

015774

**GRAVITY SURVEY REPORT**  
on  
**FOX CLAIMS DYNASTY AREA, YUKON**  
for  
**FRONTIER EXPLORATIONS LTD.**

by  
**N. Rothenburg, P.Geol.**

**Roving Exploration Services Ltd.**  
**December, 1967**

105 K7

In the study conducted by the writer of the Bouguer Gravity data for the Fox Claims, attention has been directed to the eastern portion of the report area since this appears to be the most interesting in terms of anomalous gravity indications. \*

#### BOUGUER GRAVITY MAP

A well-defined low gravity trend proceeds (from the location 92.00E - 2,250 ft. south) in a northwesterly direction and undergoes separation into dominantly west and north sub-trends.

Local areas of anomalous positive gravity expression are noted to bear a general peripheral relation to the central low feature and are described below:

A. The elongated feature trending northeast-southwest and straddles survey traverse lines 80.00E, 84.00E and 88.00E within the ranges 0 to 1,000 ft. south of the base line.

B. An incipient anomaly in the northeast corner of the prospect which is considered to develop beyond the eastern boundary.

C. The isometric anomaly between traverse lines 72.00E and 76.00E and located 2,500 ft. south of the base line.

Anomaly A is by far the most attractive in terms of potential economic significance and has been singled out for further quantitative treatment.

#### RESIDUAL GRAVITY

Despite a certain erratic behavior of the Bouguer gravity values, in part due to extreme changes in topographic relief, an attempt was made to establish a residual gravity expression for the 'A' anomaly. Examination of the profiles shows the regional gravity level introduced, and the consequent residual values (dashed line) assigned to the 'A' anomaly. The same information appears on the residual gravity map and this evidence points strongly to the presence of an ore body with strike dimension of approximately 600 ft. in a northeast-southwest direction, and vein width approaching 100 ft. Minor subsidiary features are noted to be associated with the main anomaly, to the north and south. There is a good likelihood that faulting bounds the main anomaly on the north and south flanks to effect separation between the subsidiary features.

### ANOMALY DEPTH DETERMINATION

Three independent approaches were employed to arrive at probable depth estimates for the 'A' anomaly. These relate to the Half-width Maximum horizontal gradient, and Residual curve methods. Good agreement was obtained between the above methods and the depth to the anomalous body falls within the ranges 80-100 ft. sub

### TONNAGE ESTIMATE

An areal integration of the overall residual anomaly for the 'A' feature yielded an anomalous mass of 305,000 long tons. The actual mass, which is of more direct interest from a mining point of view, is related to anomalous mass by the following equation:

$$\text{Actual mass} = \frac{P_2}{P_2 - P_1} \times M$$

where M denotes anomalous mass

$P_2$  denotes Density of ore body

$P_1$  denotes Density of host rock.

Hence assuming that  $P_1 = 2.67$  and  $P_2 = 5.34$ , the latter being a reasonable figure for a lead-zinc orebody, we obtain a figure of

610,000 long tons

for the orebody, which also includes the subsidiary anomalies associated with the main feature indicated on the residual gravity map.

### RECOMMENDATIONS

A core drill program to evaluate the most significant 'A' anomaly is strongly recommended. An initial location on traverse line 84.00E between stations 6 and 7 is favoured. Further testing of this anomaly should be conducted by core-hole positions arranged along the strike axis of the anomaly to be followed by additional tests on line 84.00E at stations 4 and 10. In the event of encouraging

results from this phase of the suggested drilling program additional test drilling should be considered for the 'B' and 'C' anomalies.

Respectfully submitted,

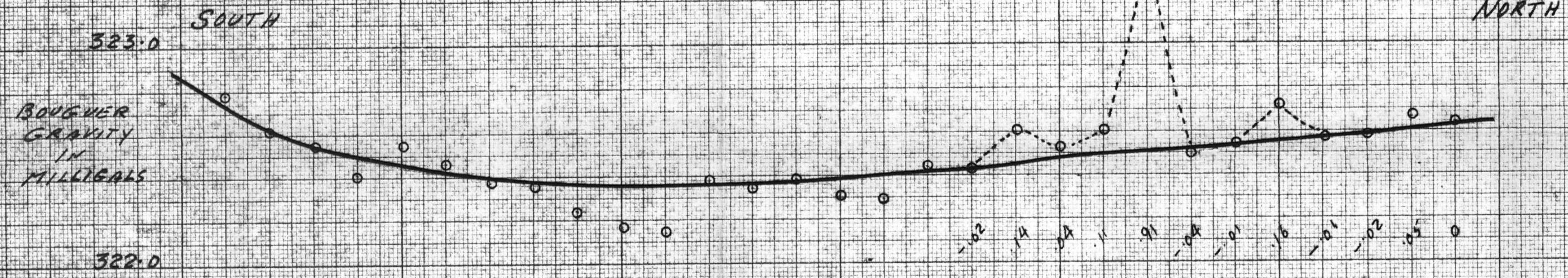
N. Rothenburg, P.Geol.

\* The following Exhibits are included with this report:

1. Bouguer gravity map - east portion of claims group.
2. Bouguer profiles along traverses 80.00E, 84.00E, 88.00E and east portion of base line traverse.
3. Residual gravity map around 'A' anomaly.

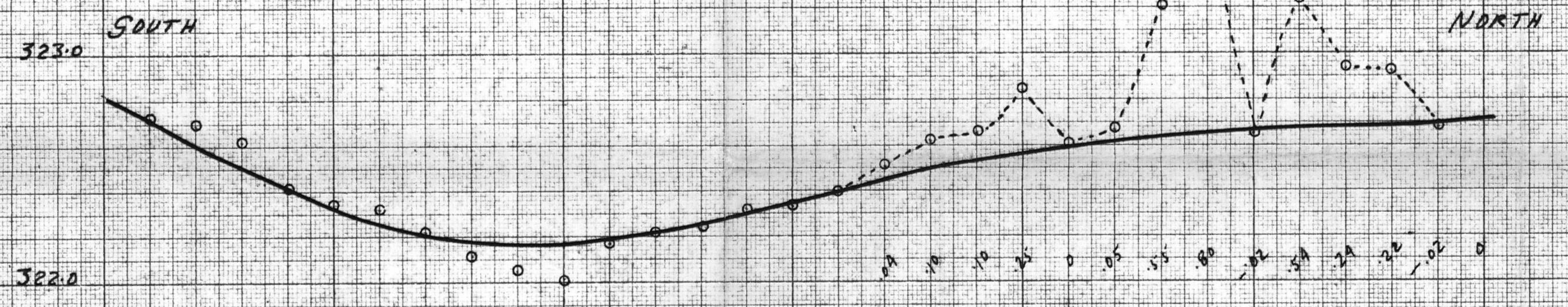
324.0 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

LINE 80.00 E



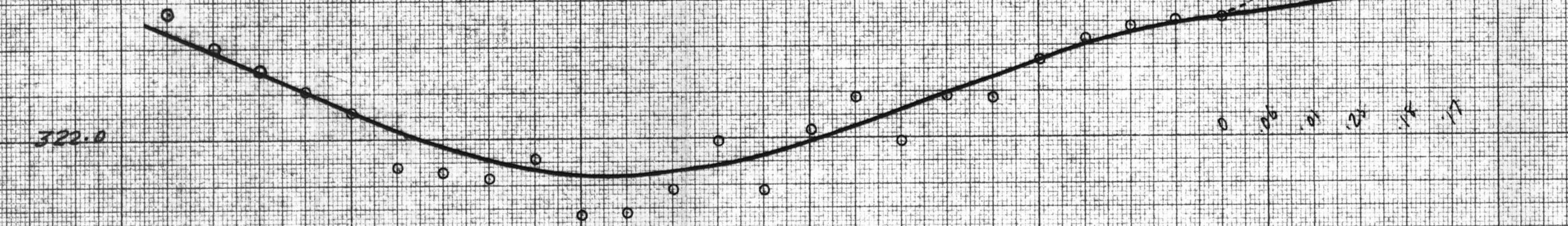
324.0 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 STATION NO

LINE 84.00 E



323.0 SOUTH NORTH

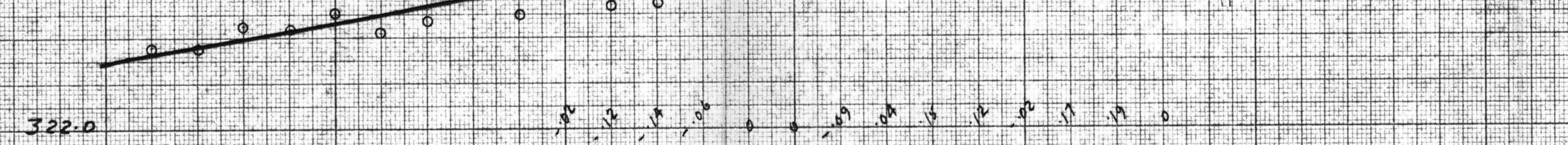
LINE 88.00 E



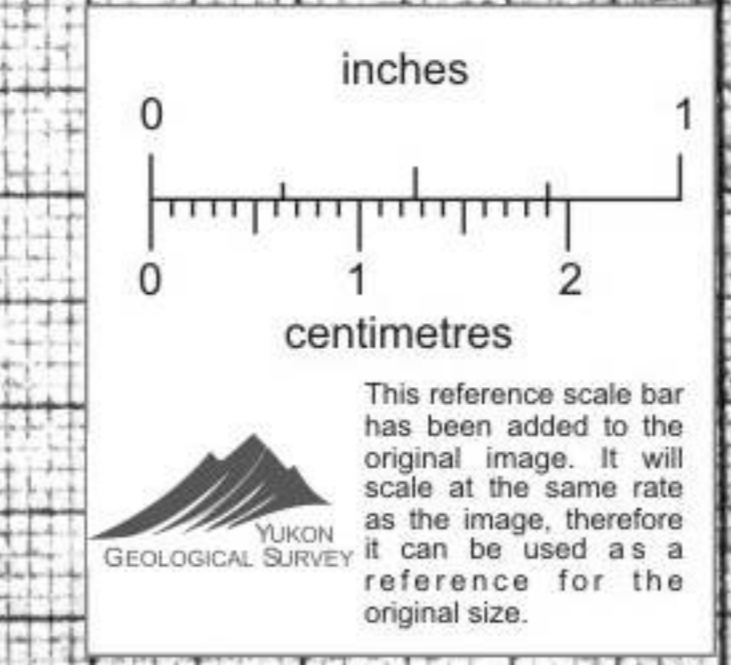
323.0 WEST EAST

70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92

BASE LINE



321.0



Survey:	GRAVIMETRIC
Client:	FRONTIER EXPLORATIONS LTD.
Prospect:	FOX CLAIMS
Area:	DYNASTY, YUKON
Contours:	PROFILES
Instrument:	WORDEN MASTER
Contour Interval:	
Date:	DECEMBER, 1967
Map Scale:	
Approved:	
Party Chief:	M. McCombe
Interpretation by:	N. Rotherburg, P.Geol.

