

# DYNASTY EXPLORATIONS LIMITED

(N. P. L.)

328 MARINE BUILDING  
355 BURRARD STREET  
VANCOUVER 1, B. C.

May 17, 1965

Chief Mining Recorder,  
Federal Building,  
Whitehorse, Yukon Territory.

Dear Sir,

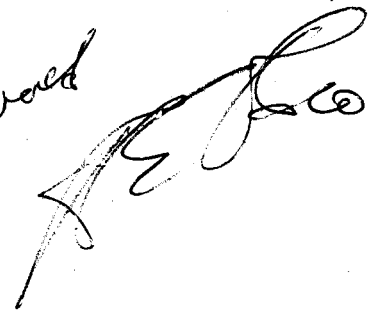
Submitted to you for the purposes of assessment work is the following report, "Gravity Survey, Dy (NW) Claim Group". The total costs incurred for this gravity survey are to be applied as a portion of the assessment work required to hold the following full mineral claims for one (1) year.

Dy      42-47    incl.  
         58, 56  
         79-114 incl.  
         123-131 incl.

Respectfully submitted,

John S. Brock.

JSB/mjm

*Approved*  


GRAVITY SURVEY DY (NW) CLAIM GROUP

Location: 133<sup>o</sup> 05' W. long.  
62<sup>o</sup> 15' N. lat.

Reference: Claim sheets 105K3  
105K6

WHITEHORSE MINING DIVISION  
VANGORDA CREEK AREA, Y.T.

by: John S. Brock  
April 1965

# DY GROUP NORTHWEST SURVEY AREA

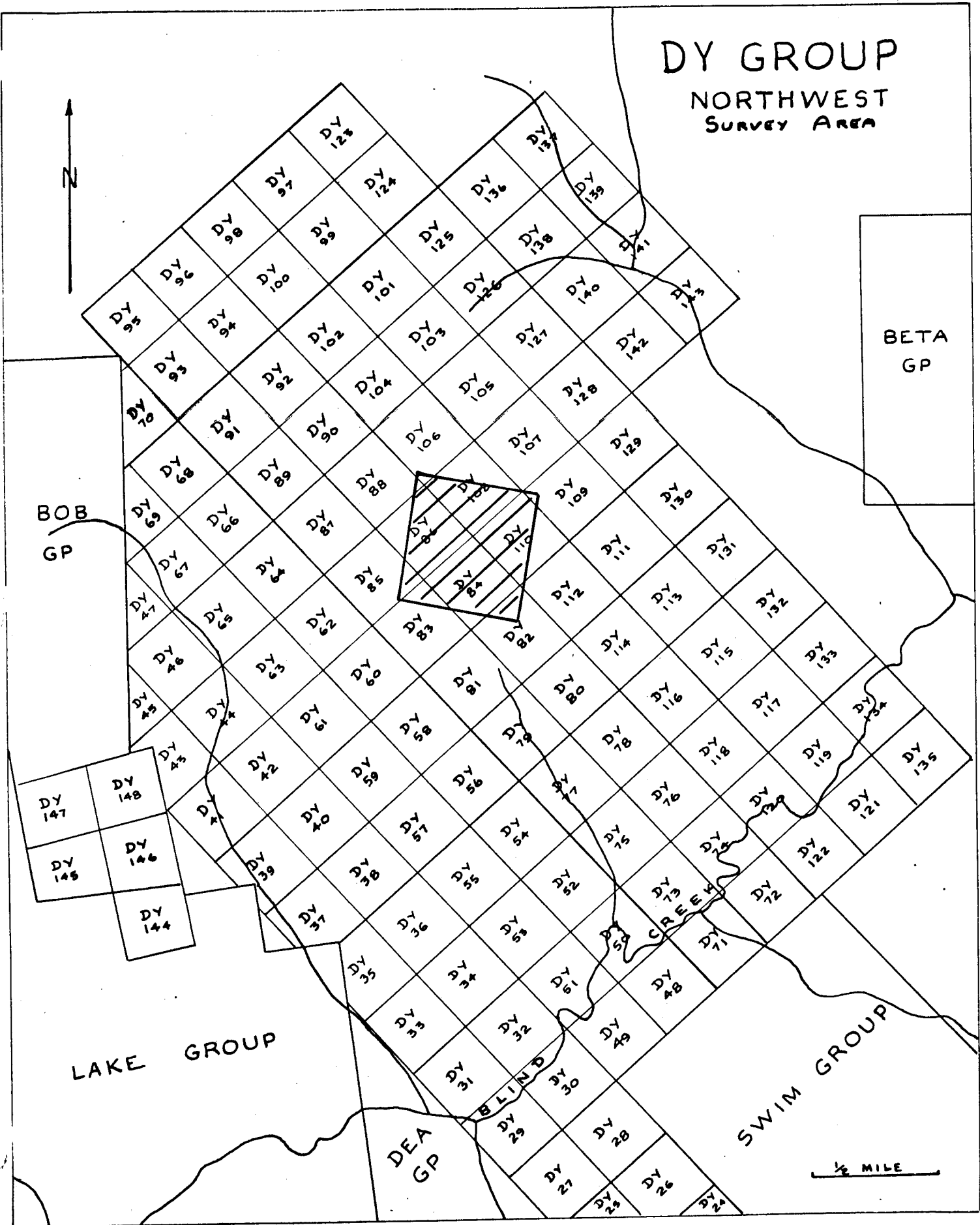


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## INTRODUCTION

### General

During the month of September, 1964, United Geophysical Company of America was contracted by Dynasty Explorations Limited, in order to carry out a gravity survey over a portion of the DY (NW) mineral claim group. The area was surveyed by gravimetric methods in order to supply additional geophysical data to ground magnetometer survey results that were obtained by Dynasty Explorations at an earlier date. The limits of the gravity survey bound an area of anomalous magnetics

### Location and Access

The DY (NW) claims, (long.  $133^{\circ} 04' W$ , lat.  $62^{\circ} 15' N$ ) are situated west of Blind Creek and approximately  $2\frac{1}{2}$  miles northeast of the Vangorda ore deposit. The gravity survey was conducted over a central portion of the claim group, an area of moderate relief, 3900 to 4200 feet elevation, that slopes gently to the southeast. The vegetation is comprised largely of buck-brush (dwarf birch) and willow, which predominate areas of burn. Unburned ground is forested with stands of spruce.

Direct access may be made by helicopter, landing facilities are found at a camp site,  $\frac{1}{2}$  mile to the southwest of the survey area. Wheeled aircraft may land at the Vangorda air strip,  $2\frac{1}{2}$  miles southwest of the property. Shrimp Lake, 3 miles to the south, is suitable for aircraft equipped with floats.

### Summary of Costs

Linecutting	a) footage	66,000'	
	b) contract	\$12/man/day	
	c) labour	12 man/days	
		cost:	144.00
	d) camp cost, \$6/man/day		72.00
	e) travel time, 4 days @ \$24/day		96.00
	f) transportation, Beaver aircraft from Swim to Shrimp Lake:		50.00
Gravity survey	a) United Geophysical Company of America		
	(i) contract	\$60/day	
	(ii) time	3 days	
	(iii) cost:		180.00
	iv) camp cost		18.00

(ii)

Gravity Survey (cont.)

(v) transportation, operator to Calgary from Swim Lk.	200.00
Return Beaver trip from Shrimp to Swim Lake	100.00
b) Dynasty Explorations	
(i) instrument rental, \$20/day	
(ii) camp cost, \$12/day	
(iii) operator and assistant, \$25/day	
(iv) time 3 days	
cost:	171.00
c) Elevation and Ground Control Survey	
(i) surveyor and rodman, \$25/day	
(ii) total camp cost \$12/day	
(iii) time, 12 days	
cost:	444.00
(iv) instrument rental	45.00
d) Interpretation and Report	300.00
e) Miscellaneous	
(i) packers, 2 men, 4 days	50.00
packers camp cost	24.00
TOTAL COST	\$1894.00

Note that cost entered for assessment work, DY (NW) claims, entered the cost of the gravity survey as \$1532, this did not include a proportionate cost of the linecutting.

Personnel

United Geophysical of America, gravity operator: Tony Rich  
Calgary, Alta.

Surveyor: Andrew Harman,  
Salmo, B.C.

Rodman: McCleary Acklack,  
Ross River, Y.T.

Linecutters: Franklin Charlie,  
Ross River, Y.T.

Issac Dick,  
Ross River, Y.T.

Supervision and Report: John S. Brock  
3050 Procter Ave.,  
West Vancouver, B.C.


(iii)

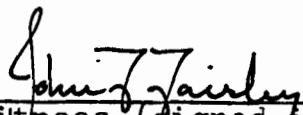
AFFIDAVIT  
Supporting Statement of Expenditure  
Dy (NW) Claim group, Gravity Survey

I, John S. Brock, of West Vancouver, British Columbia,  
Have compiled the statement of costs (Gravity survey,  
Dy (NW) claim group).

I make oath and say that to the best of my knowledge  
and belief, the statement of costs, Gravity survey, Dy  
(NW) claim group, is true and an accurate representation  
of costs to be applied for assessment work on the Dy (NW)  
claim group.

  
\_\_\_\_\_  
John S. Brock

  
\_\_\_\_\_  
A commissioner for taking  
oaths, affidavits, in and  
for the Yukon Territory

  
\_\_\_\_\_  
Witness (signed in presence  
of Commissioner of oaths)

## GEOLOGY

The northwest Dy anomaly is situated in the crestral area of a gentle NE plunging synform where a greenstone-chlorite schist and sericite schist contact surficially. Nearby NE trending, steeply dipping faults are situated in Blind Creek and on the slopes of Mye Mountain. Porphyry outcrop occurs 3/4 mile west.

Although magnetite is not apparent in the rocks of this area, the anomaly high is centered over greenstone outcrop. Greenstone elsewhere may contain up to 10% magnetite. Altered, medium grain, subhedral amphibole and feldspar crystals in some of the greenstones indicate a possible basic intrusive origin. There is a continuous textural gradation from blocky greenstones to fine grained chloritic schist. A thin member of limy siliceous rock, apparently chert, is intercalated in the chlorite and sericite schist. This light green fine grained rock is not always common but similar associations occur south of the Vangorda property. The sericite schist occasionally grades toward impure limestone and may also be graphitic. Serpentine alteration is associated with greenstone along a probable fault.

The interpretation map indicates a high degree of complexity with torsional strains giving rise to anomalous structural trends. Magnetic highs correspond to the areas of greatest disturbance. Several periods of folding, including one isoclinal period which produced a schistosity, have apparently been followed by buckling and torsional strains which 'confuse' all the attitudes and give a 'scattered' stereogram indicating only general trends.

Structurally there are possibilities of replacement mineralization at shallow depth ( less than 100 feet). Rocks favourable for replacement as well as porphyry occur in the vicinity. The porphyry may not directly carry metal content, but metasomatism appears to be somewhat statistically associated with porphyry occurrences. However, magnetite in greenstone is the most likely cause for the anomaly.

From a private report by J.F. Fairley to Dynasty Explorations Limited. Refer to geologic map in back folder.

## METHOD OF SURVEY

### Instrument

A Worden Pioneer gravitometer, No. 251, was used during the entire survey. The instrument is capable of being read to 0.01 milligal.

### Survey Grid

Cross lines, 6,000 feet in length were cut perpendicular to the main strike of the magnetic anomalies. Base stations were established on a central base line, 3,000 feet in length. Two 3,000 foot 'end' tie lines were also cut. The grid was laid out with cross lines spaced at 400 foot intervals and line stations at 100 foot intervals, however not all of the lines were used for the actual gravity survey. The entire grid was laid out by picket and chain methods.

### Elevation and Ground Control Survey

Each 100 foot gravity station was surveyed for location and elevation by stadia traverse methods. Elevations were looped and misclosures under 0.7 feet corrected to zero (0.00) feet.

### Gravity Survey

The major part of the gravity survey was conducted by United Geophysical, completion of the survey was carried out by A. Harman, an employee of Dynasty Explorations Limited. Permanent base stations were set up on the central base line, each was read with the meter and 'looped' in order to provide accurate control of instrument drift and diurnal variations. Precision on repeated stations was maintained to 0.05 milligals. There were no conditions of extreme topography or climate thus eliminating anomalous discrepancies. Every two hours, the nearest established base was re-read in order to establish drift and diurnal variation corrections for the actual survey. Stations were read at 100 foot intervals on each cross line.

### Data Reductions

All gravity reductions were carried out by United Geophysical, each station was corrected for latitude, drift, and elevation above datum. A Bouguer density of 2.70 was used by United Geophysical for elevation corrections.

The contracted company presented Dynasty Explorations with a topographic map, Bouguer gravity and Residual gravity maps, of the DY (NW) claim group (see back folder).

#### INTERPRETATION

United Geophysical were not requested to provide a detailed interpretation of the gravity results, through informal correspondence the following points were mentioned by that company:

"We are probably not justified in making a residual map of the prospect because of the small area involved. It is thought that there is not enough data to warrant depth calculations, however there is sufficient relief to be significant. The eastern anomaly rests too highly on one value which could be in error, this should be checked in the field but relative high values to the south could have meaning."

#### Bouguer density

Comparison of the Bouguer gravity (density 2.8) and topographic profiles (appendix) gave evidence of the gravity results being largely over corrected. Density profiling methods were used to estimate a more precise Bouguer density factor. The profile which reflected the topography least was 2.2 (appendix, profiles of lines 10+00 and 30+00). Irregular accumulations of overburden over the survey area appeared to largely influence the accuracy of gravity results. An east-west trending drumlin across the northern half of the grid is shown on the topographic map as an increasing slope to the north. This accumulation of glacial till (density 2.2) would give erroneously low Bouguer gravity results when corrected with a density of 2.8. As shown by the density profiles, 'over-corrected' <sup>ION OF</sup> results <sup>IS APPARENT</sup> when heavy densities are used to correct gravity over topographic 'highs' comprised of material of a lighter density. The influences of overburden may be eliminated by recalculating the Bouguer gravity using a density of 2.2. This was done and a Bouguer map was prepared using the new results. The density contrast between sulphides of any consequence and a schist-greenstone country rock will be great enough to give rise to anomalous gravity values, whereas they could

be masked by overburden effects if a 2.8 density were applied.

#### Comparison of Gravity-Magnetic Anomalies

The ground magnetometer survey results covering the gravity survey area (see map in folder) were adapted for comparison with the Bouguer and residual gravity contour maps. Geophysical results were also overlaid on a geologic map of the area (see folder).

All of the magnetic anomalies occur over greenstone.<sup>1</sup> Generally, the greenstone contacts are well defined by the magnetic contours of higher intensity. Serpentinized sections of greenstone associated with faulting are also in coincidence with areas of magnetic complexity.<sup>2</sup> The magnetic anomalies are probably due to magnetite in greenstone, although no surface specimens of greenstone outcrop reveal any appreciable magnetic content. Magnetic depth calculations reveal causative structures in greenstone formations at 120 foot depth. The position of the greenstones at this depth is suggested by Fairley in his report.

The western gravity anomaly occurs over greenstone and is coincident with a magnetic 'high' (ref. appendix, profile, line 10+00). As the areal coverage of the actual gravity survey fails to lend definition to this anomaly, accurate depth and shape calculations are not possible. Rule of thumb depth determinations suggest the causative body to be a slab, 135 feet from surface and 110 feet thick with a density contrast of 0.8, equivalent to approximately 40% sulphide content in a schist-greenstone complex.

The eastern gravity 'high' is not well defined and is based primarily on a single value which could be erroneous. The whole anomaly is of broad extent and is more attractive in view that it occurs over the phyllite-schist contact. The anomaly may build in relief to the east along strike of the schist belt.

<sup>1</sup> ref. Geophysical Investigations by Magnetic Methods, Dy (NW) claim group. A private report to Dynasty Explorations Limited, by J.S. Brock.

<sup>2</sup> ref. Geology and Mineral Occurrences, Vangorda District, Central Yukon. A private report to Dynasty Explorations by J.F. Fairley.

## CONCLUSIONS AND RECOMMENDATIONS

The western gravity anomaly should be drilled by the rotary drill method. The anomaly may be due to sulphide mineralization in a lower schist member that is thought to underlie the greenstone formation. No definite thickness for the greenstone has been established and as no magnetite content in greenstone has been found at surface it is possible that both the magnetic and gravity anomaly may be caused by a zone of sulphide mineralization near an assumed schist-greenstone contact at approximately 130 foot depth.

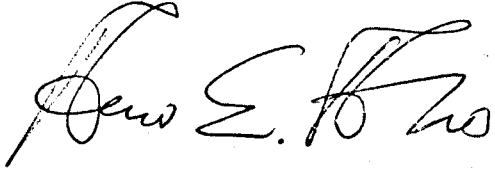
The eastern gravity anomaly, although poorly defined by lack of survey coverage, may be of interest due to the fact that it occurs near the favorable sericite schist. This target should also be tested by the economic rotary drill method.

The gravity survey boundaries should be extended for approximately 2000 feet to the west and at least 1000 feet to the east in order to outline the two apparent gravity anomalies. It is recommended that further magnetometer surveys be carried out to the east as well as an electromagnetic survey over the whole area of geophysical interest.

Respectfully submitted

  
John S. Brock

Approved by

  
P. Eng. (B.C.)

APPENDIX

LINE	10+00	Density Profiles
LINE	30+00	Density Profiles
LINE	10+00	Magnetic and Gravity Profiles
LINE	10+00	Magnetic and Gravity Profiles

MAP FOLDER

Dy (NW) Claim Group

Topography

Geological Interpretation

Bouguer (density 2.8) Contour Map

Bouguer (density 2.2) Values

Bouguer (density 2.2) Contour Map

Residual Gravity

Ground Magnetometer Survey

-1.0 milligal

-0.5 milligal

-0.0 milligal

▽ = 2.2

▽ = 2.4

▽ = 2.6

▽ = 2.8

Seismic Gradient

DENSITY PROFILES  
LINE 10700 E  
BY CLAIM GROUP (M.W.)

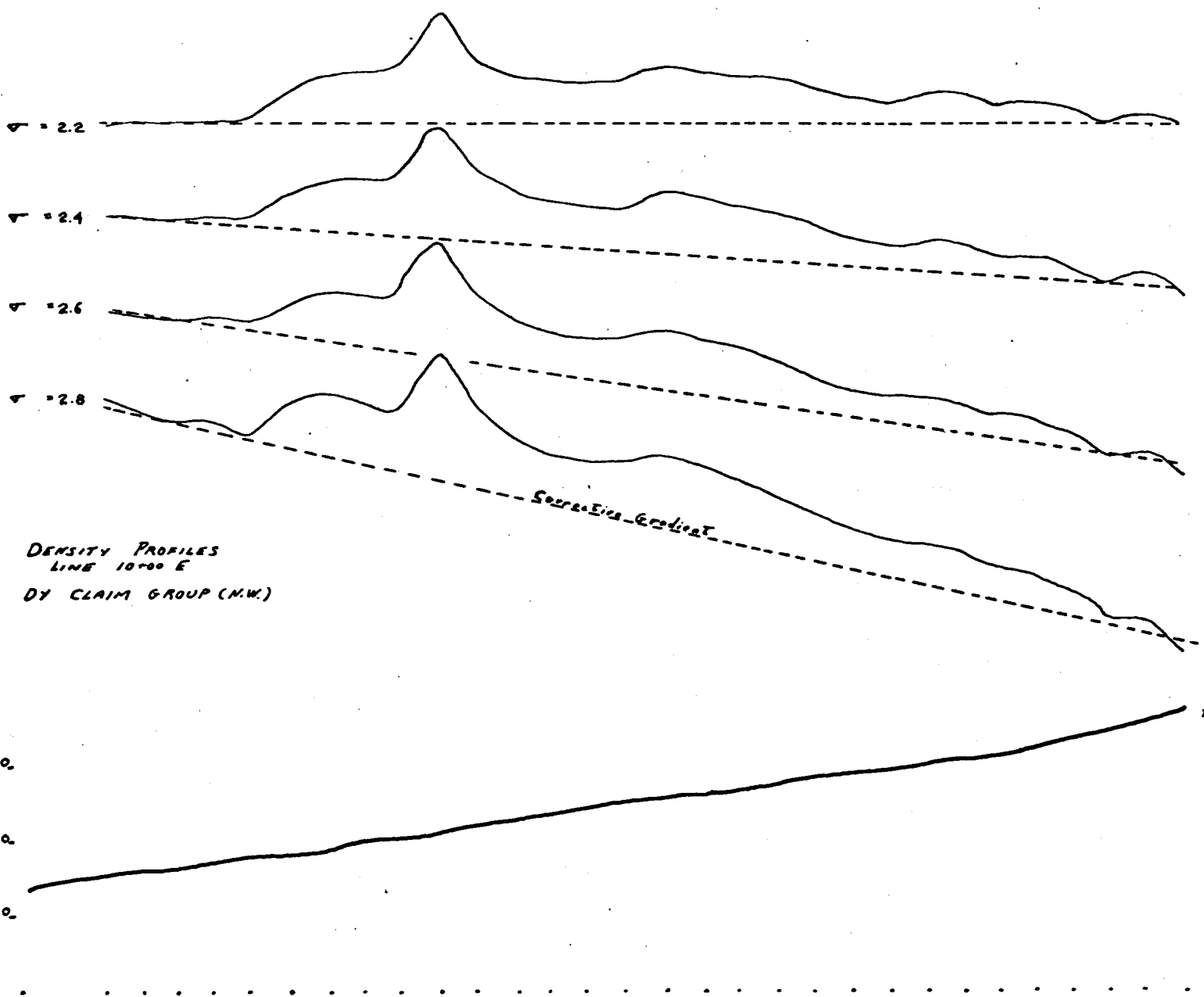
TOPOGRAPHIC  
RELIEF

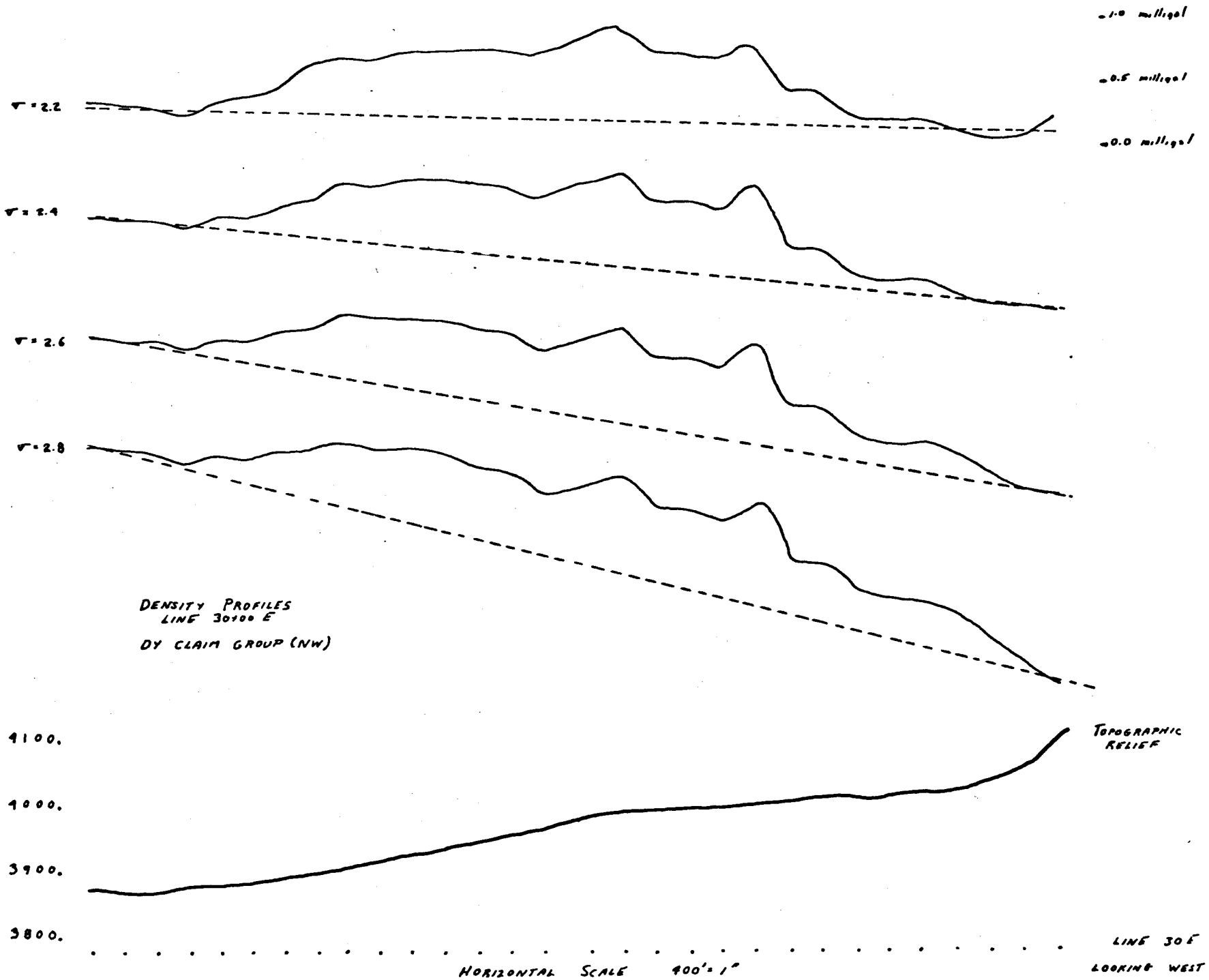
ELEVATION  
200', 1"

4100.  
4000.  
3900.

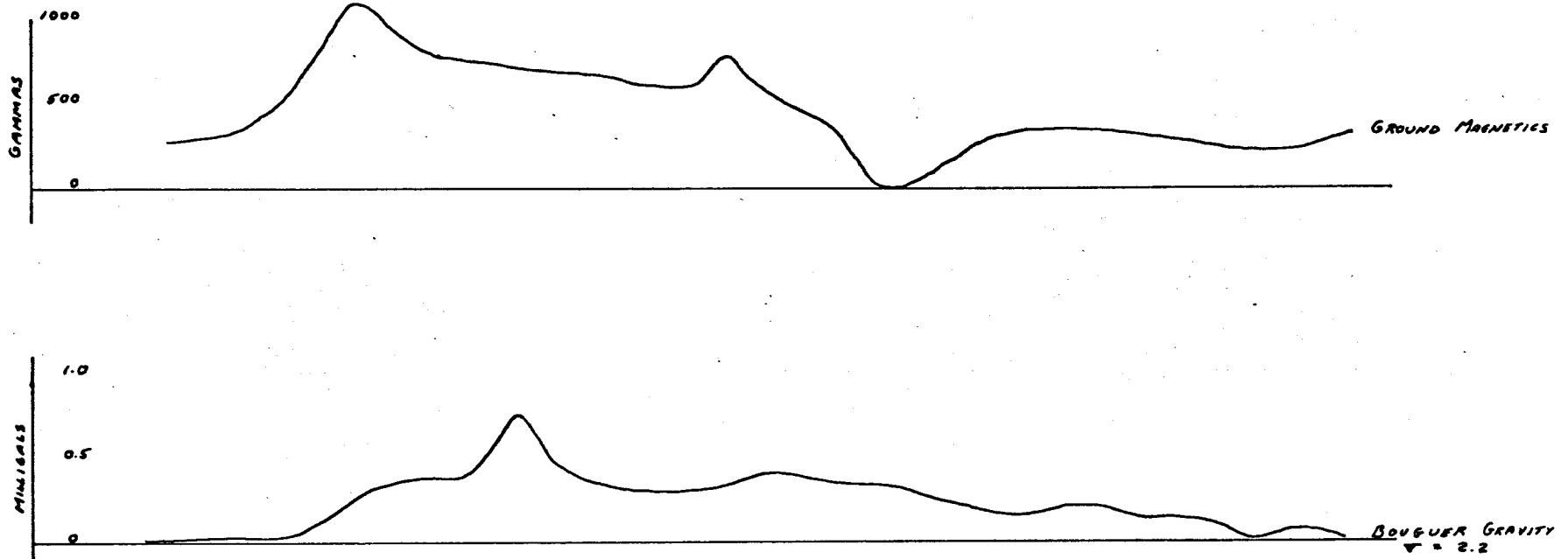
HORIZONTAL SCALE 400' : 1"

LINE 10E  
LOOKING WEST

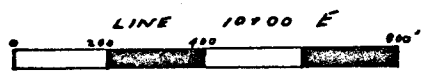




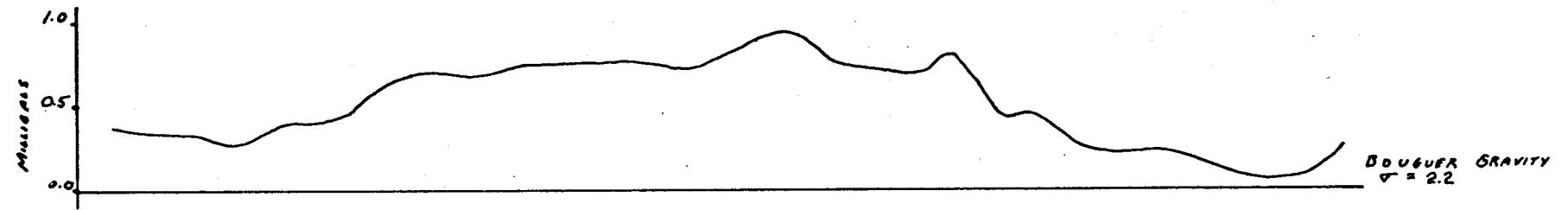
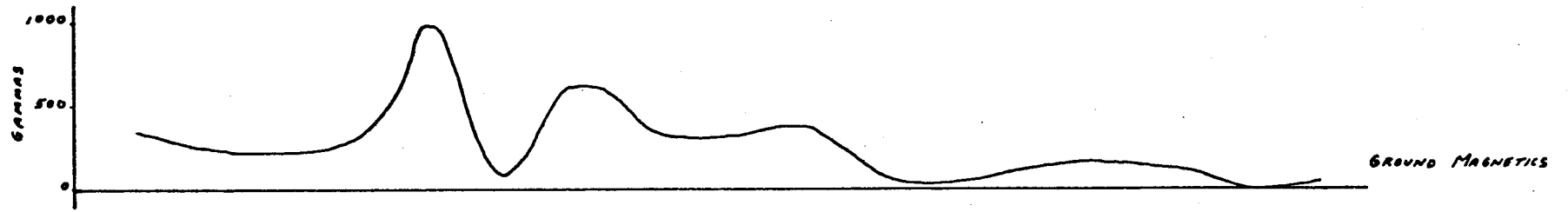
DY (NW) CLAIM GROUP  
 MAGNETIC AND GRAVITY PROFILES  
 LINE 10100 E



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30100 N



DY(NW) CLAIM GROUP  
 MAGNETIC AND GRAVITY PROFILES  
 LINE 30+00 E



1+00 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30+00 N



GRAVITY SURVEY DY (NW) CLAIM GROUP

References Used

Geology and Mineral Occurances, Vangorda District, Central Yukon. A private report to Dynasty Explorations Limited by John F. Fairley (1965)

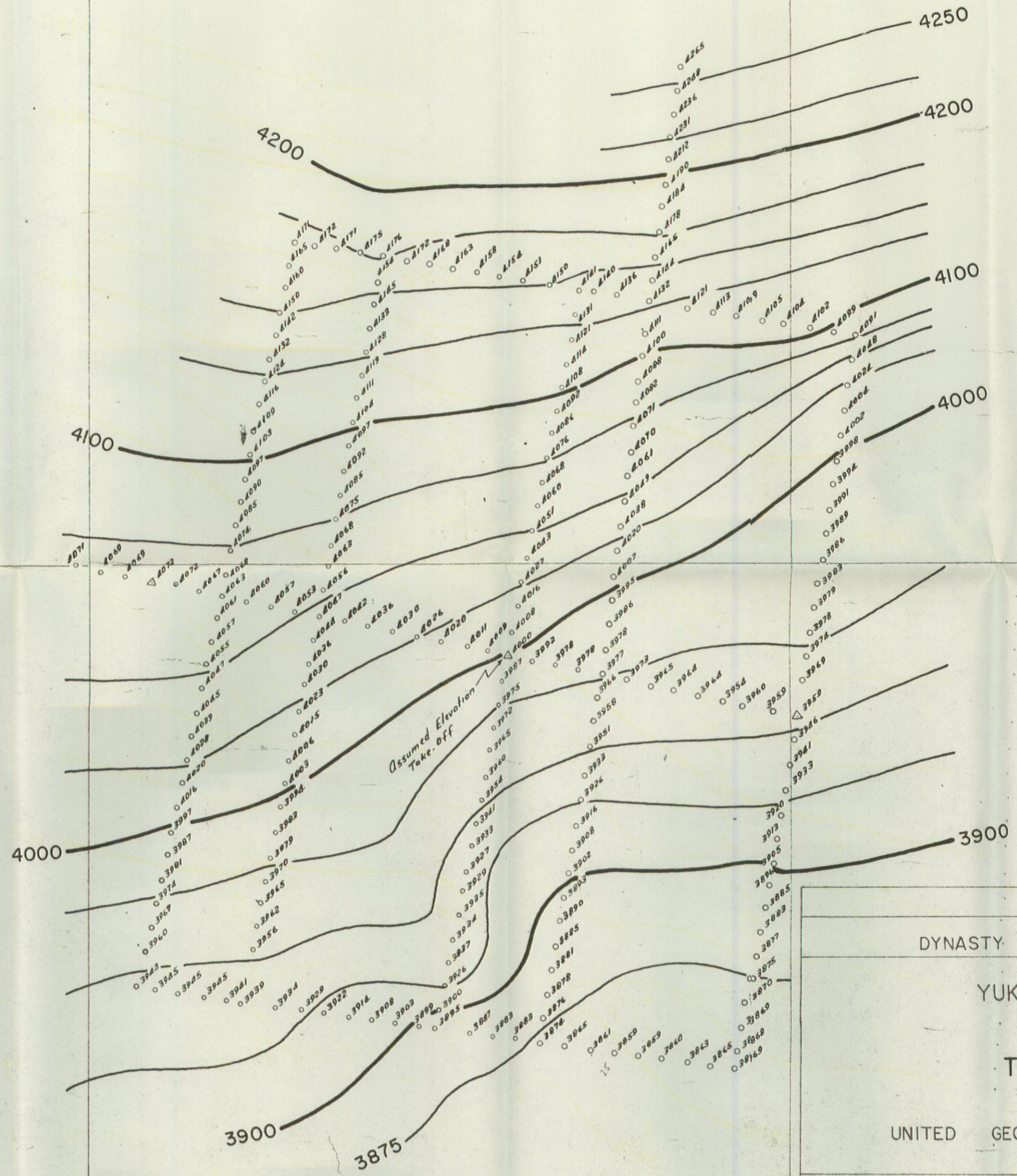
Geophysical Investigations by Magnetic Methods, Dy (NW) Claim Group. A private report to Dynasty Explorations Limited by John S. Brock (19650)

Geophysical Prospecting (2nd edit.) M.B. Dobrin (1960)  
McGraw-Hill Book Company, Inc.

Geophysical Prospecting for Oil, L.L. Nettleton (1940)  
McGraw-Hill Book Company Inc.

62° 15' 00"

62° 15' 00"



113° 06' 00"

113° 05' 00"

DYNASTY EXPLORATIONS LIMITED

YUKON TERRITORY

### TOPOGRAPHY

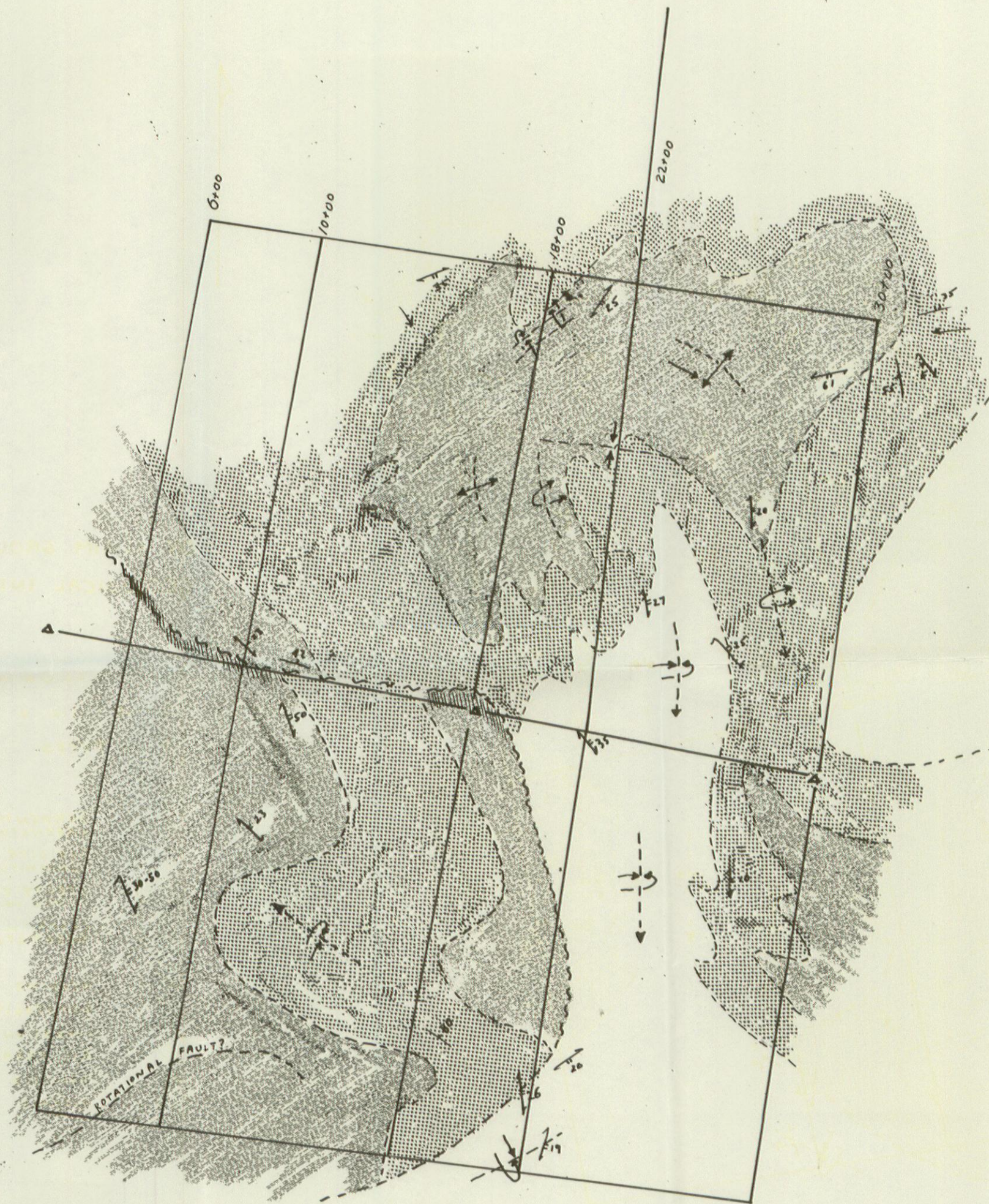
UNITED GEOPHYSICAL CO. OF AMERICA  
PARTY 588

CONTOUR INT. 25'

INTERPRETED BY: A. RICH

DATE: SEPT. 1964

APPROVED BY: R. GALESKI













DY CLAIM GROUP (N.W.)  
GEOLOGICAL INTERPRETATION

LEGEND

SCALE: 1 in = 400 ft.

ROCK TYPES

-  SERPENTINIZED GREENSTONE
-  SERICITE SCHIST (GRAPHITIC IN PART)
-  CHERTY PHYLLITE (LIMBY IN PART)
-  CHLORITIC SCHIST AND GREENSTONE

-  BEDDING
-  SCHISTOSITY
-  LINEATION
-  O/C AREAS
-  ASSUMED STRUCTURES
-  ASSUMED CONTACTS

CROSS-SECTIONS BY CHAPLIN  
INTERPRETATION FROM DATA SHEET,  
CHAPLIN, SEPT./64

FEB./65 J.P. FAIRLEY

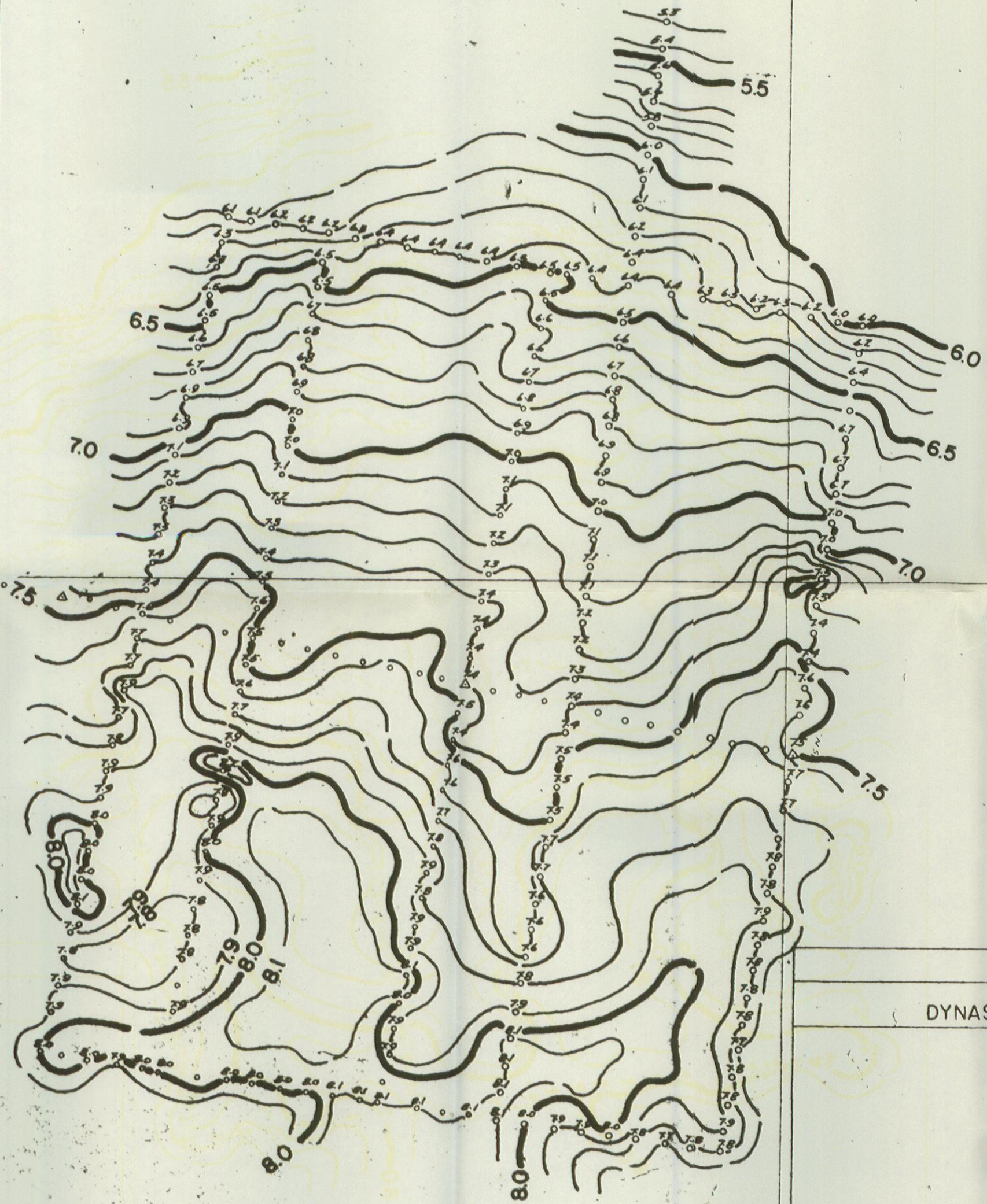
MAP ENLARGEMENT: J.S. BROCK

62° 15' 00"

62° 15' 00"

133° 06' 00"

133° 05' 00"



DYNASTY EXPLORATIONS LIMITED

YUKON TERRITORY

# BOUGUER

UNITED GEOPHYSICAL CO. OF AMERICA  
PARTY 588

CONTOUR INT. 0.1 mg.

INTERPRETED BY: A. RICH

DATE: SEPT. 1964

APPROVED BY: R. GALESKI

SCALE: 1" = 400'



BOUGUER GRAVITY  $\nabla$  2.2  
 DY (NW) CLAIMS  
 Contour int. 0.1 milligal



interpretation: J.S. Brock

BOUGUER GRAVITY 22

DY (NW) CLAIM GROUP

Interpretation JS Brock





133° 06' 00"

133° 05' 00"

62° 15' 00"



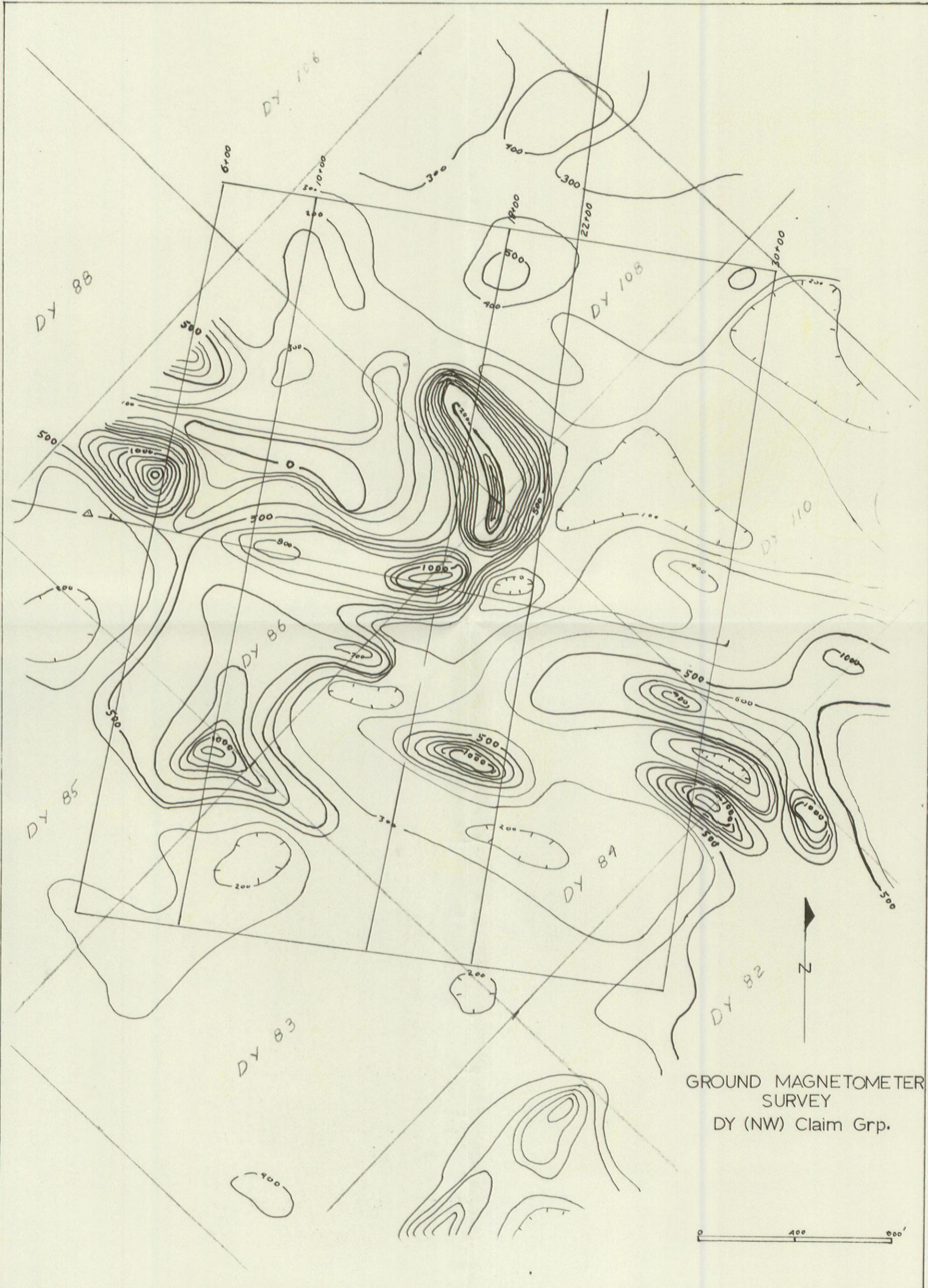
DYNASTY EXPLORATIONS LTD.  
DY (NW) CLAIM GROUP

RESIDUAL GRAVITY

United Geophysical Co. of America

Contour int: 0.1 mg Interpreted by  
R Galeski

Survey date: Sept. '64



GROUND MAGNETOMETER  
SURVEY  
DY (NW) Claim Grp.

