |



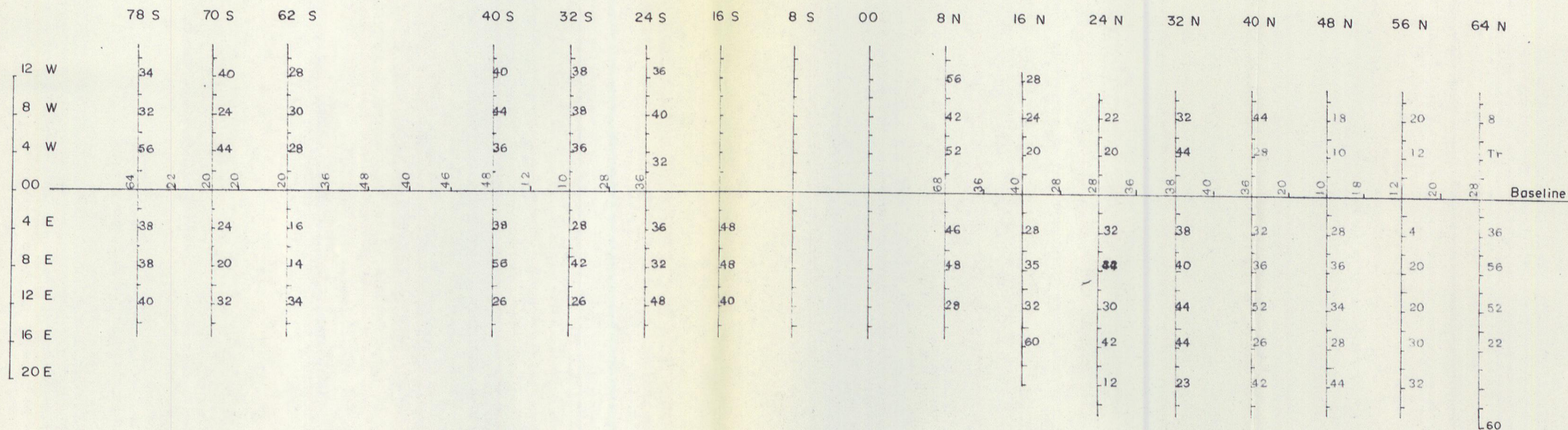
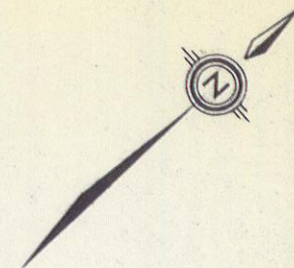


*P. H. Sevensma*  
Cu

Values in ppm  
Samples taken by A. Parker & Associates  
Samples analysed by Atomic Absorption  
by Whitehorse Assay Office, Report No. 40-123, July 6, 1968.

FIG.

| TRANS YUKON EXPLORATION LTD.                    |                |
|-------------------------------------------------|----------------|
| Whitehorse MD.-Y.T.                             | 105-C-14       |
| P. H. Sevensma Consultants Ltd.- Vancouver B.C. |                |
| July 1968,                                      | Scale: 0 1000' |



Values in ppm.  
Samples taken by A. Parker & Associates  
Samples analyzed by Atomic Absorption  
by Whitehorse Assay Office, Report No. 40-123, July 6, 1968.

*P. H. Sevensma*  
Ni.

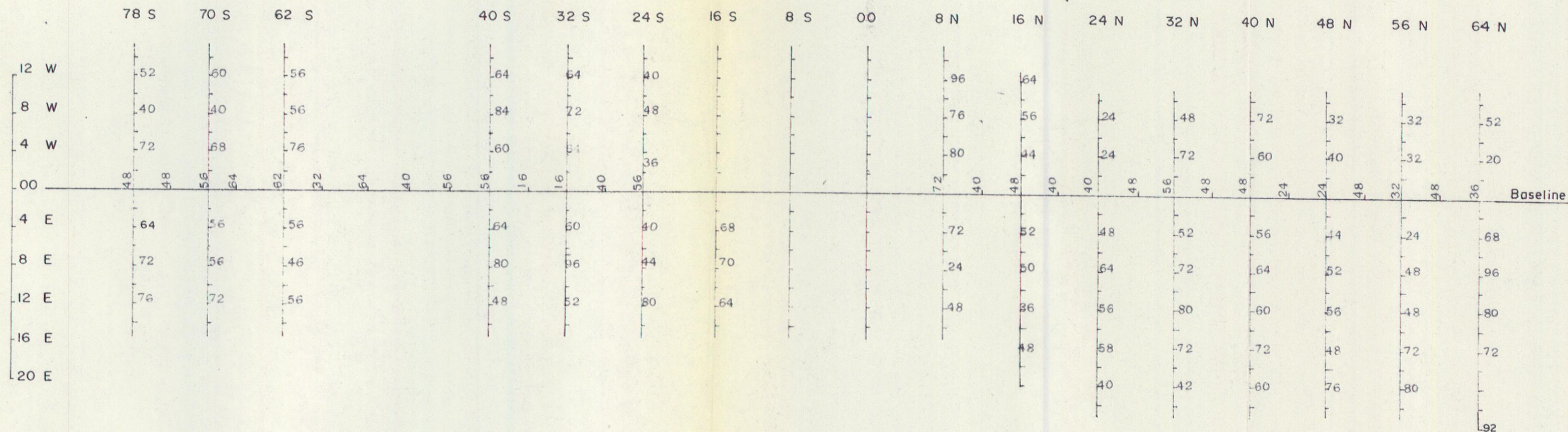
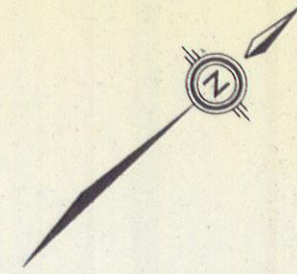
TRANS YUKON EXPLORATION LTD.

Whitehorse MD.-Y.T. 105-C-14

P. H. Sevensma Consultants Ltd.- Vancouver B.C.

July 1968, Scale: 0 1000'

FIG.

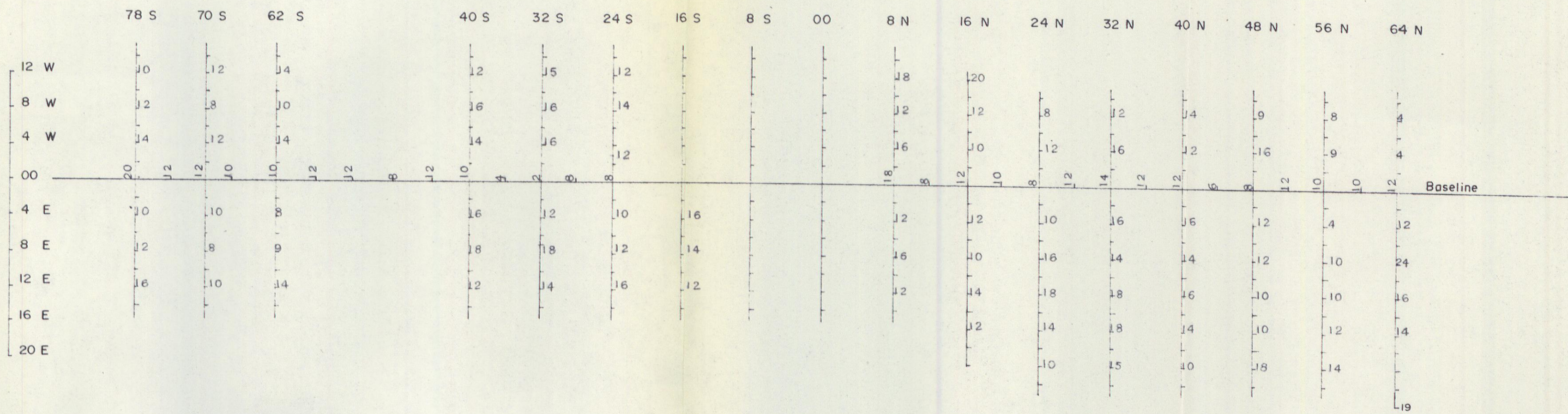
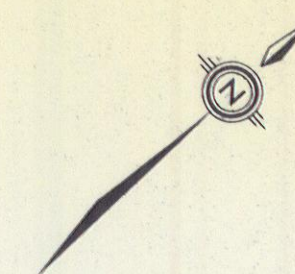


*P. H. Sevensma*  
Zn.

Values in ppm.  
Samples taken by A. Parker & Associates  
Samples analysed by Atomic Absorption  
by Whitehorse Assay Office, Report No. 40-123, July 6, 1968.

FIG.

|                                                 |                |
|-------------------------------------------------|----------------|
| TRANS YUKON EXPLORATION LTD.                    |                |
| Whitehorse MD.-Y.T.                             | 105-C-14       |
| P. H. Sevensma Consultants Ltd.- Vancouver B.C. |                |
| July 1968,                                      | Scale: 0 1000' |

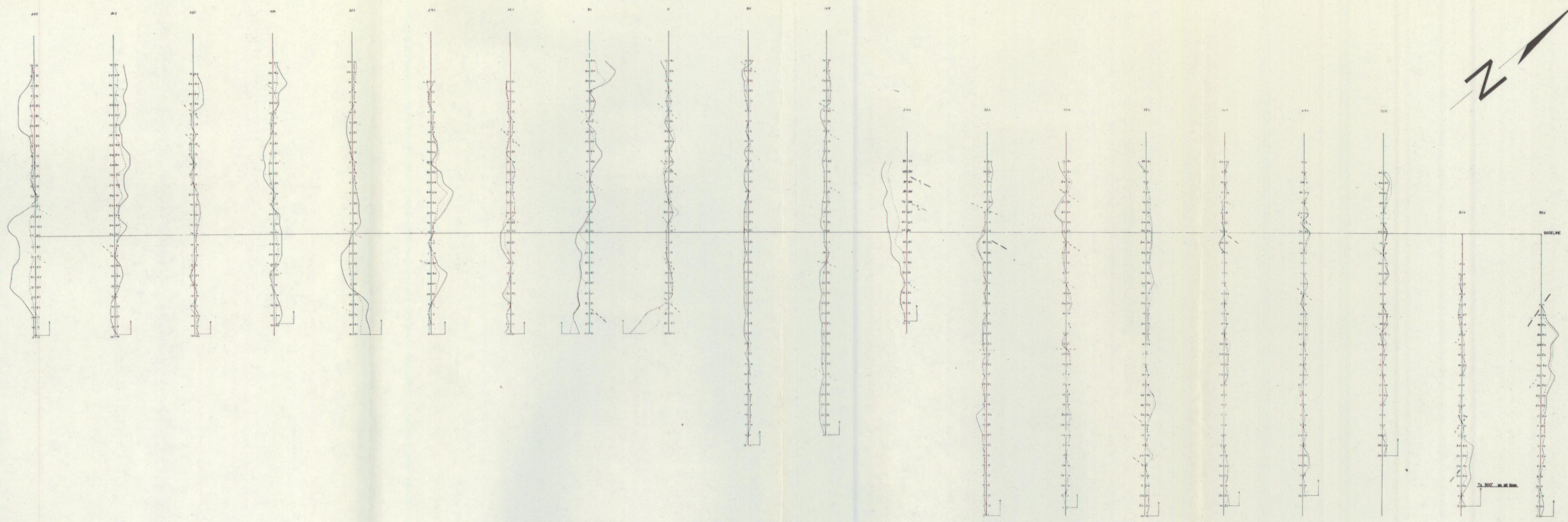


Values in ppm.  
Samples taken by A. Parker & Associates  
Samples analysed by Atomic Absorption  
by Whitehorse Assay Office, Report No. 40-123 July 8, 1968.

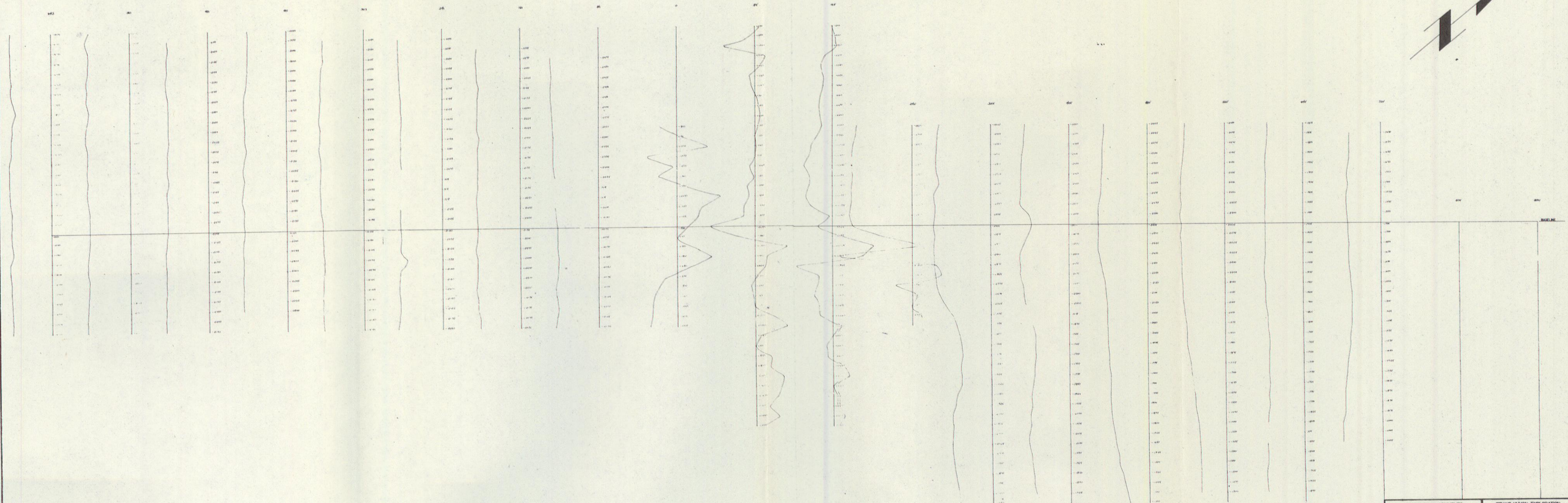
*P. H. Sevensma*  
Pb.

|                                                 |                |
|-------------------------------------------------|----------------|
| TRANS YUKON EXPLORATION LTD.                    |                |
| Whitehorse MD.-Y.T.                             | 105-C-14       |
| P. H. Sevensma Consultants Ltd.- Vancouver B.C. |                |
| July 1968,                                      | Scale: 0 1000' |

FIG.



|                                                                                                                                                                                                                                                             |  |                                                                                                                                                                                                                                                                                                   |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>GEOPHYSICAL COMMENTS</b><br>Instrument: SHARPE SE-300<br>400cps<br>800cps<br>TILT ANGLES<br>KPS In Line KPN<br>Scale (x 10)<br>Location of transmitter relative to receiver position is indicated on map.<br>Induced conductive zones<br>10000<br>100000 |  | <b>TRANS YUKON EXPLORATION RECONNAISSANCE E.M.</b><br><b>GEOPHYSICAL SURVEY</b><br>of the Lindsay Group<br>Whitehorse Mining District<br>ACE R. PARKER & ASSOCIATES<br>Mineral Industry Consultants & Constructors<br>DATE: JUNE 10, 1968<br>DRAWN BY: [Signature]<br>SCALE: 1" = 800'<br>DWS: NP |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|



|                                                                                  |               |                                                        |  |
|----------------------------------------------------------------------------------|---------------|--------------------------------------------------------|--|
| <b>GEOPHYSICAL COMMENTS</b>                                                      |               | <b>TRANS YUKON EXPLORATION<br/>RECONNAISSANCE MAG.</b> |  |
| — Instrument SHARPE MF-1                                                         |               | of the Lynx Group                                      |  |
| — Accuracy of survey: ± 25 gamma                                                 |               | Whitehorse Mining District                             |  |
| — Scale: 1" = 1000 gamma                                                         |               | ACE R PARKER & ASSOCIATES                              |  |
| — Due to the nature of the survey all results have been plotted in profile only. |               | Mineral Industry Consultants & Contractors             |  |
| DATE                                                                             | JUNE 10, 1966 | SEAL                                                   |  |
| DRAWN BY                                                                         | K. J. J. J.   |                                                        |  |
| SCALE                                                                            | 1" = 800'     |                                                        |  |
| DWG. No.                                                                         | 2             |                                                        |  |



**LEGEND**

|     |                                     |
|-----|-------------------------------------|
| 3   | Granite                             |
| 2   | Ultra Basic                         |
| 1   | Schist, Quartzite, Gneiss           |
| --- | Claim Line                          |
| --- | Grid Line                           |
| --- | Old Trail                           |
| x   | Outcrop Location                    |
| o   | Outcrop Area                        |
| o   | Gossan                              |
| --- | Geological Contact defined          |
| --- | " " approximate                     |
| --- | " " assumed                         |
| --- | determined from geophysical data    |
| --- | Topographic linear (possible fault) |
| --- | Shear                               |

Topography by Lockwood Survey Corp.

Newmont Grid  
Location of South East Grid not accurately tied in  
Most significant Newmont lead values

**TRANS YUKON EXPLORATION LTD.**  
**LINDSAY GROUP**

Whitehorse M.D.-Y.T. 105-C-14  
P. H. SEVENSMA CONSULTANTS LTD.-VANCOUVER, B.C.  
May 1968, 0 1000 2000 ft.

FIG.