

KENNCO EXPLORATIONS, (WESTERN) LIMITED

REPORT

ON

MAGNETOMETER SURVEY

CHAPPELLE NO. 1 & 2 GROUPS

(Chappelle Mineral Claims 1-22, 25-30, 33-56, 81-86,
95-97, 100, 109-115, 247-249, 256-263)

Situated 17 miles northwest of Thutade Lake,
Omineca Mining Division,
British Columbia

57°17'N; 127°07'W

3171

By

R. W. Stevenson, P. Eng.

Work Done June 22 to July 2, 1971

July 30, 1971

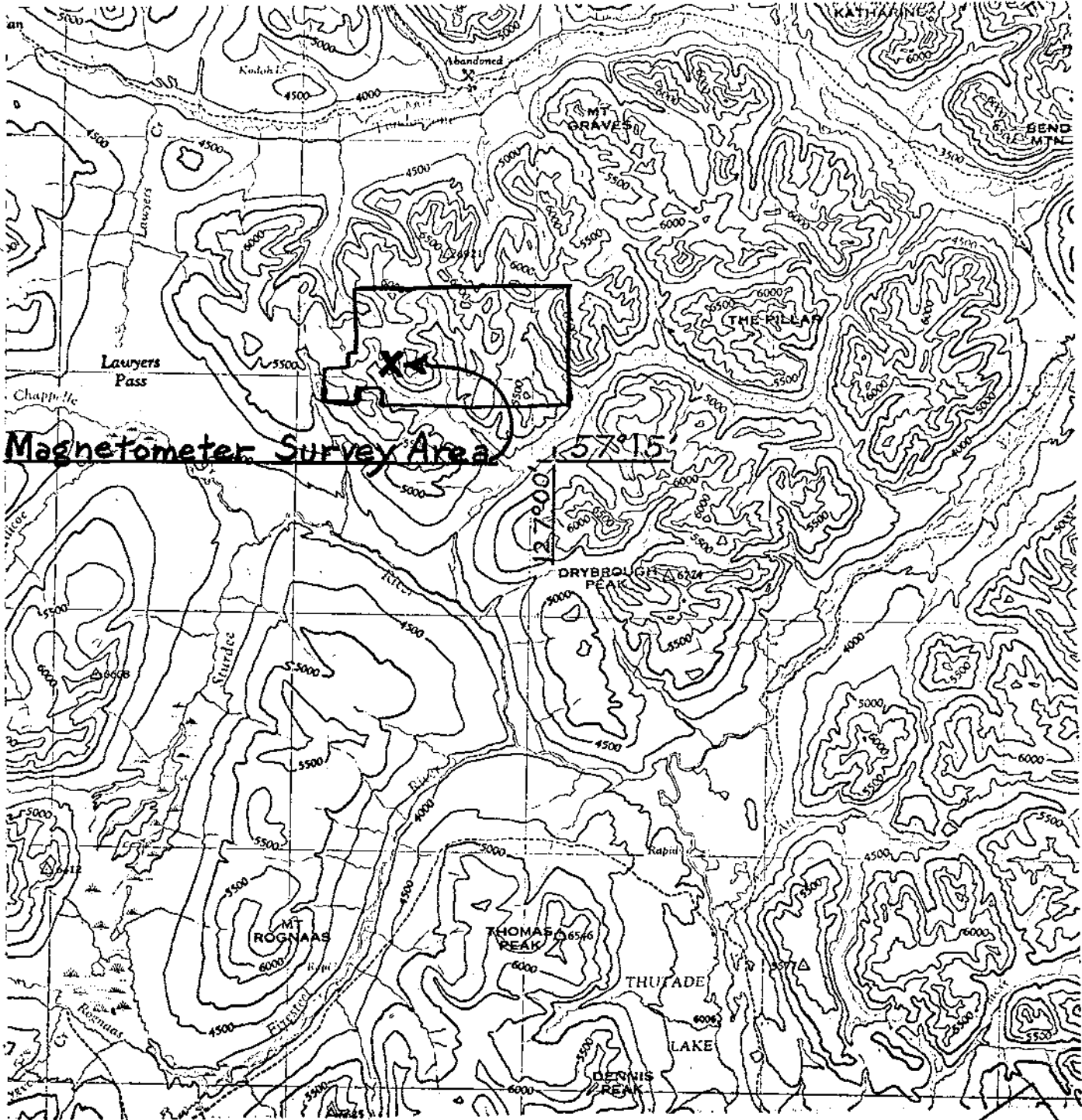
Department of Mines and Petroleum Resources ASSESSMENT REPORT	NO. <u>3171</u> MAP
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PLATES

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Magnetometer Survey Area

Kenco Explorations, (Western) Limited

CHAPPELLE CLAIMS

Situated 17 miles northwest of Thutade Lake

Omineca Mining Division
British Columbia

57° 127° SE

LOCATION MAP

Scale:
1 : 250,000

Department of
Mines and Petroleum Resources
INVESTIGATION REPORT
NO. 9171
R. W. Stevenson

INTRODUCTION

The mineral property discussed in this report is situated 17 miles northwest of Thutade Lake, British Columbia. The exploration work on these claims consisted of a detailed magnetometer survey done in the period June 22 to July 2, 1971.

The magnetometer survey and the interpretation were done by H.W. Fleming, who is a graduate of the University of Toronto, and is Chief Geophysicist for Kennco Explorations, (Western) Limited. The survey lines were laid out by S. C. Gower, E. A. Black, M.J. Steven, and S. Earle. The work was done under the general supervision of R.W. Stevenson, P.Eng.

LOCATION AND ACCESS

The property is situated at Latitude 57°17'N, Longitude 127°07'W, about 285 miles northwest of Prince George. This is about 17 miles northwest of Thutade Lake. The magnetometer survey area is at an elevation of about 5100' to 5700' above sea level, and is above tree line.

Access to the property is by fixed wing aircraft from Smithers to Black Lake, a distance of about 180 miles, and by helicopter from there. Local travel in the survey area is easy, except through small patches of scrub alpine fir.

MAGNETOMETER SURVEY

Magnetic Survey Method

A control grid was established by chain and compass survey, using laths and surveyor's flagging to mark the stations. The baseline direction is N45°E. For purposes of marking the stations, this was termed Grid North. Grid East-West crosslines were run at 200' intervals along the baseline. With this orientation, the grid crosslines were approximately at right angles to the trend of quartz veins that were to be detected. Readings were taken on stations established at 10-foot intervals along the lines. This close spacing was necessary in order to detect the narrow magnetic lows that are associated with the veins. A base map with scale of 1" = 50' was compiled for use in plotting the 1541 magnetometer stations along 2.9 miles of line.

The instrument employed was a McPhar M-700 vertical field flux-gate magnetometer. On the 1000-gamma scale, this has a sensitivity of 20 gammas per scale division, and a resolution of 5 gammas, with a probable overall repeatability of about 10 gammas. On the 3000-gamma scale, the sensitivity is 100 gammas per scale division, and the resolution is 25 gammas. The instrument was adjusted so that a very high percentage of the readings were taken on the most sensitive scale. The lines were run in loop patterns, with the time between base station checks usually being about fifteen to thirty minutes. Drift corrections were made, and the corrected readings were increased by 1000 gammas for plotting so that there would be no negative values.

Interpretation

The main purpose of the magnetometer survey was to indicate the location of quartz veins and intense silicification under extensive thin drift cover. The feasibility of this had been indicated by a few test profiles in 1970. The magnetic data have been plotted in two ways; as a contour map (Plate No. 1) with a contour interval of 100 gammas where possible, and 200 gammas where magnetic gradients are steep; and as profiles on a plan map (Plate No. 2) with a horizontal scale of one inch equals fifty feet, and a profile scale of one inch equals 200 gammas. The presentation of data in Plate No. 2 appears to be more useful in defining the location of the veins.

Geological information is being accumulated within the survey area, but to date is not available in a form that permits a conclusive interpretation of the magnetic data. The main rock types known to be present are syenite porphyry, meta-andesite containing well developed tremolite porphyroblasts, minor intercalated sediments, quartz veins, and silicified representatives of the various host rocks. The more highly metamorphosed phases of the andesite frequently have an appreciable percentage of magnetite, reported by polished section work to be about fourteen percent over narrow widths. Calculations based on the magnetic data where the maximum range of magnetic intensity is about 2360 gammas suggest an average magnetite content of from one to three percent over widths of 20 to 30 feet, depending on the depth of overburden. Where the veins, which are non-magnetic, are in contact with the magnetic andesite, a good magnetic contrast is plainly evident. But where a non-magnetic host rock

such as syenite, sediments, or non-magnetic andesite is present, or where silicification of the host rock has been extensive, there may be little contrast in magnetic properties.

The magnetic response is locally changed by variations in topography, but since the topographic effect on the magnetic pattern cannot readily be calculated, a further ambiguity is introduced. The southeast corner of the grid is several hundred feet lower in elevation than the northern and western edges. The south half of the west edge of the grid terminates at a ridge line, and this rather than a change in rock type appears to be the reason for the increase in magnetic intensity at the west end of lines 4+00N to 14+00N.

Most of the grid area appears to be underlain by andesite which displays rather erratic magnetic properties. This fact in combination with probable complex faulting results in a discontinuous magnetic pattern which is particularly evident on the contour map. Rarely can a prominent magnetic feature be traced over a distance greater than 600 to 800 feet.

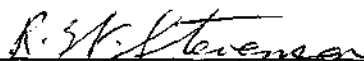
On the basis of the magnetic data, and a small amount of geologic data, it is believed that a body of syenite porphyry is centered about 3+00W on line 8+00N. This is bounded by moderately magnetic andesite on the east, and probably fingers out to the north. East of the baseline, and in the northern third of the grid area, the magnetic pattern suggests contorted andesite possibly cut by quartz veins and/or silicified zones. One known quartz vein system extends from line 4+00N to at least line 12+00N just east of the baseline, and a persistent magnetic low is closely associated with this. The magnetic low indicates

a geologic feature that is much broader than the quartz vein, but it is not known whether this is due to depletion of magnetite adjacent to one vein, or whether it is due to multiple veining. No other negative magnetic trend of such persistence is evident elsewhere on the grid.

On the basis of the magnetic data, it is recommended that trenching be done in the vicinity of the sharpest and most persistent magnetic lows. Where the initial results prove favourable, geology and magnetics should be used as a guide in extending the trenches.

Vancouver, B. C.

July 30, 1971



R. W. Stevenson, P.Eng.

STATEMENT OF COSTS INCURRED

Chappelle Magnetometer Survey

The cost of the magnetometer survey on Chappelle No. 1 and 2 Groups was as follows:

Chaining lines, magnetic readings, supervision:

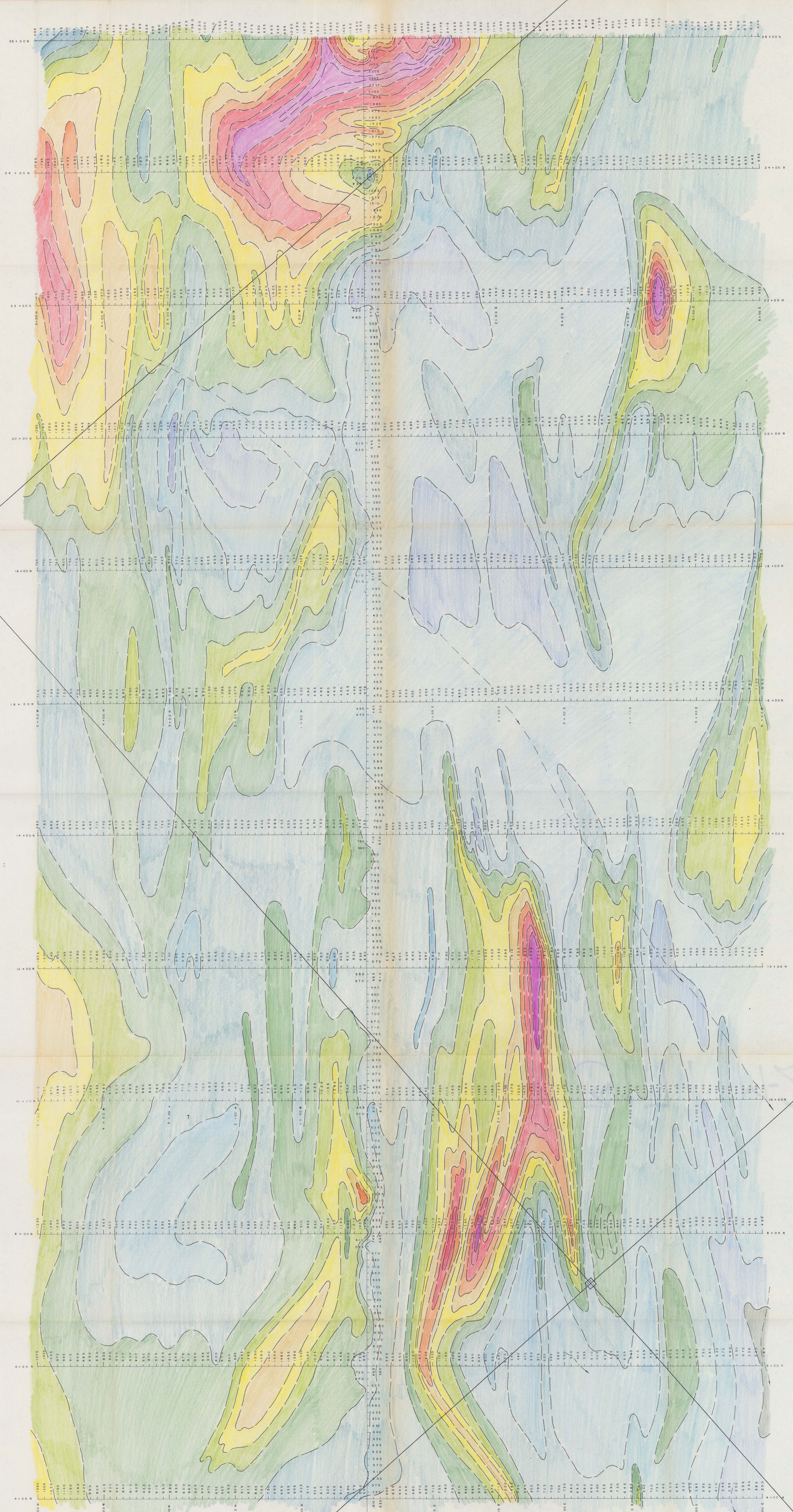
Wages & Board:

- mag. survey lines				
S.C. Gower	June 22-29	\$35.00 + \$10.00	= \$	360.00
E.A. Black	June 22,23	\$21.00 + \$10.00	=	62.00
M.J. Steven	June 22-26,28,29	\$19.00 + \$10.00	=	203.00
S. Earle	June 24-29	\$17.00 + \$10.00	=	162.00
- mag. survey readings				
H.W. Fleming	June 26-29	\$50.00 + \$10.00	=	240.00
S. Earle	June 30, July 1,2	\$17.00 + \$10.00	=	81.00
Station markers: 600 laths @ 9¢ ea.; 8 rolls flagging @ \$1.00			=	62.00
Magnetometer rental: 7 days @ \$10.00/day			=	70.00
Drafting and typing			=	65.00
			Total	= \$1,305.00

Amount expended on Chappelle No. 1 Group = \$ 260.00

Amount expended on Chappelle No. 2 Group = \$1,045.00

\$1,305.00



3171 M-2

LEGEND

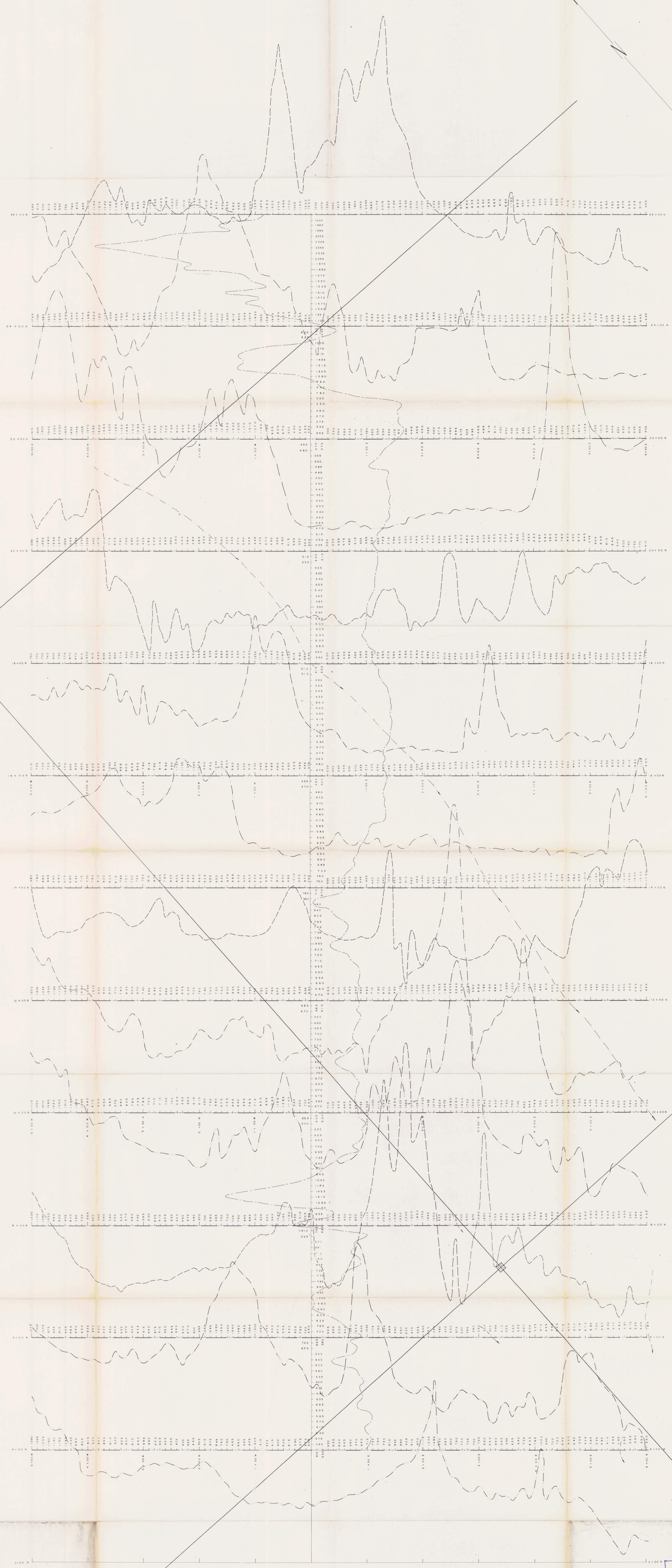
Light Blue	1 - 200 Gauss
Blue	201 - 400 Gauss
Light Green	401 - 600 Gauss
Green	601 - 800 Gauss
Dark Green	801 - 1000 Gauss
Yellow-Green	1001 - 1200 Gauss
Yellow	1201 - 1400 Gauss
Orange	1401 - 1600 Gauss
Red	1601 - 1800 Gauss
Dark Red	1801 - 2000 Gauss
Purple	2001 - 2200 Gauss
Dark Purple	2201 Gauss and Greater

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
No. 3171 - Map 3171 M-2

KENNCO EXPLORATIONS (WESTERN) LIMITED
 Chappelle No. 1 & 2 Groups
 Chappelle Mineral Claims 1-6
 Ontario, M.O., B. C.
 Magnetometer Survey
 Magnetic Contour Map

DR. BY: H. F. DATE: SCALE: 1" = 50'
 TRACED BY: J. L. DATE: 25/7/77. FILE NO.

To Accompany Magnetometer Survey Report by R. W. Stevenson P. Eng.
 on Chappelle No. 1 & 2 Groups, 17 Miles Northwest of Thudade Lake,
 Ontario Mining Division, Done July 30, 1977.



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3171 MAP #3

Vertical Scale: 1" = 200 Gauss

KENNCO EXPLORATIONS (WESTERN) LIMITED			
Chappelle No. 1 & 2 Groups			
Chappelle Mineral Claims 1-6			
Omineca M.D., S.C.			
Magnetometer Survey			
Magnetic Profiles			
DATE BY: R.F.	DATE:	SHEET: 1	TOTAL SHEETS: 2
DRAWN BY: J.G.L.		SCALE:	1" = 50'
TRACED BY: J.G.L.		DATE: 25/7/77	REVISIONS:
FILE NO:			

To accompany Magnetometer Survey Report by R.W. Stevenson, P. Eng.,
on Chappelle No. 1 & 2 Groups, 17 Miles Northwest of Thibodeau Lake,
Omineca Mining Division, Donep July 30, 1977. *R.W. Stevenson*