

GRAVITY SURVEY REPORT
ON
A Claim Group
TAY MOUNTAIN AREA
WHITEHORSE MINING DIVISION

Lat. 62° 10'
Long 134° 05'

for

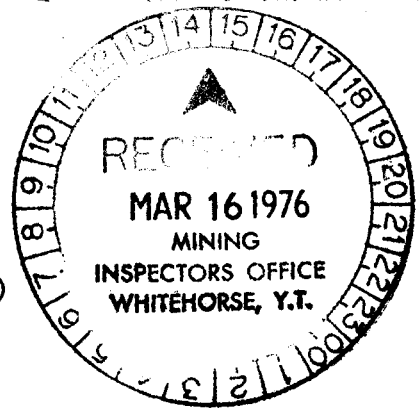
SWIM LAKE MINES LTD. (N.P.L.)

by

R.B. & J.R. GALESKI
(Airborne Geophysical Surveys)
and
R.E. Arsenault
(Airborne Geophysical Surveys)

work done

Aug 11 - Aug. 29, 1975



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

\$ 3,200.00

J.R. Craig

Resident Geologist or
Resident Mining Engineer

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

D.R. Baxter
D.R. BAXTER
Supervising Mining Recorder
Commissioner of Yukon Territory

090572

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INTRODUCTION

Field work was conducted in the Tay Mountain area for Swim Lake Mines, Ltd., by Airborne Geophysical Surveys, Ltd., between August 11 and August 29, 1975. Programme consisted of a grid of north-south lines (eight being one mile long and five being about one half mile long), tied with east-west lines near the mid-points of the long north-south lines and at the northern and southern extremities of the lines. Spacing between the north-south lines was 800', for the most part; station spacing along lines was 87'-100'. A total of about sixteen line-miles (860 stations) was surveyed and metered.

Elevations of station locations were obtained with an automatic level, and vertical closures around loops were held to ± 0.5 foot. Gravity readings were obtained with a LaCoste and Romberg "G" model gravimeter. Base station readings were taken at approximate two-hour intervals; and drift was less than 0.1 dial divisions/hour.

Data were reduced with an elevation correction factor of 0.060 (surface density of about 2.7) and a conventional latitude correction. Terrain corrections were made to the "E" circle on all stations where there was sufficient survey control for this purpose. In all, over 500 terrain corrections were made. Bouguer, terrain-corrected Bouguer and elevation maps and profiles were constructed. These form an integral part of this report.

In addition, regionals were applied to prints of the terrain-corrected profiles, tied and contoured. Residuals were extracted from the profiles and contoured. The regional and residual maps also form an integral part of this report.

LOCATION AND ACCESS

The A 1-32 claims are located on the western flanks of Tay Mountain (N.T.S. 105L9), Yukon and are easily accessible by helicopter from the town of Faro 40 miles to the southeast. (Fig land 2).

CLAIMS

The claims are composed of two separate blocks A 1-16 and A 17-32 (Fig 2) and are owned by Swim Lake Mines Ltd. (N.P.L.)

Name	Record Number	Expiry date
A 1-32	Y98930 - Y98961	June 27, 1976

GRID:

A grid was cut and picketed on A 1-12 claims. A total of 15.3 line-miles were prepared for the survey. Base Line 0+00 is 8800 feet long, and tie-line at N 20 and S 28 are approximately 8000 feet long. North South cross lines were cut off the base at 800 foot intervals. Meter stations are at 100 foot intervals on the prepared lines. Approximately one third of the linecutting was done on ground which has since been covered by the B 3-12 mineral claims also owned by Swim Lake Mines Ltd.

ARCTIC
OCEAN

ALASKA

NORTHWEST TERRITORIES

GENERAL AREA OF
CLAIM GROUP

Clinton

Dawson

Keno

Elsa

Mayo

Y U K O N

Faro

Carmacks

Ross River

Carleton Place

Kluane

WHITEHORSE

Teslin

Walton
Lake

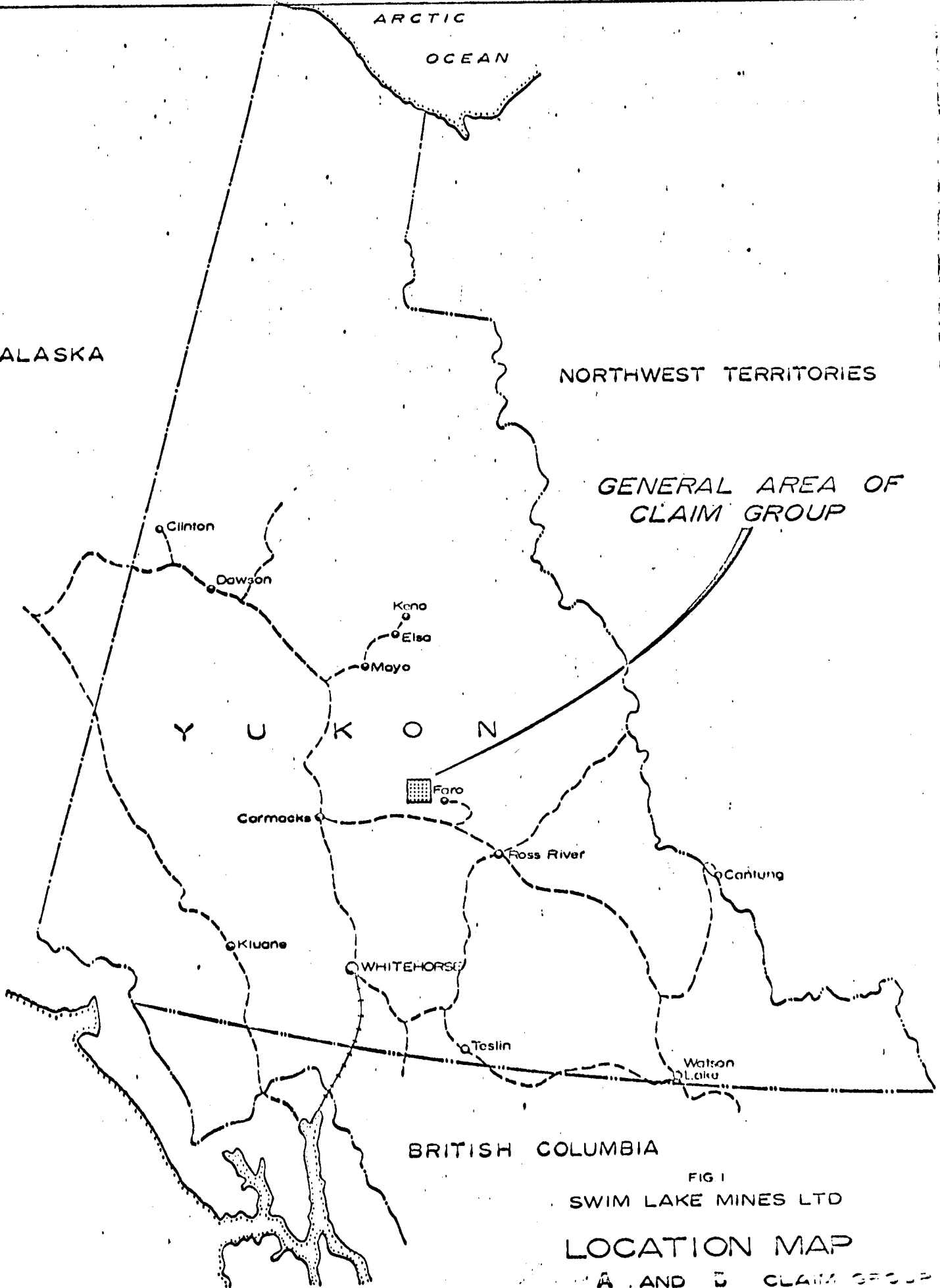
BRITISH COLUMBIA

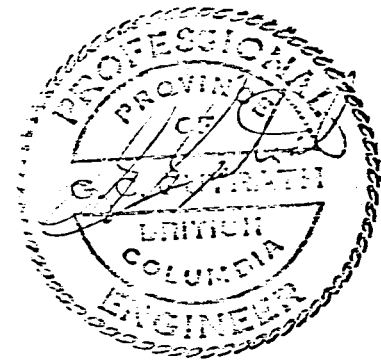
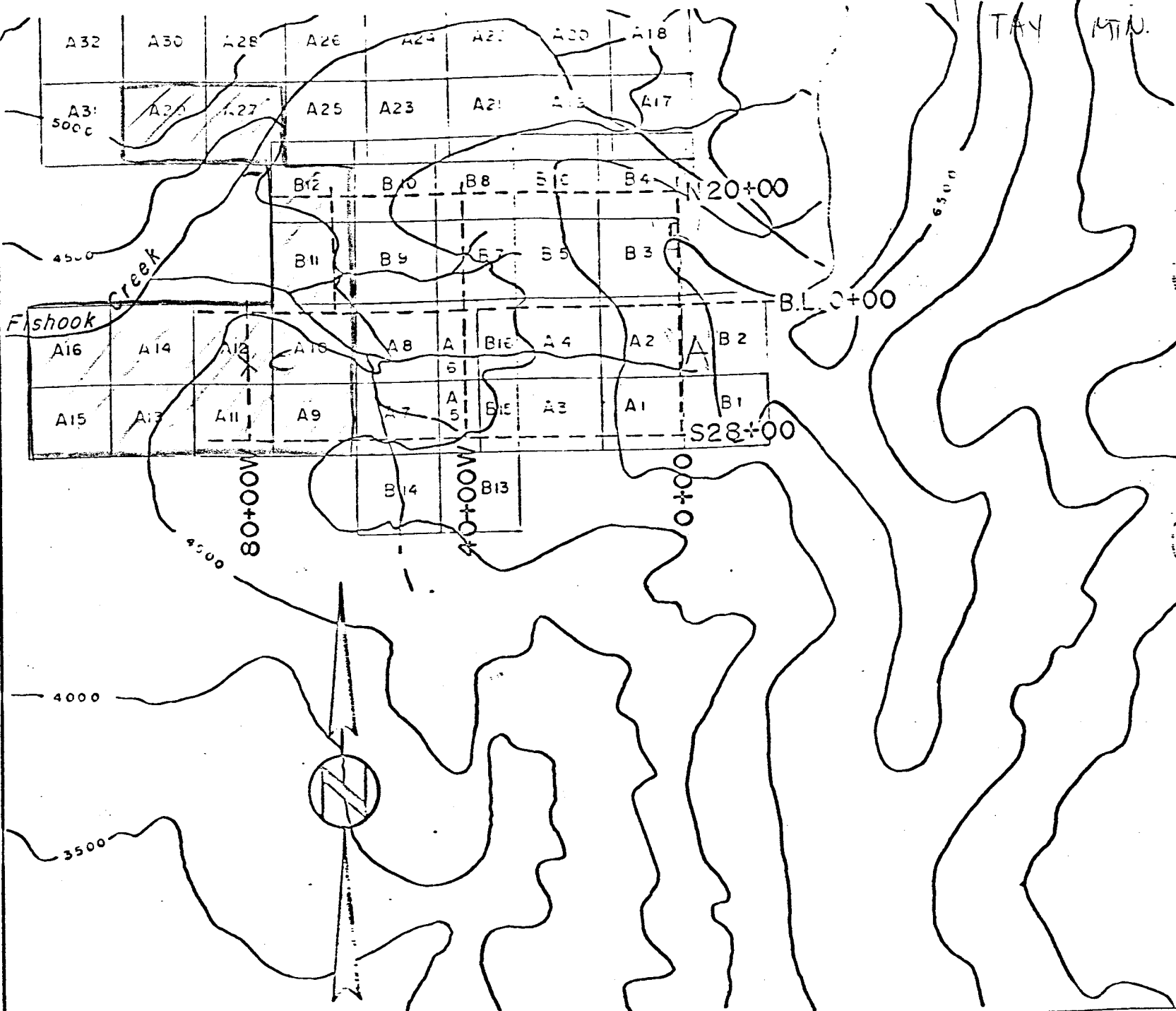
FIG 1

SWIM LAKE MINES LTD

LOCATION MAP

A AND B CLAIM GROUP





SWIM LAKE MINES LTD.	
<i>Exploration Management Ltd.</i>	
420 - 475 - 4045 St.	VANCOUVER, B. C.
TAY MOUNTAIN	
N.T.S. 105 - 3	
SCALE = 1/2 mile	CLAIMS A1-32 and 31-16 GRID LOCATION:
DRAWN G. J. S.	
DATE Nov., 1975	
NUMBER Fig	

ELEVATION MAP AND TERRAIN CORRECTIONS

Elevation varies across the area from a high at the east end of the base line to a low at the north end of line 88W. The drop is 2671' in a little over two miles. In addition, there is extreme local topographic change within the area. Slopes as steep as 56° were worked. Even steeper slopes within the area and at the northeast edge were avoided.

These extreme topographic variations warp the gravitational field considerably. To remove the local warping, terrain corrections were applied to each station to a distance of nearly one-quarter mile for as many stations as possible. In other words, corrections were made for each station for topographic effects within a quarter mile radius. Topographic variations beyond this radius may be considerable, but the differential effect of these particular variations on closely spaced stations, such as these, would be negligible. A larger probable source of error in the terrain corrections lies in the interpolation of survey data through the gaps between lines.

The average outer circle correction was about $1/2$ mgal, the largest was 1.6 mgal. The largest gross terrain correction was 3.36 mgal, and the greatest differential correction between adjacent stations was 1.5 mgal (although correction differences between adjacent stations was generally less than 0.2 mgal).

The terrain corrections smoothed the data considerably, but did not remove all topographic effects perfectly. However, they were effective in lowering the amplitudes of several apparent Bouguer anomalies.

BOUGUER MAP AND TERRAIN-CORRECTED BOUGUER MAP

Both maps (contoured at 0.2 mgal) are dominated by an extremely steep eastern gradient in the east 1/3 of the prospect. Terrain corrections had no significant effect on this gradient. Both maps show a negative coincident with the principal stream of the area west of 40W, but not to the east. One closure exists on both maps at the intersection of line 64W with the base line. A nosing extends easterly from this feature to line 32W. Another can be seen between lines 64W and 80W. In addition, there appears to be a local high on the Bouguer map at the intersection of lines 48W and 28S. Terrain corrections could not be made in this vicinity.

Of more importance, are nosings through 7S on line 0+00 and 15N on 0+00. The southerly one is sharpened on the terrain-corrected map and is extended westerly to line 8W. On both maps the feature can be seen to extend easterly to line 8E. The feature at 15N (no terrain corrections here) is well-developed, but does not appear to extend as far west as 4W. It may have a northwesterly orientation, however, and to tie to a smaller reversal at 21N on 4W. In addition, there is a flexure at 19-20 on 8W, which may tie to the one at the north end of 4W.

In general, terrain corrections tended to downgrade the features in the western part of the area and to enhance the large one on lines 8W to 8E south of the base line.

REGIONAL MAP

The regionals were drawn on terrain-corrected profiles. The resulting map is contoured at an interval of 0.5 mgal. It indicates heavier rocks at depth in the west than in the east. Strike swings from northeasterly in the west to north-south in the east. Gradient increases from a normal rate of 1 mgal/2400' in the west to an extremely steep 1 mgal/200' in the east.

RESIDUAL MAP

The residual map represents difference values between Bouguer and regional. It is contoured at a 0.2 mgal interval. In preparing this map, only terrain-corrected values were used, and anomalies which exist at or near the edge of data acquisition are not contoured, although the presence of them is designated by letter. Letter designation reflects relative anomaly grade. The various anomalies are described below.

A - 2.1 mgals. amplitude.

Max. calculated depth to top of causative mass = 540'.

Calculated average thickness = 180'.

Edge near 1.0 mgal contour, apex at 7S on line 0+00.

Open to the east.

This is an outstanding anomaly.

B - 1.65 mgals. amplitude.

Max. calculated depth to top of causative mass = 200'.

Probably near vertically oriented with thickness in excess of 30'.

Indicated projection to lines 4W and 8W is in doubt, and eastern projection is unknown.

This is well-developed on line 0+00 (apex at 15N) and is best observed on the 0+00 profile.

C - 1.4 mgal amplitude.

Max. calculated depth to top of causative mass = 390'.

Calculated average thickness = 120'.

Edge near 0.8 mgal contour, apex near midpoint of line 80W.

C - continued ..

This anomaly is downgraded because the north flank is probably distorted by surface effects. The anomaly probably extends to about 10S on line 88W, where an amplitude of about 0.7 mgal is apparent.

D - 0.88 mgal amplitude at 2N on line 64W and about 0.5 mgal in a separate closure between lines 32W and 40W.

Max. calculated depth to top of causative mass = 225'.

Calculated average thickness = 70'.

This anomaly is downgraded because both the north and south flanks on line 64 (where there is the greatest amplitude) are probably distorted by surficial effects.

E - 0.7 mgal amplitude.

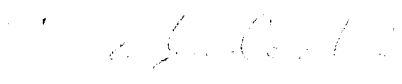
Seen on one line only, 40W (14S), and very small in areal extent. Orientation unknown.

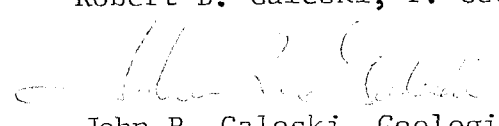
F - Local high at intersection of lines 48W, 28S. May constitute a lead for future work.

RECOMMENDATIONS

1. Drill anomaly A at 7S, line 0+00, to a depth of 700'.
2. Drill anomaly B at 15N, line 0+00, to a depth of 300'.
Consider the possibility that the causative mass may be quite narrow and that it might take two or three holes to find it. A detailed small gravity grid (200' x 200' with 20' station spacing) around 15N, 0+00, should perhaps precede the drilling to help pin-point the optimum drill location.
3. Drill anomaly C at 10S, line 80W, to a depth of 500'.

Respectfully submitted,


Robert B. Galeski, P. Geoph.


John R. Galeski, Geologist

STATEMENT OF COSTS:

See attached invoices from
Airborne Geophysical Surveys



Airborne Geophysical Surveys Ltd.
Calgary _____ Alberta

#600, 330 - 9TH AVE. S.W.
CALGARY, ALBERTA T2P 1K7
PHONE 403 - 264-3434

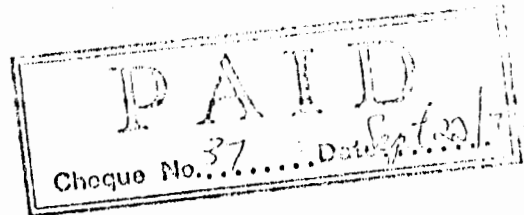
September 22, 1975

Swim Lake Mines
c/o Mr. S. Cornwell
#600, 789 West Pender Street
Vancouver, B.C.
V6C 1H7

STATEMENT

Tay Mountain Gravity Project

Terrain corrections - 522 @ \$2.50 each	\$1,305.00
Faro 66 Service #157945	30.15
TOTAL	\$1,335.15





Airborne Geophysical Surveys Ltd.
 Calgary ————— Alberta

#600. 330 - 9TH AVE. S.W.
 CALGARY, ALBERTA T2P 1K7
 PHONE 403 - 264-3434

Handwritten notes:
 10/10/75
 10/10/75

September 10, 1975

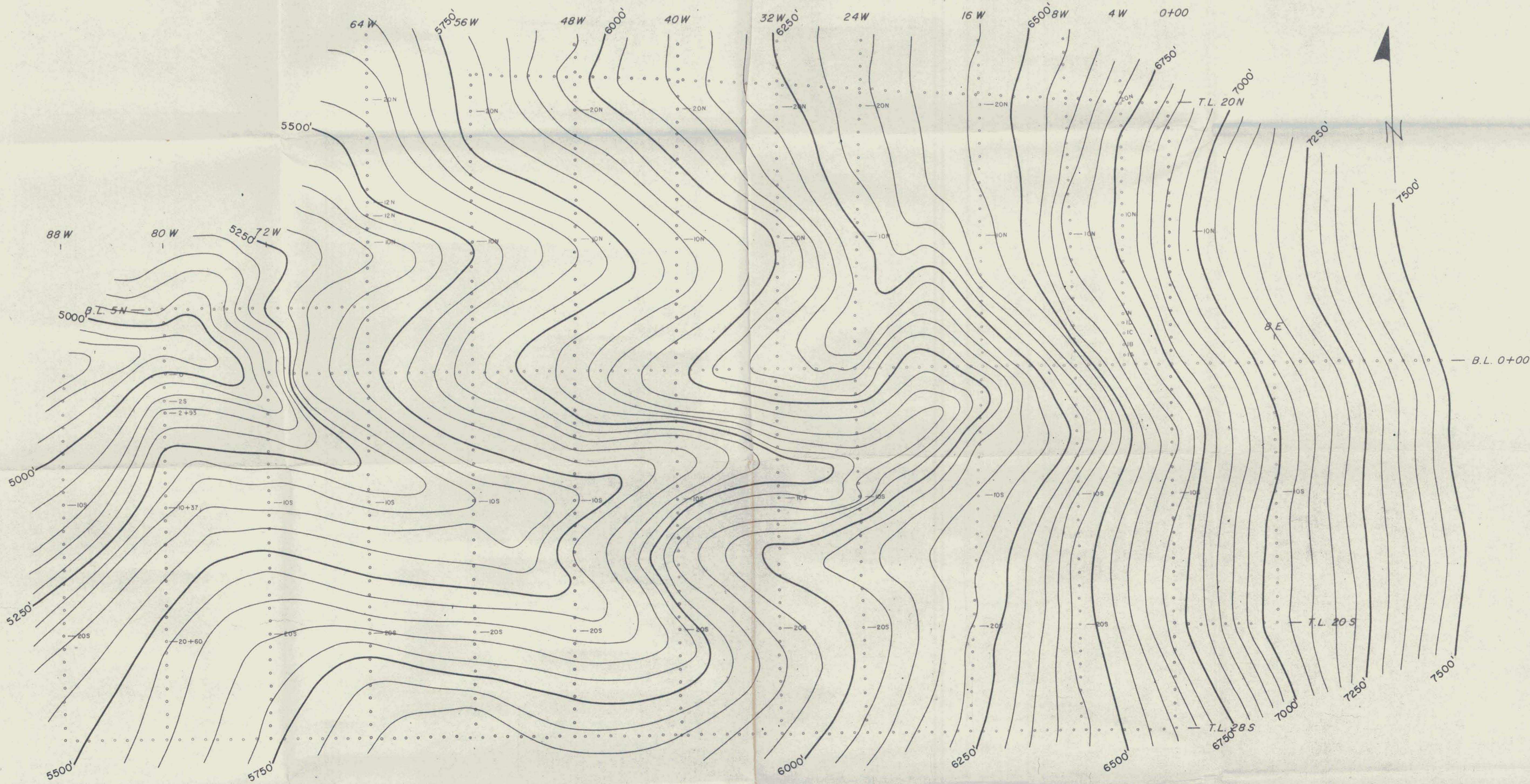
Swim Lake Mines
 c/o Mr. S. Cornwell
 Rm. 600, 789 W. Pender Street
 Vancouver, B.C.
 V6C 1H7

STATEMENT

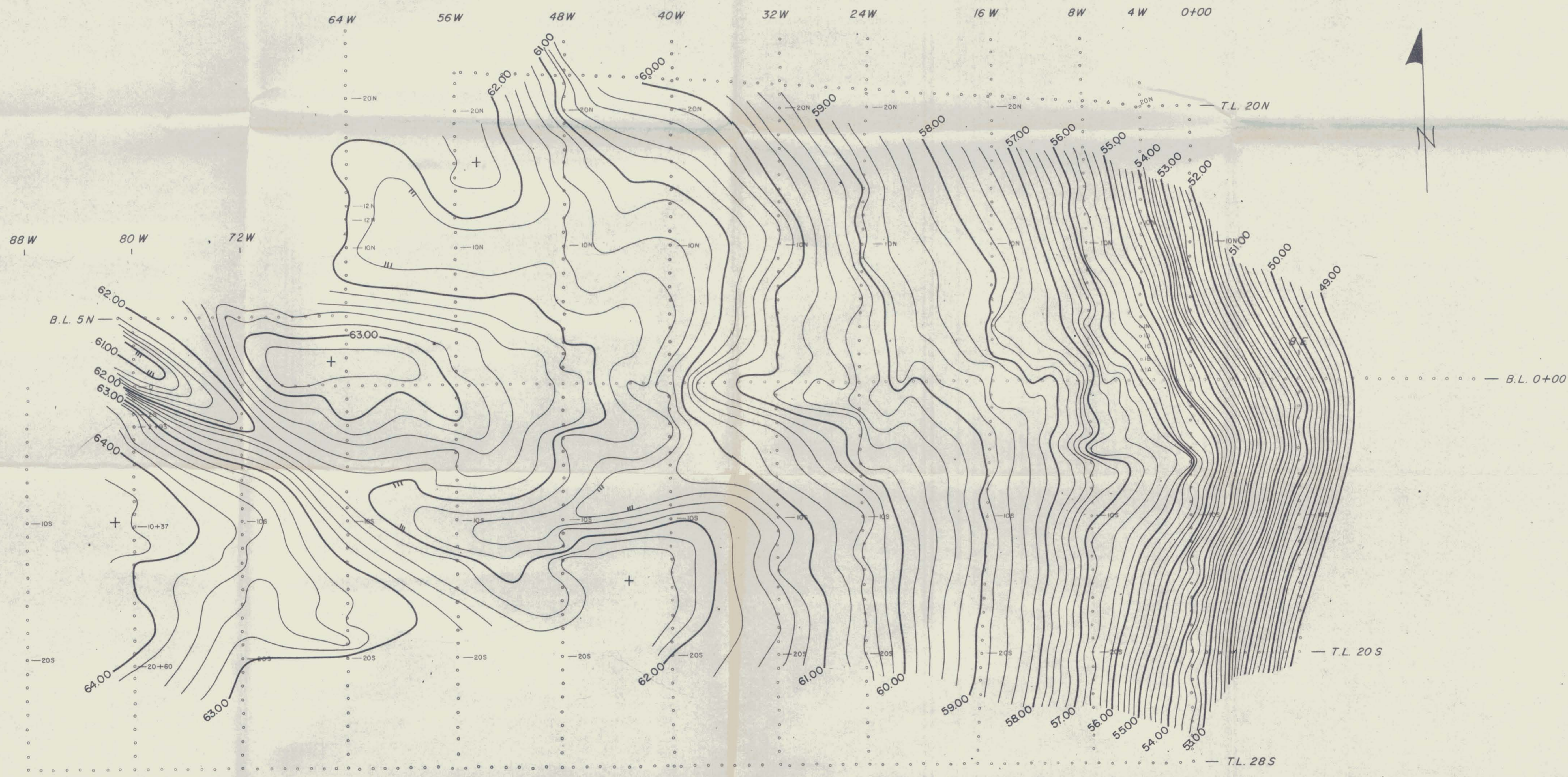
Tay Mountain Gravity Project

For Gravity Crew	
19 days @ \$395.00 per day	\$ 7,505.00
Faro Hotel	236.05
Camp Supplies	675.70
The Welcome Inn	158.75
Stirling Expediting Services	70.00
Share in evaluation trip (see attached)	
\$1,317.00 X 19/31	807.20
Share in mob. & demob. (see attached)	
\$3,814.00 X 19/54	<u>1,341.96</u>
Terrain corrections charge to follow, along with any invoices not yet rec'd.	TOTAL \$ 10,794.66

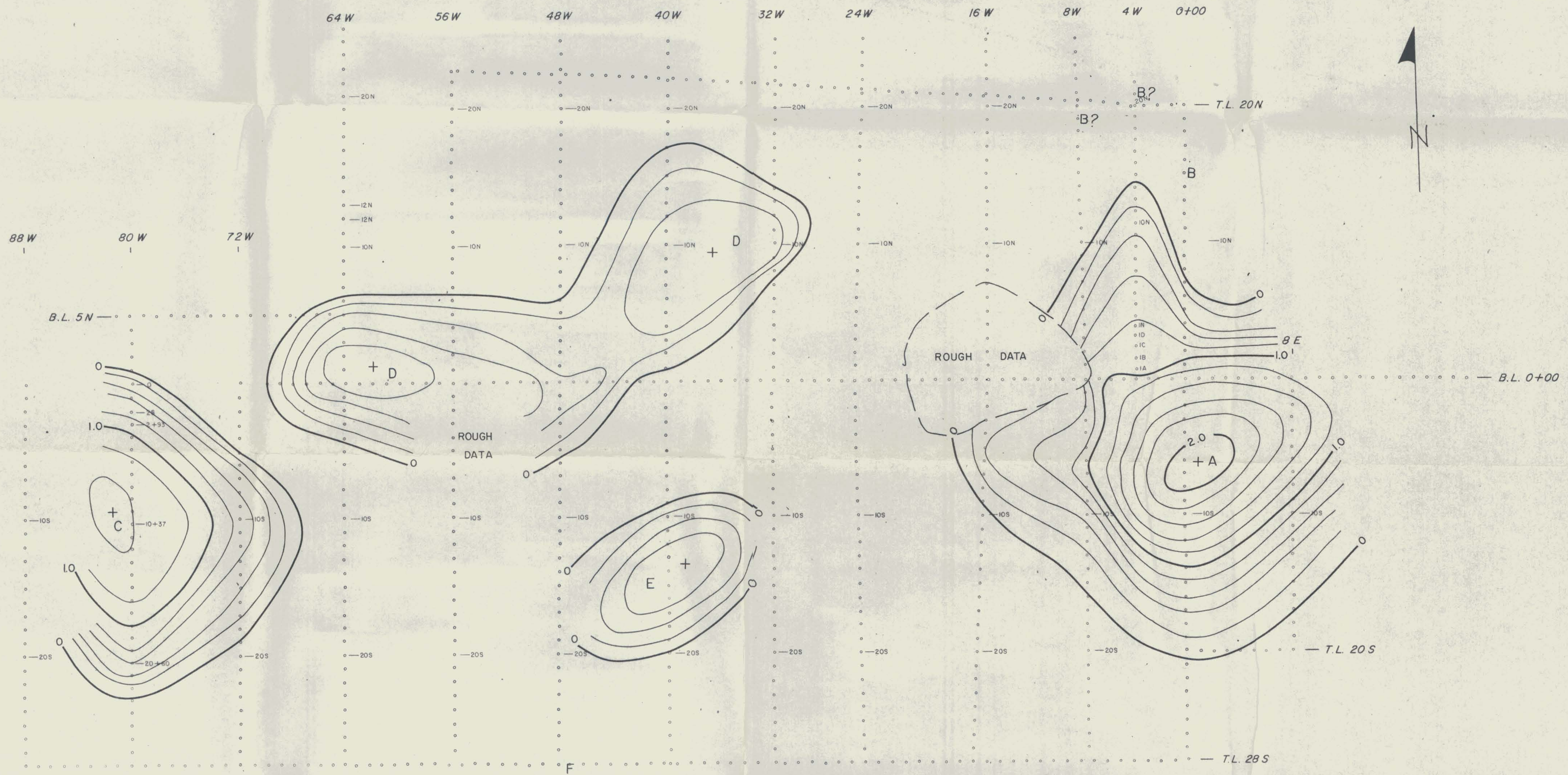
PAID
 Cheque No. *38* Date *Sept 24/75*



SWIM LAKE MINES LTD.	
TAY MOUNTAIN GROUP	
ELEVATIONS	
C.I. 50'	R.B. Galeski
Scale 1" = 400'	Sept., 1975
AIRBORNE GEOPHYSICAL SURVEYS LTD.	



SWIM LAKE MINES LTD.	
TAY MOUNTAIN GROUP	
TERRAIN CORRECTED BOUGUER	
C.I. 0.20 mgals Scale 1" = 400'	R.B. Galeski Sept., 1975
AIRBORNE GEOPHYSICAL SURVEYS LTD.	



SWIM LAKE MINES LTD,	
TAY MOUNTAIN GROUP	
RESIDUAL GRAVITY	
C.I. 0.20 mgals Scale 1" = 400'	R.B. Galeski Sept., 1975
AIRBORNE GEOPHYSICAL SURVEYS LTD.	