

TABLE OF CONTENTS

	<u>Page No.</u>
INTRODUCTION	1
LOCATION and ACCESS	2
GEOPHYSICAL GRID	2
INSTRUMENT and FIELD PROCEDURE..	2
PRESENTATION of DATA	3
DISCUSSION of RESULTS	4
CONCLUSIONS and RECOMMENDATIONS.	5
COST STATEMENT	6
QUALIFICATION OF STAFF MEMBER ..	7

LIST OF ILLUSTRATIONS

	<u>ILLUSTRATION</u> <u>NO.</u>	<u>SCALE</u>
LOCATION MAP	L - 6292	1" : 2300 Ft.
MAGNETOMETER SURVEY	M - 8350	1 " 5000

GEOPHYSICAL SURVEY
On The
'B' and 'SUNEP' Claims
Lucky Joe Creek Area, Y.T.

INTRODUCTION

From 13 June to 22 June, 1975, a magnetometer survey was conducted over geochemical targets on the Lucky Joe property. The purpose of the survey was to map the apparent magnetic susceptibilities of the underlying rocks and, hopefully, contribute to the understanding of the geology. This programme was carried out by J. Lindsey and D. Sexsmith, under the supervision of the latter. Both are members of the Rio Tinto Canadian Exploration Limited geophysical staff. The results of the survey are discussed in the following report.

LOCATION and ACCESS

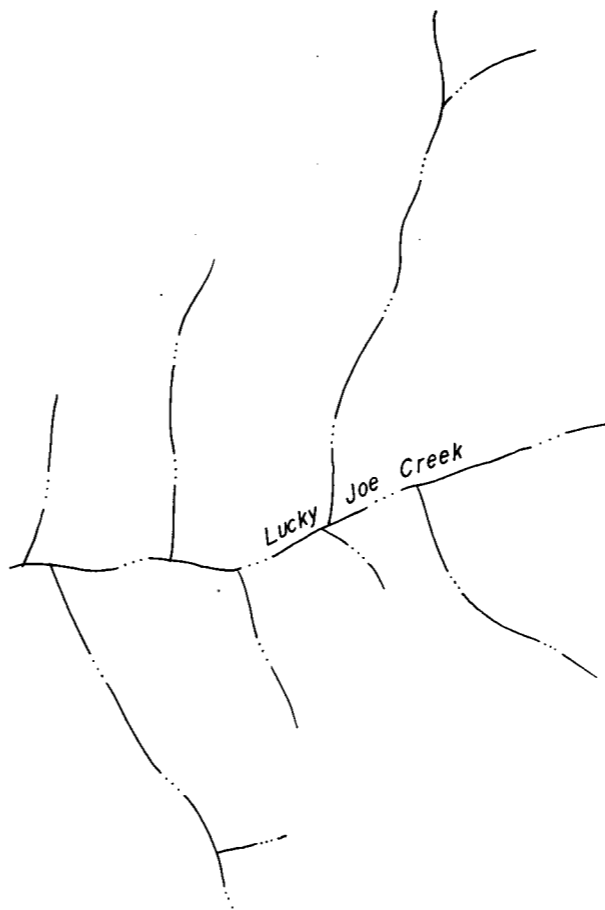
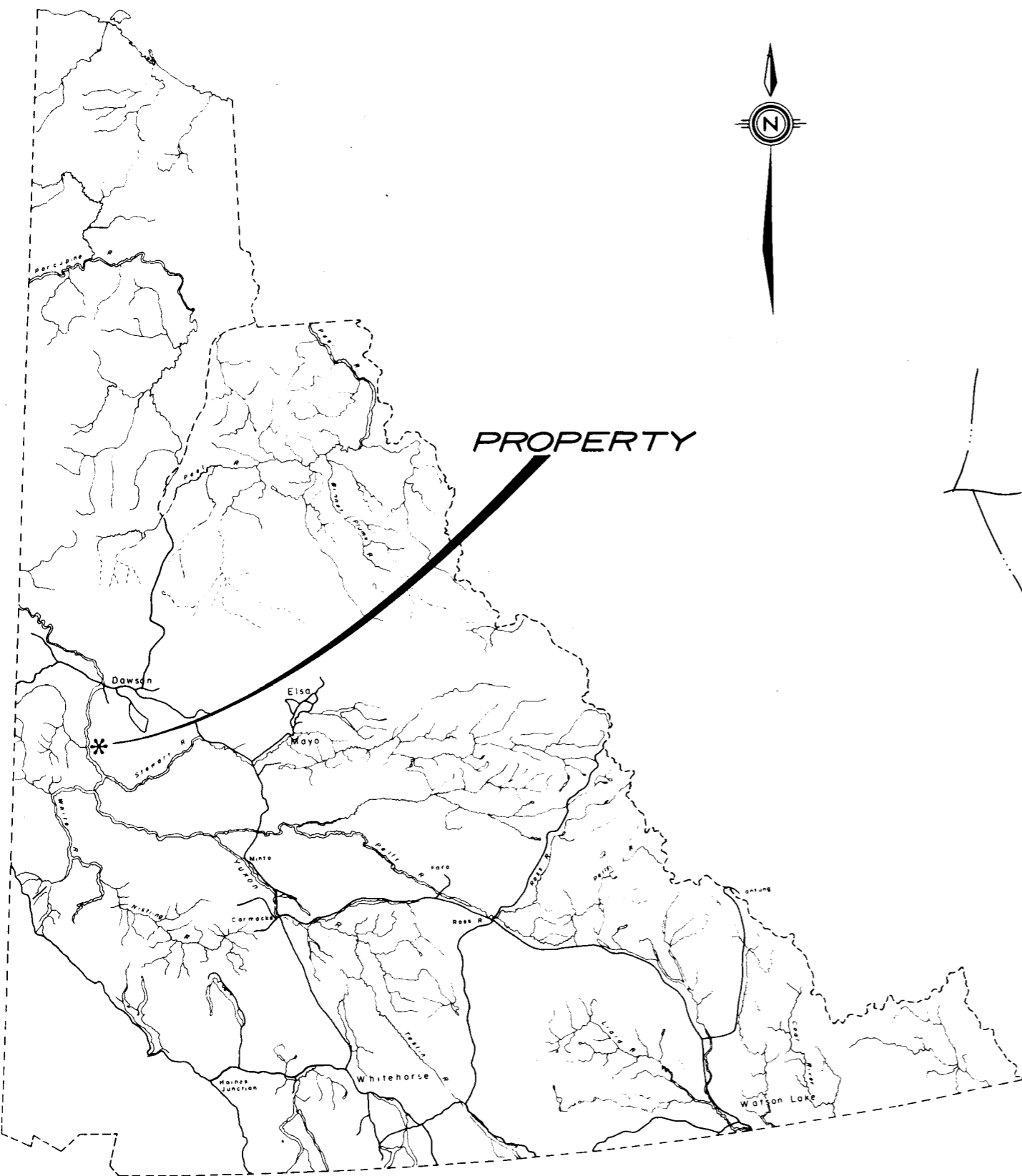
The property consists of 16 'B' mineral claims optioned from Silver Standard Mines Limited and 30 Sunep mineral claims staked shortly after the option was acquired. It is located on Lucky Joe Creek, 34 miles south of Dawson City and 7 miles east of the Yukon River. Access to the property by charter helicopter may be arranged from Dawson City.

GEOPHYSICAL GRID

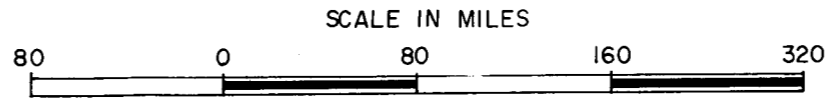
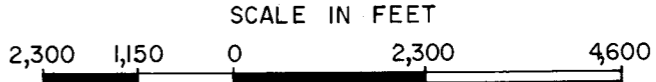
Ground control was established by means of a compassed, cut, flagged and horizontally chained grid of eleven lines at 250 meter intervals covering the geochemical targets. Stations were flagged at 50 meter intervals. The scale and orientation of the grid relative to the claims and geochemical anomalies is given on drawing # M - 8350 , accompanying this report.

INSTRUMENT and FIELD PROCEDURE

A Scintrex MF-2 fluxgate magnetometer was used. At a convenient base station, in an area of low magnetic relief, the magnetometer was manually adjusted to read



SUNEP 31	SUNEP 33	SUNEP 19	SUNEP 21	SUNEP 23	SUNEP 32
SUNEP 30	SUNEP 34	SUNEP 18	SUNEP 20	SUNEP 22	SUNEP 24
SUNEP 29	B 4	B 3	B 17	B 18	SUNEP 14
SUNEP 29	B 2	B 1	B 15	B 16	SUNEP 13
SUNEP 27	B 5	B 6	B 9	B 10	SUNEP 12
SUNEP 2	B 7	B 8	B 11	B 12	SUNEP 11
SUNEP 1	SUNEP 3	SUNEP 5	SUNEP 7	SUNEP 9	
SUNEP 2	SUNEP 4	SUNEP 6	SUNEP 8	SUNEP 10	



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LUCKY JOE OPTION		
PROPERTY LOCATION		
AUG. 1975	JM./Y.M.	DWG. L-6292

approximately 400 gammas on the 1000-gamma-full-scale-deflection range. A traverse, not exceeding one hour in duration, was then run beginning and ending with observations at the selected base station. The difference between the two base station readings was distributed among the intermediate readings proportional to the elapsed time from the first base station reading. Having thus established the relative value for each station within the initial traverse, successive hourly loops were then completed, each loop beginning and ending with an observation at a station established by a previous traverse.

By this method 776 observations or 9.72 line miles (15.64km) of magnetics were acquired, usually at 25 meter intervals along the lines.

PRESENTATION of DATA

The data are shown on accompanying drawing #M- 8350 at a scale of 1:5000. Claims, claim boundaries topographical detail and other information thought to be of interest are also indicated on DWG #L-

The data, corrected for diurnal variation, are plotted in plan form. Readings between -200 and 1000 gammas are contoured at intervals of 100 gammas. Readings above 1000 gammas are contoured at 500 gamma intervals.

DISCUSSION OF RESULTS

Magnetic susceptibilities within the survey area varied from -220 to 2180 gammas. The contoured data outlines three zones of contrasting magnetic susceptibilities.

Rocks of relatively low magnetic susceptibility less than 550 gammas, underlie most of the survey area north of the baseline. The geochemical targets occur within this unit.

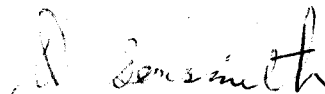
Rocks of intermediate magnetic susceptibility, 600 to 1000 gammas, occupy the southern portion of the grid. This unit is much more active magnetically with station-to-station variations in excess of 100 gammas commonly occurring. It is in contact with the less magnetic unit along an undulating horizon extending approximately from L1250W-00 to L1250E-250S.

Rocks of relatively high magnetic susceptibility, over 1000 gammas, occur along the contact between the first two units. They appear as a narrow sinuous belt extending from L1250W-100S to L1250E-300S with interruptions and/or displacements evident on lines 1000W and 800E.

Displacements and discontinuities suggest possible faults striking approximately N60E which intercept the baseline near lines 250W and 500E.

CONCLUSIONS and RECOMMENDATIONS

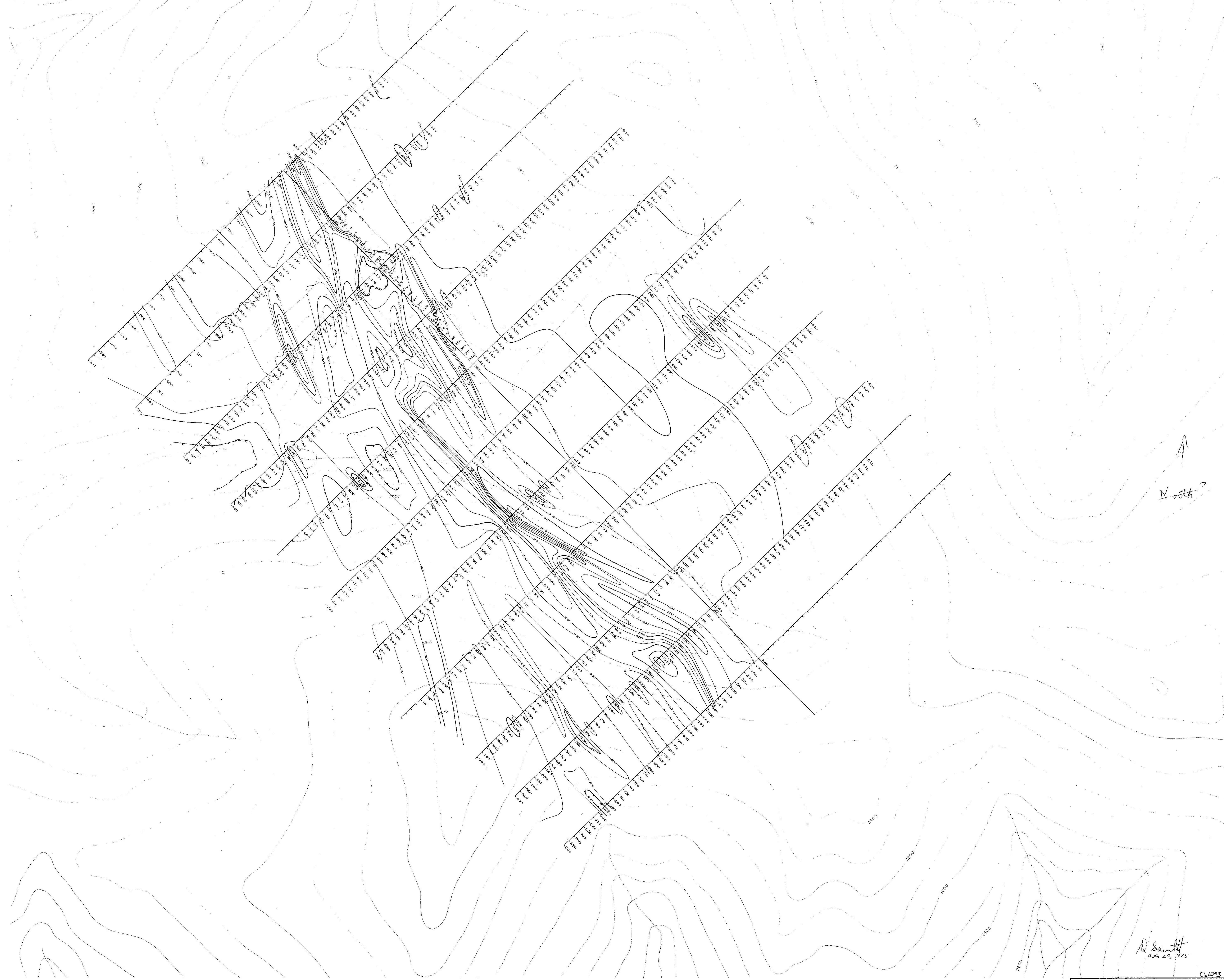
Good correlation between the poorly magnetic rocks and the geochemical pattern is apparent. It is recommended that the geological investigation be supplemented by additional magnetic coverage and an induced polarization survey to determine the nature and extent of the geochemical targets' source.



D. Sexsmith



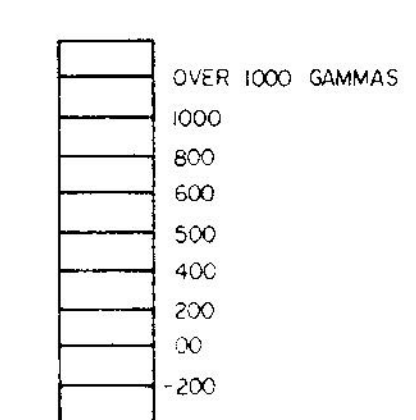
DS:rl
Vancouver Office , August '75



North?

R. Smith
AUG 29 1975

06/28



N.T.S. 1:5000

SCALE 1:5000



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