

GROUND GEOPHYSICAL INVESTIGATIONS

FACE CLAIM GROUP

by: John S. Brock
September, 1965

locations reference:

Claim Sheet 105 K7

132° 50' W long.

62° 00' N lat.

approved by



GROUND GEOPHYSICAL INVESTIGATIONS

Ace Claim Group

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SURVEY METHODS

Survey Grid

A central base line 12,000 feet long was cut through the central portion of the claim group. Cross lines were cut at 800 foot intervals over the grid and at 400 foot intervals where areas of geophysical interest appeared. Survey control was maintained by picket and chain methods with periodic bearing checks by Brunton compass. The grid plan is shown on all geophysical maps presented in the report folder. All line cutters were hired from the local settlement of Ross River.

Magnetometer Survey

A Sharpe's MF1 magnetometer was used during the entire survey, the instrument is a first order flux gate type vertical component magnetometer. It is hand held and has a maximum sensitivity of 20 gammas per scale division.

Readings were taken on a 100 foot station interval over the grid.

Diurnal variation and instrument drift were eliminated as much as possible by the following method:

- 1) the central base line was traversed, with readings taken at each cross line intersection point. The stations read were 'looped' every half hour as a method of recording the diurnal and drift variation. From this information each base station was corrected to its true apparent value.
- 2) At the beginning of every cross line survey a check was made at the base station (intersection of cross line and base line). The line was traversed out with readings taken every 500 feet and then traversed back with readings taken every 100 feet. The stations at 500 foot intervals served as intermediate bases for diurnal checks. After the line was completed the base station was

re-read. All stations were read with respect to time and diurnal was then calculated graphically by use of time-intermediate base gamma values. By using the base station value to tie into the cross line values throughout the survey all readings were made relative to each other.

After all corrections for drift and diurnal variations were carried out the gamma values were plotted in accordance to the location from which they were derived.

Electromagnetic Survey

A Crone JEM Electromagnetic Reconnaissance unit was used for the ground EM survey. This equipment was designed in accordance to specifications desired for mining exploration surveys. It employs a method independent of receiver to transmitter alignment, distance of coil separation, elevation differences and rough terrain. It may be used either as a vertical loop or horizontal loop, however the survey on the Ace Claims was only done by horizontal loop methods. EM was used in conjunction with the magnetometer survey in order to trace the airborne anomalies as efficiently as possible. The survey was conducted over the same grid that the magnetometer survey was, a 300 foot coil separation was used throughout. The depth penetration is effective to approximately 240 feet.

TREATMENT OF DATA

Magnetometer Survey

After each gamma value was corrected for diurnal and drift they were plotted on a plan of the survey grid (scale 400 feet to one inch). Profiles of each line surveyed were drawn to a standard gamma scale (see map in folder). The gamma values were also contoured on a separate map sheet with an iso-magnetic

contour interval of 100 gammas.

Electromagnetic Survey

The EM results were plotted on separate map sheets but on the same grid plan and scale that the magnetometer results were. A map of the profiles is not submitted due to the high resultant dip angles obtained and the apparent complexity of the conductor, a more intensive interpretation is planned later. A contour map of the high frequency (1800 cycle) was drawn with a 4 degree contour interval.

GEOLOGY

The area is generally comprised of graphitic schist overlying generally light coloured sericite schist. The aeromagnetic total field anomaly reflects the geologic structure markedly: the long axis of the anomaly probably represents a main isoclinal fold crest carrying ferromagnetic material, and the cross axis represents modification of later fold phases. Rough calculations and type curve comparisons with respect to the total field anomaly indicate depths to an anomalous body of around 550 feet and dips ranging from 45 to 90 degrees north (assuming thin sheet configurations). Calculated susceptibilities indicate a minimum value corresponding to gabbroic rocks, or those containing approximately 40 % pyrrhotite (assuming the causative formation is on surface). Projection of the lithologies mapped to date allows little likelihood of greenstone or gabbro at the depths or positions mentioned. In summary there is a large extensive anomaly aligning with known structure. The geology is favourable, including mineralization which could easily conform with the anomaly. The ace group offers an excellent possibility for finding large sulphide replacement bodies.

INTERPRETATION AND CONCLUSIONS

one well defined coincident electromagnetic and magnetic anomaly was located on the Ace Claim Group. Both anomalies are contained approximately within the same boundaries and each exhibit complexity in common areas. The western end of the EM anomaly represents what is most likely the graphitic schist contact. The southern sections of both the EM and Magnetic anomalies are coincident in areas of high relief. It is most probable that the overall EM anomaly represents

represents the carbonaceous schists mentioned by Fairley (1964). The complexity of the EM and apparent variation in conductivity throughout what is a graphitic area favours the examination of coincident magnetic anomalies. Half-width depth estimations taken over magnetic anomalies show the causative structure to be within 300 feet of surface. Examination of these magnetic anomalies is definitely warranted by means of a rotary drill program.

Respectfully Submitted
John S. Brock

APPENDIX

Ground Geophysical Investigations
Ace Mineral Claims

PERSONELL

Magnetometer Operator

William Barclay
Hancy, B.C.

Electromagnetic Survey

Phillip Neilson
Vancouver, B.C.
Scot Cameron,
Whitehorse, Y.T.

Linecutters

Laurence Bill,
Whitehorse, Y.T.
Charlie Ollie,
Sam McLeod,
Robert Etzel,
John Ollie,
McLeary Acklock,
of Ross River, Y.T.

Geophysical Supervision,

John S. Brock,
3050 Procter Ave.,
West Vancouver, B.C.

Explorations Manager,

Gordon Davis,
Vancouver, B.C.

REFERENCES USED

Mineral Deposits of the Vangorda District, by J.F. Fairley.
a private report to Dynasty Explorations Limited

ASSESSMENT WORK 1965

ACE CLAIM GROUP

DYNASTY EXPLORATIONS LIMITED

I Mobilization and Camp Construction

A) Helicopter Transport	
1) Crew Moved In, Camp Move, June 24 (Voucher A1)	\$1715.00
2) Crew Moved Out August 13 (Voucher A2)	610.00
3) Camp Supply (Voucher A3)	1376.00
B) Camp Construction 7 men 4 days = 280 man hours @ \$1.50/hr	<u>420.00</u>
I Total	<u>\$4121.00</u>

II Geophysical Surveys

A) Linecutting	
Total Footage Cut = 126,000 ft. contract @ \$7/1000'	\$ 882.00
B) Magnetometer Survey	
1) June 29 to July 3 = 5 days Aug. 1 to Aug. 19 = 18 days <u>23 days</u>	
2) i) Operator = 12.50/day (B. Barclay) ii) Camp Cost = \$7.00/day iii) Supervision = <u>5.00/day</u> <u>24.50/day</u>	
3) Cost = \$24.50/day x 23 days =	564.00
4) Instrument Rental =	125.00
C) EM Survey	
1) July 2 to July 3 = 2 days Aug. 1 to Aug. 19 = 18 days <u>20 days</u>	


C)	2)	i) Operator = 13.50/day	
		ii) Helper = 10.00/day	
		Camp Cost 14.00/day	
		Supervision 5.00/day	
		<u>42.50/day</u>	
	3)	Cost = \$42.50/day x 20 days =	\$ 850.00
	4)	Instrument Rental	110.00
D)		Preparation of Maps and Data Reductions	<u>400.00</u>
		II Total	<u>\$2931.00</u>

III Road and Airstrip Construction

A)		Airstrip 2800' Strip Unfinished Condition	
	1)	May 15 to May 18 4 days double shifts	
		4 x 24 hours x \$20/hr =	\$1920.00
	ii)	August 10th and 11th 4 shifts x 12 hrs.	
		x \$20/hr =	960.00
B)		Winter Road Construction from Beta Claim Group to Ace Claim Group Approx. 11 miles	
	1)	April 29 to May 5, 7 days, 2 shifts =	
		7 x 2 x 12 hrs/shift x \$20/hr =	3360.00
	ii)	Supervision 5 days @ \$25/day =	<u>125.00</u>
		III Total	<u>\$6365.00</u>

A F F I D A V I T

Supporting Statement of Costs, Geophysical Surveys
Ace Calim Group - June 24 - August 13, 1965

 **Alan Kulan, of Whitehorse, in the Yukon Territory,**
I, ~~John S. Brock, of Whitehorse, British Columbia,~~
knowledge of
have ~~compiled~~ the statement of costs (Ground Geophysical
Investigation, Ace Claim Group).

I make oath and say that to the best of my knowledge
and belief, the statement of costs as presented in this
report, is true and an accurate representation of expenditure
to be applied as representation work on the Ace Claim Group.

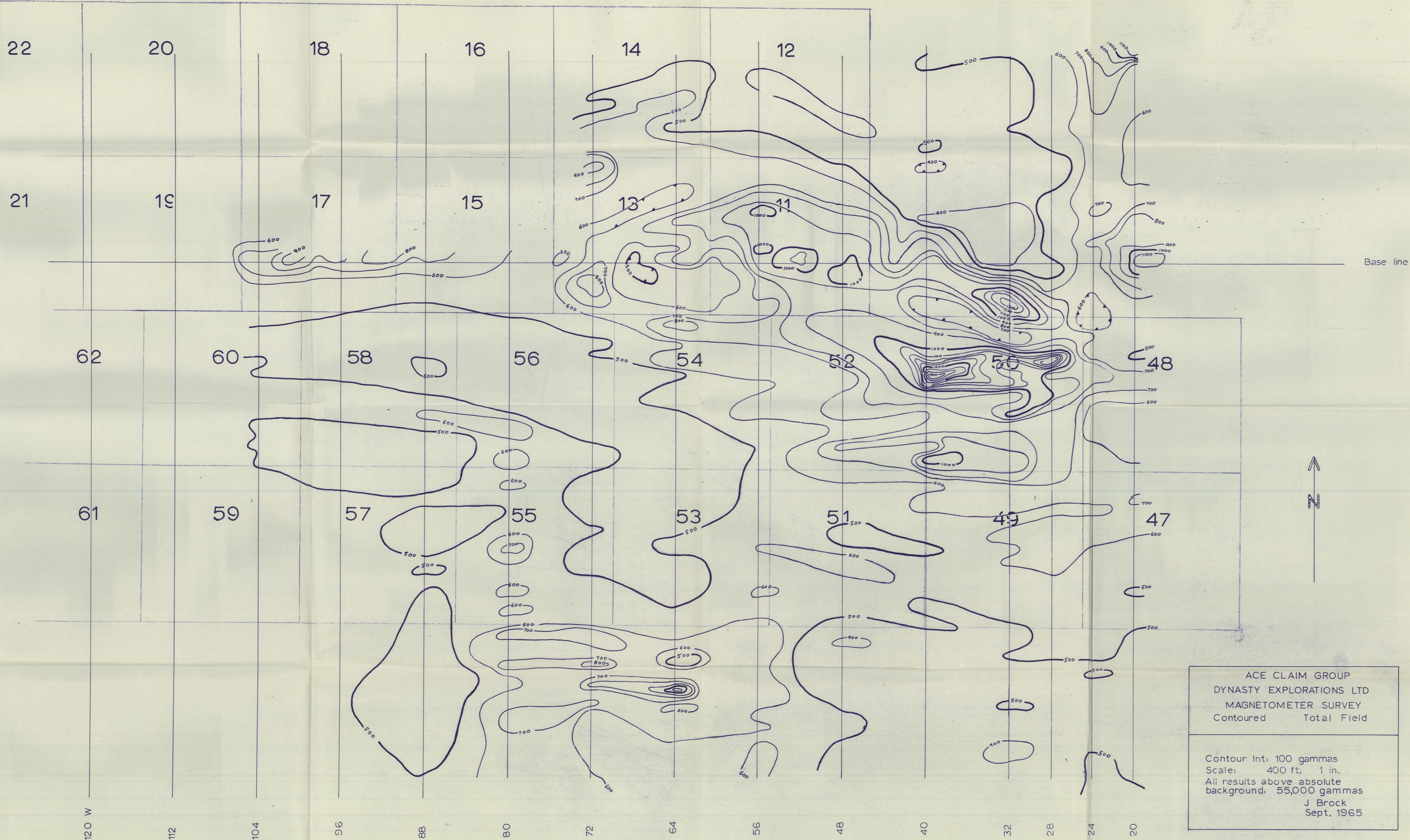

Alan Kulan


John S. Brock

Dec 9/65
Date

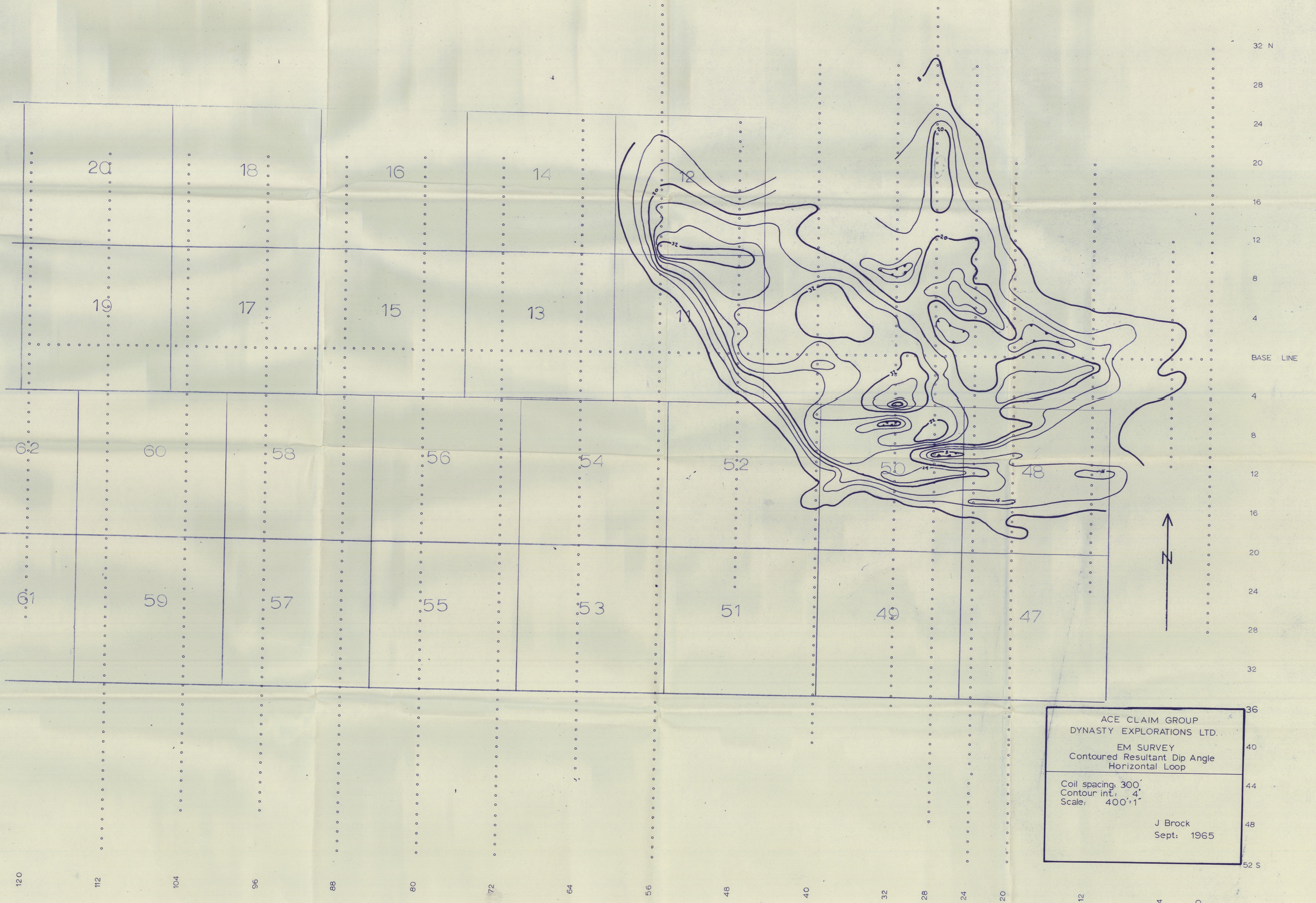
Sworn before me at ~~Whitehorse~~
in the Yukon Territory, this
17th day of January, 1966.


G. A. McIntyre
A Commissioner for Oaths for
Yukon Territory,



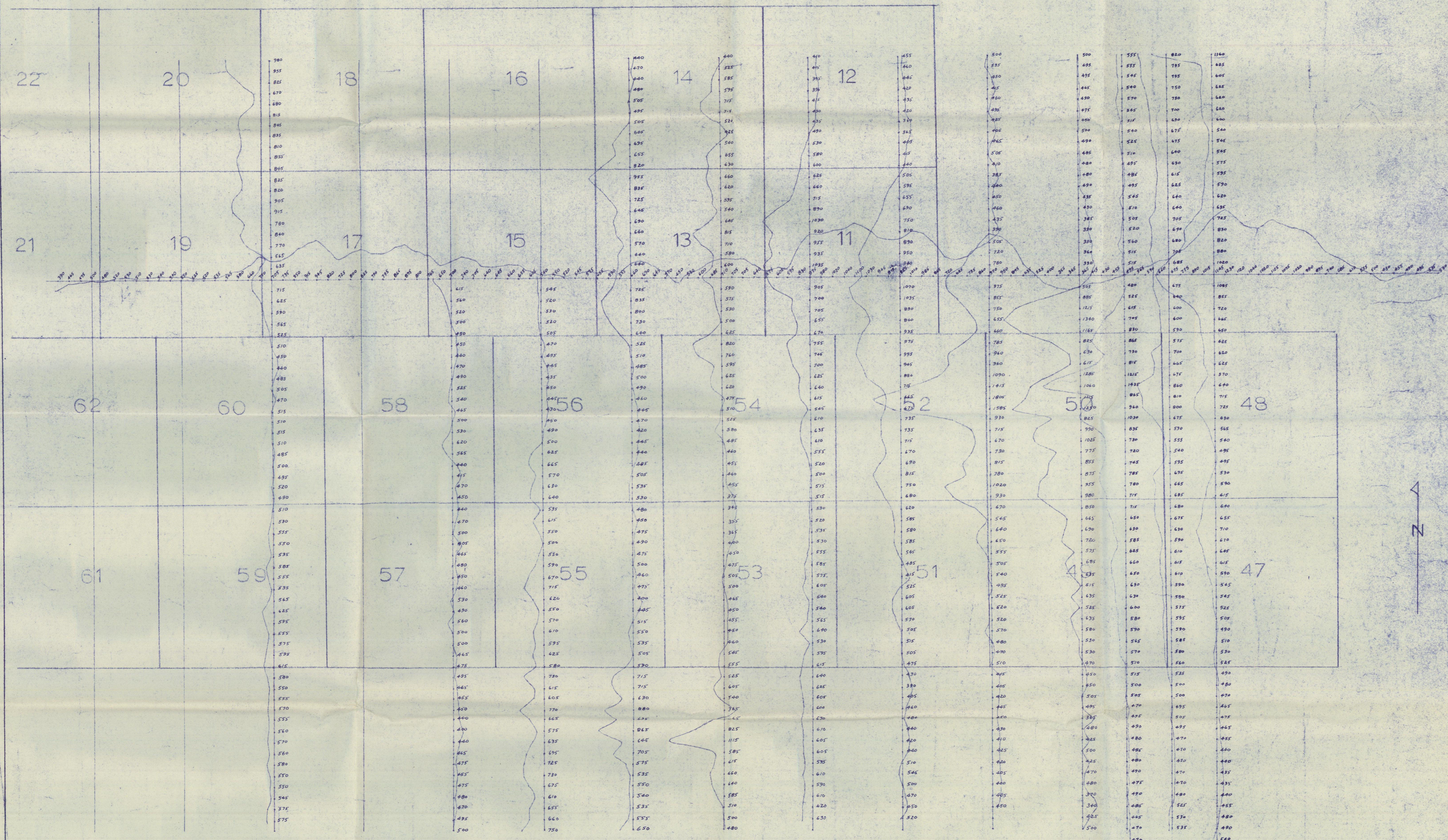
ACE CLAIM GROUP
 DYNASTY EXPLORATIONS LTD
 MAGNETOMETER SURVEY
 Contoured Total Field

Contour Int: 100 gammas
 Scale: 400 ft. 1 in.
 All results above absolute
 background: 55,000 gammas
 J Brock
 Sept. 1965



ACE CLAIM GROUP
 DYNASTY EXPLORATIONS LTD.
 EM SURVEY
 Contoured Resultant Dip Angle
 Horizontal Loop
 Coil spacing: 300'
 Contour int.: 4'
 Scale: 400':1"
 J Brock
 Sept: 1965

120 112 104 96 88 80 72 64 56 48 40 32 28 24 20 12 4 0
 32 N 28 24 20 16 12 8 4 BASE LINE 4 8 12 16 20 24 28 32 36 40 44 48 52 S



ACE GROUP
 MAGNETOMETER SURVEY
 GAMMA VALUES
 Scale: 400 feet: 1 inch
 Wm Barclay
 AUG 1965