A R E P O R T

on

PHYSICAL WORK,

GROUND MAGNETIC,

and an

ELECTROMAGNETIC SURVEY,

QUIET LAKE AREA,

WHITEHORSE MINING DIVISION,

YUKON TERRITORY

for

TRANS YUKON EXPLORATION LIMITED

by

R. J. LINDSAY

Whitehorse, Yukon Territory

MARCH, 1969

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ACCOMPANYING MAPS — MAP POCKET

(i) INTRODUCTION

Late in October 1968 work was commenced on the Quiet Lake Property of Trans Yukon Exploration Ltd., on the basis of certain recommendations made by P. H. Sevensma Consultants Ltd., in a summary report. In his report to the company Dr. Sevensma recommended that a limited amount of trenching be done at certain points, covered by the Newmont Grid, only if a bulldozer could be made available on the property without too much cost. The company was able to transport their own bulldozer onto the property after the cessation of work on their Oxo Claims.

At the time that the bulldozer trenching was commenced on the Lindsay Group, the writer decided that a new grid would be started to cover an area in which several small E.M. anomalies were indicated by a previous airborne survey, the area lies between the two grids completed during last summers programme.

(ii) PHYSICAL WORK

TRENCHING

Trench 24-S

Using the Company D7E bulldozer, trenching began on line 24-S on the Newmont Grid, at a point 600 feet west of the base-line, thence towards station 2-E. At the point where trenching commenced the over-burden proved to be 4 feet deep, however, this gradually deepend to 10 feet at about Station 4.50W there the bedrock began sloping away very steeply towards Station 2E. Trenching continued in this direction to Station 3.75W, where a depth of 42 feet was attained, without reaching bedrock. Ground water seepage was encountered and deepening of the trench became increasingly difficult, work at this point was discontinued.

Trenching continued at Stations 2E on line 24-S, the overburden at this point proved very shallow for a distance of about 50 feet towards Station 1E-24S, here the bedrock dropped off suddently to 30 feet or more, the trenching was discontined after this depth was reached due to bad caving.

Trench 28-N (12-14W)

Trenching here began at Station 12W and continued to 14W, overburden proved to be 2-3 feet deep, however, at station 14W, the bedrock dropped off steeply to the west, the trench was deepend to 10 feet at this point without encountering bedrock, work was discontinued.

Trench 20-N (8-10W)

Overburden in this trench proved to be about the same depth as in trench 28-N, with the same steep drop off in the bedrock at the western limit, in addition a short section was trenched at Station 5-6W, the bedrock appeared to be slopping off to the east at this point.

Trench 20-N (7-9E)

Overburden in this vicinity proved to be deep, the trench was deepend to 25 feet without reaching bedrock, work was discontinued due to possible caving in the trench.

Trench 16-N (0-2W)

This trench was not completed, work was halted due to extreme winter conditions, the trench was 4 feet deep when work was discontinued.

(iii)DISCUSSION

The purpose of the trenching was partly to find the cause of indicated geochemical and geophysical anomalies, and to comply with provisions of the Yukon Quartz Mining Act, which made it necessary to perform physical work on this particular group of claims to keep them in good standing for the coming year.

(iv) RESULTS

Although no economic mineralization was found in any of the trenches thus far, the work did reveal that the bedrock did contain pyrite in several places.

In trench 24S + 6W pyrite occurs in near massive concentrations within the bedrock, a similar occurance was noted about 4W in the same trench, this mineralization appeared to be associated with a small dyke.

At 24S - 7W, olivene with magnetite occurs in the bedrock, this occurance lies within the sphere of a magnetic anomaly, this type of material is probably the cause for the magnetic anomalies in this immediate vicinity.

A small quartz vein with pyrite was noted in trench 20N, at about 9W, no assays were made of this material.

Quartz veins with graphite were exposed in trenches 28N and 20N, a weak E.M. anomaly is coincident with these occurances.

The cause for the E.M. conductor was sought in trenches 20N - 7 -9E and 16N - 0 -2E, no bedrock was exposed in the former trench, but in the latter trench boulders of skarn material began to appear in the overburden during the trenching.

(v) GEOLOGY

All of the rock exposed during trenching is predominately shist and quartzite of the Big Salmon complex, the general strike of the strata is northwest and dipping steeply to the northeast.

In trench 24S, quartz stringers cut the shist at right angles to the bedding plane. At 24S-2E a light colored fine grained rock with considerable biotite, (in course flakes) was exposed, a faulted contact is suspected. The bedrock drops off nearly vertically at this point and to the west, causing a bedrock depression. A weak E.M. anomaly and a magnetic depression are coincident over this area.

Movement along the bedding planes was noted in trench 28N, the zone is narrow and brecciated, with a few specks of pyrite.

Faulting was noted in trench 20N, the bedrock is fractured, and the bedding planes take a change of direction to the S.E. of the break, much rusty material is in evidence.

(vi) RECOMMENDATION

Although no economic sulphides were discovered in the trenching to-date, work should continue in the area of line 20N - 9E, and the trench at line 16N -0-2W should be completed.

An E.M. anomaly coincident with a magnetic feature lines astride a fault between lines 16N - 1W and 20N - 7E, one lead geochemical anomaly appears down-slope from 16N - 1W, and another weak zinc-lead geochemcial anomaly appears just below the trench at 20N - 7E, this may be significant; due to the overburden depths here, that may have an attenuating effect on geochemistry.

Sulphides in this vicinity could be the cause of the rust settling in the bottom of a small lake a short distance below 20N - 7E, on the near side. Rust accumulating from the ground water spring 1600 feet downslope from trench 16N - 1W could be caused by sulphides under-lying the trench area.

GEOPHYSICAL REPORT

(i) INTRODUCTION

Between mid-November 1968, and mid February 1969, Trans Yukon Exploration Ltd., with company personell, carried out a ground magnetic and electromagnetic survey over the central portion of its claim group, at Quiet Lake, Yukon.

The survey was conducted over one grid which is located immediately to the east and bordering the west grid of a previous survey.

The grid was planned to cover an area in which several small electromagnetic anomalies were detected in an earlier airborne survey.

(ii) GRID

The baseline paralells the baseline of the west grid 3,000 feet to the east, crosslines were turned off at right angles at 400 foot intervals, stations were chained and marked at 100 foot spacing.

The baseline is oriented N 45^{o} E, the crosslines N.W. - S.E. The baseline is 12,000 feet long, with crosslines 2,000 feet on each side of the baseline.

All lines were cut by hand method using axes and machete, a total of 27 miles of line were cut. Maps of the survey have been prepared and are included in this report.

(iii) SURVEY SPECIFICATIONS

(a) A Sabre Magnetometer was used to carry out the magnetometer survey. Base stations were used to control the survey, and from which diurnal corrections were made, correction intervals did not exceed two hours. Readings were taken every 100 feet with no fill in readings.

(b) A Ronka E.M. 16 was used to do the electromagnetic survey, readings were taken at 100 foot spacing. Two V.L.F. transmitter stations were used in this survey (N.P.M.) (N.P.G.) with both readings taken at each station at the same time. Receiver antennae orientation was (S-70° W N.P.G.) - (S-45°E N.P.M.). Reciever orientation on (N.P.G.) was across the trend in the bedrock, while with (N.P.M.) it was with the trend in bedrock.

(iv) DISCUSSION OF RESULTS

The magnetometer survey outlined the basic plug very well, the area shows a sharp magnetic contrast, the dividing line being along 48-S and down 56-S, magnetic relief varies from a high of over 15,000 gammas to the north of 56-S, and a low of 10,000 gammas to the south of the surveyed area.

On the east side of the grid, along lines 56-S to 48-S a sharp bend is outlined along the contact, associated with this bend is a magnetic feature with a magnetic variation of 2000 gammas. To the north along lines 0 to 4-S another magnetic feature is outlined intruding from the north.

The area to the south of lines 56-S of the grid is relatively magnetically flat.

The Ronka E.M. 16 survey detected a zone of conductivity associated with a magnetic feature forming a sharp bend in the contact along lines 56S - 48S. A strong conductor is present on line 56-S, from station 10E to 20E, it appears to continue on towards the east beyond the surveyed area, magnetics show a variation of about 400 gammas along this line, and coincident with the conductor. Another conductor is present on line 52-S, opposite the conductivity on line 56-S, this may be part of the same zone, this conductor is also coincident with higher magnetic readings along this line, the magnetic variation being to the order of 500 gammas or higher. A third conductor shows up on line 48-S 1-6E, no outstanding magnetic feature is associated with this conductor, excepting the proximity of

the contact. It appears that the conducting zones paralell the contact, the grid lines follow in the same direction, it is difficult to accurately interpret the results at this time.

(v) RECOMMENDATION

A new grid, with a baseline established on line 56-S, beginning at station 0 and continued to the east for 3,000 feet, crosslines turned off at right angles at 200 foot intervals, extended 400 feet to the south, and 1000 feet north of the baseline, with 100 foot station spacing.

The survey could be conducted with the same type of instruments as used in the previous survey.

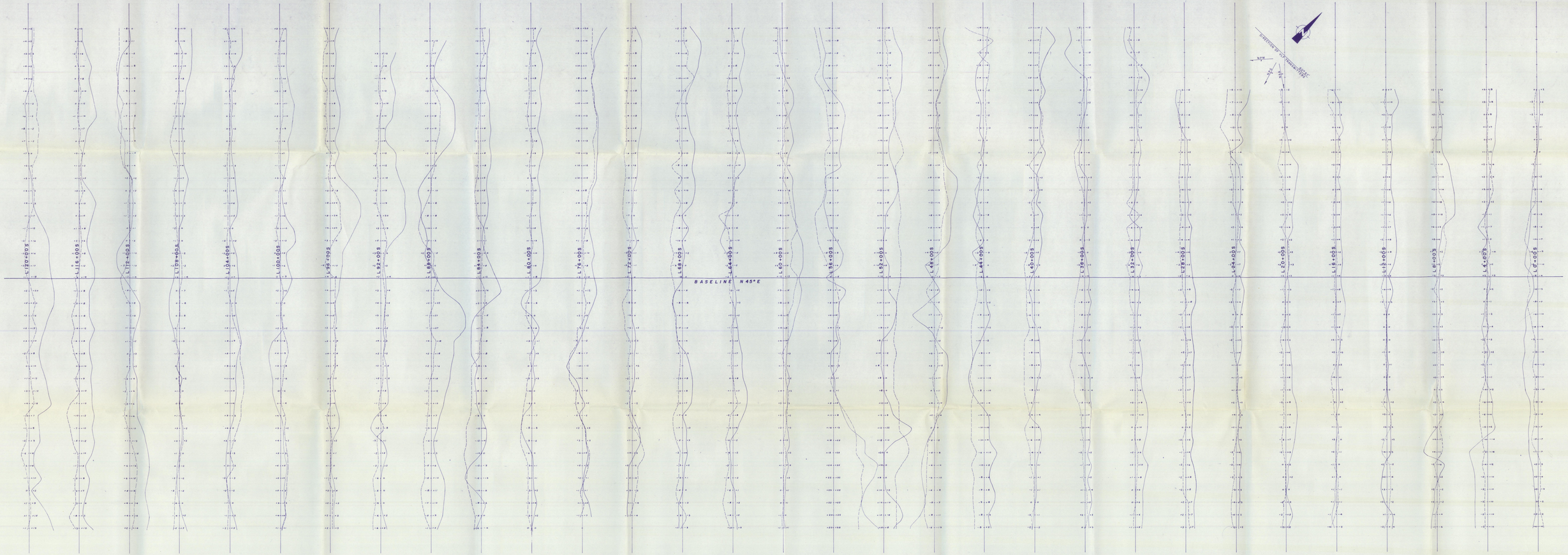
If encouraging results are obtained from the above survey, it is recommended that a Turam E.M. survey be conducted over the grid area.

The above recommendations should provide sufficient information as to what further steps should be taken.

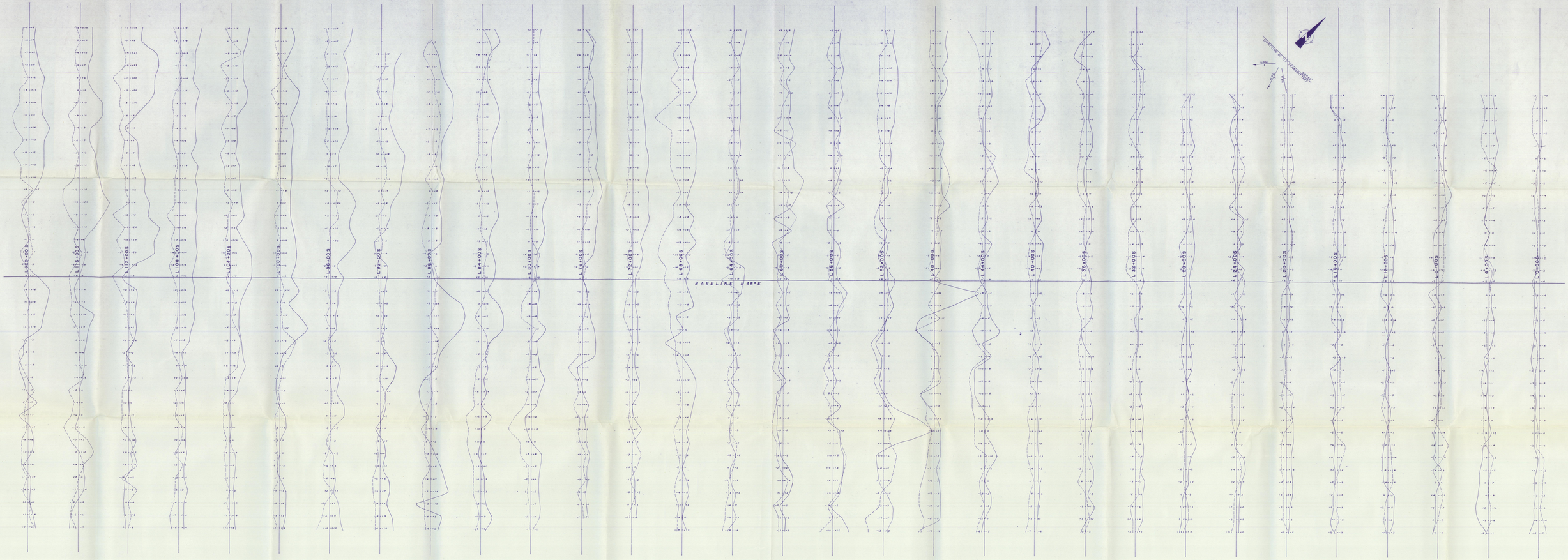
Respectfully Submitted,

R.J. Lindsay,
"Exploration" Manager


OLD CAMP
(WEST GRID)
L120+00S
L116+00S
L112+00S
L108+00S
L104+00S
L100+00S
L96+00S
L92+00S
L88+00S
L84+00S
L80+00S
L76+00S
L72+00S
L68+00S
L64+00S
L60+00S
L56+00S
L52+00S
L48+00S
L44+00S
L40+00S
L36+00S
L32+00S
L28+00S
L24+00S
L20+00S
L16+00S
L12+00S
L8+00S
L4+00S
L0+00S
BASELINE N 45°E
CLAIM POSTS
Y20943
Y20944
Y20945
Y20946
CLAIM LINE 30-S
CLAIM LINE 86-S
CLAIM LINE 58-S
LEGEND
BASE STATION CONTROLS
500 GAMMA CONTOURS
100 GAMMA CONTOURS
CLAIM LINE
DATE: MARCH/1969
DRAWN: W.D.S.
CHECKED:
TRANS YUKON
EXPLORATION LTD.
WHITEHORSE, Y.T.
QUIET LAKE PROJECT
MAGNETOMETER SURVEY
CONTOUR INTERVAL — 100 Gammas
INSTR. OPERATOR:
M. FOX
SCALE: 1" = 200'
DRWG. No.:



DATE: MARCH/1989	TRANS YUKON EXPLORATION LTD. WHITEHORSE, YT.	INSTR. OPERATOR: W. FOX & S. DAVIS
DRAWN: W.P.S.	QUIET LAKE PROJECT EM-16 (NPC) SURVEY	SCALE: 1:2500
CHECKED:		DRWG. No:



LEGEND

IN PHASE
CUT LINE
QUADRATURE

NOTE
+ positive to right of Cut Line (In Phase Values)
− negative to left of Cut Line (Quadrature values)

DATE: MARCH/1988	TRANS YUKON EXPLORATION LTD. WHITEHORSE, Y.T.	JOB No.
DRAWN: W.D.S.		OPERATOR: W. FOX M.G. DAVIS
CHECKED:	QUIET LAKE PROJECT EM-16 (NPM) SURVEY	SCALE: 1" = 200'
		DRWG. No.

N

28+00 N

24+00 N

20+00 N

16+00 N

12+00 N

8+00 N

4+00 N

BASE LINE

0+00 N

4+00 S

8+00 S

12+00 S

16+00 S

20+00 S

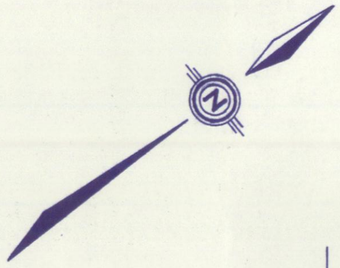
24+00 S

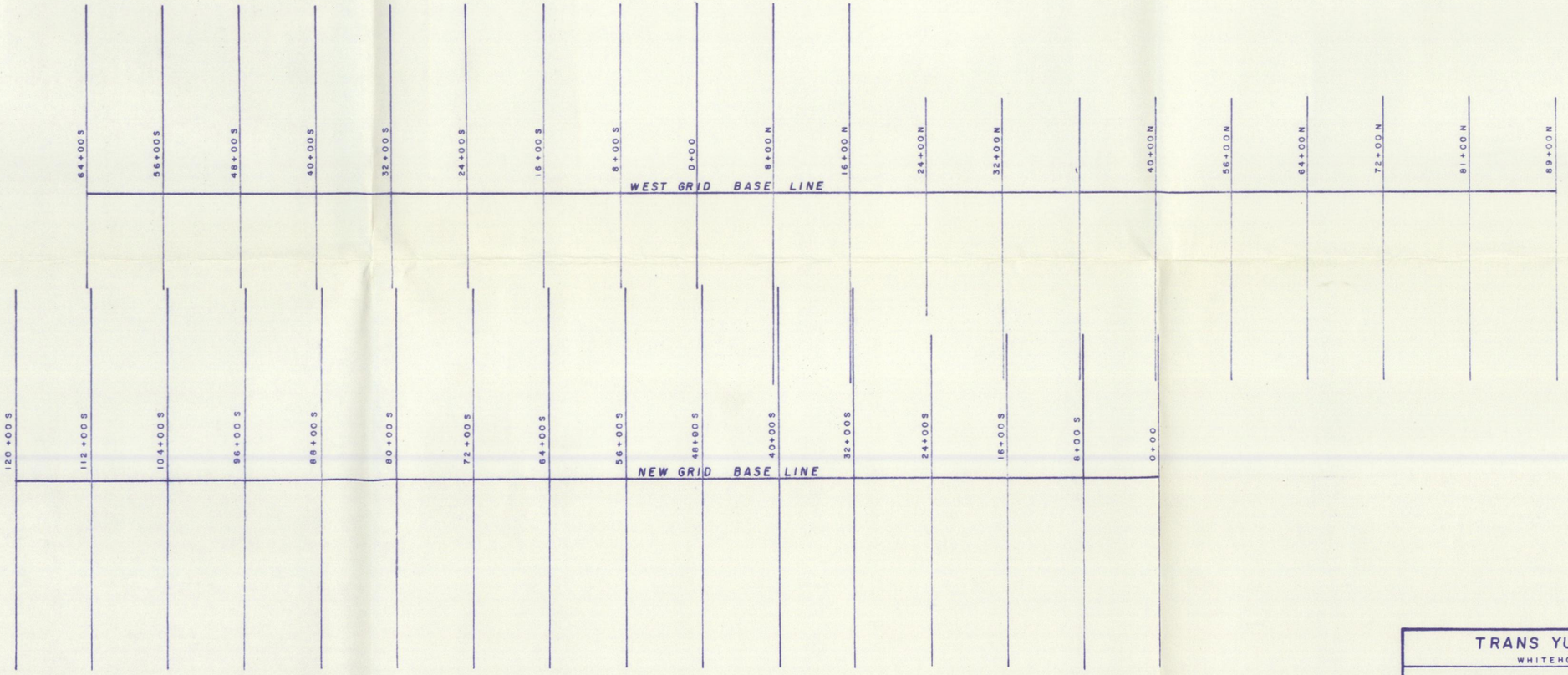
28+00 S

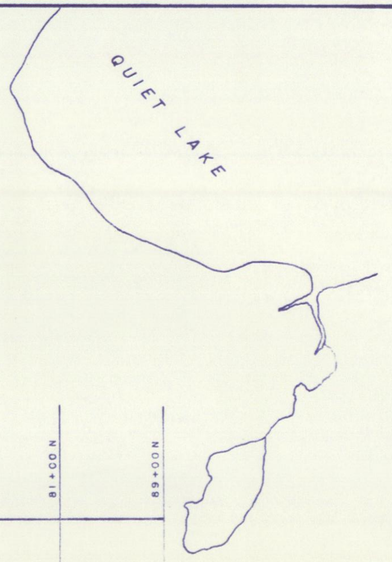
LAKE

TRENCHING

TRANS YUKON EXPLORATION LTD. WHITEHORSE, Y.T.	
NEWMONT GRID	
DATE: MAR.-17-69	APPR'D BY:
SCALE: 1" = 400'	REVISIONS:
DRAWN: W. D.S.	DRWG. No. :







TRANS YUKON EXPLORATION WHITEHORSE, YUKON	
NEW GRID LOCATION PLAN	
DATE : MARCH-17-69	DRAWN : W. D. S.
SCALE: 1" = 1000'	DRWG. No.: