

Geophysical Report

THE ELK CLAIM GROUP

Location : Six miles south of Endako, B.C., Omineca  
Mining Division 54-00; I25-00 S.E.

Report by : Roderick Macrae, P. Eng.

Claim Owner : Totem Minerals Limited.

93K/3E

Work Done For : Badyke Mines Limited.

Dates of Work : Oct. 25/61 to Nov. 6/61.

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APPENDIX "A"

Statement of Qualifications of Robert L. Gabel,  
ABEM Magnetometer Operator on the  
Elk Claim Group

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Graduate, University of Toronto.

Degree: B.A.Sc. (Mining)

Experience: Nine seasons geophysical surveying  
and geological mapping while empl-  
oyed by the following companies:-

Bardyke Mines Ltd.

Conwest Exploration Co. Ltd.

Icon Syndicate

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APPENDIX "B"

Statement of Costs of the Survey

Line Cutting:

Labour 15 man/days @ \$20.00/day	\$300.00
Maintenance	\$103.00

Surveying and Mapping:

Instrument Operators:

Labour 20 man/days @ \$25.00/day	\$500.00
Maintenance	\$131.00

Printing Maps and Typing	\$20.00
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Rentals:


ABEM Magnetometer 8 days @ \$25.00/day	\$200.00
1 Ton Jeep	\$50.00
Mileage 200 miles	\$10.00

Supervision:

4 man/days	<u>\$200.00</u>
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Total	\$1514.00
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I certify the above is a true and accurate statement of the costs of the survey of the Elk claim group.

  
Roderick Macrae, P. Eng.

TOTEM MINERALS LIMITED

SENSITIVE MAGNETOMETER SURVEY

of the

ELK CLAIM GROUP

Introduction:

The I2-claim Elk Group consisting of the Elk I-12 claims, was staked by Carl Erickson in November 1960, and sold to Totem Minerals Limited, in December 1960. The claims were staked to cover an area of Topley granite known to be favorable for the deposition of molybdenite.

In May, 1961, a team of four geologists conducted a reconnaissance survey over these claims, and found molybdenite in place over a 100 ft. length of exposure on Elk No. 5 MC. This survey determined that while the depth of overburden was probably light, complete masking of more than 90% of the surface of each claim by drift and talus was the case. In October, a detailed magnetometer survey using an AB Elektrisk sensitive magnetometer Type I263, No. 4505, was conducted on the claim group.

Description:

The Elk claim group occupies an area in the semi-arid belt on the north side of the Caribou Plateau. The claims occupy the north slope of Francois Lake in the Omineca Mining Division. The location is approximately 6 miles south of Endako, B.C. Ground cover varies

from jackpine to dense brush in a series of east-west trending ridges and valleys. Access may be had via logging roads.

Geology:

The few outcrops of rock plus the float specimens, indicate the area is underlain by granites, probably of the Topley Group. The granite is a coarse grained biotite-rich variety, with erratic incidences of quartz pegmatite. At irregular intervals a fine grained volcanic rock, age unknown, overlies the granite. The structure is effectively masked by overburden; however, an east-west lineation seen in airphotos plus east-west drainage indicate this may be the pattern for major jointing and fracturing in the area.

Reasons for the Survey:

The survey was planned to search for areas of low magnetic intensity, on the assumption that the instrument used would record this affect. From an examination of the adjoining Stella molybdenite prospect, it was established that mineral occurs only in a host rock of intensely altered granite, and this survey was an attempt to correlate low magnetic intensity with intense alteration.

Details of the Magnetometer Survey:

A 30 Degree Azimuth Base-Line was established by chain and compass survey. Survey lines at 400 foot intervals east and west of this line were cut and picketed at 100 foot intervals on the line. A daily base station was established; readings at picket stations were taken and

magnetic drift and diurnal variations were determined by checking at the circuit base stations, at 2 hr. intervals throughout the day, and at the daily base station at morning and night. Readings were corrected for magnetic drift; the instrument recorded II.I gammas/scale division. A map was constructed and the instrument readings converted to gammas were plotted on a scale of 400' to the inch. Prints of this map, showing the readings taken at each station, are enclosed.

Approximately 64,000 feet of magnetic survey were completed on the Elk Claim Group. Gamma values varied from 302 to 3610. 75% of the readings recorded occurred between 1600 gammas and 2100 gammas.

Results of the Survey:

Magnetometer readings indicate the following anomalous conditions occur on the Elk Claim Group:

(i) A north-east enechelon magnetic high of 2200 to 2700 gammas crosses the claim group from the centre of Elk No. 7 and Elk No. 10 mineral claims, through the base-line at 42 + 00N; thence through 45 + 00N, at its intersection with line I east at 48 + 00N, and thence through line 2 east at 50 + 00N.

(ii) A north-east enechelon magnetic low of 1100 to 1400 gammas crosses Elk No. 9 and No. 10 mineral claims. This "low" extends from the intersection of line 3 west at 44 + 00N through line 2 west and

I west at 49 + 50N, thence through the base line at 50 + 50N, and 54 + 00N; and thence through line 2 east at 57 + 00N.

(iii) A weak magnetic "high" extends north/south through Elk No. 5,7,9, and II mineral claims following a line 750 ft. west of the base line.

(iv) An isolated 3610 gamma reading was recorded on Elk No. 4 mineral claim, and an isolated 302 gamma reading was recorded on Elk No. 3 mineral claim.

Two interpretations of these results are as follows:-

(i) The trace of the contact between the magnetic low and high which follows roughly, a line from the north-west corner of Elk No. 7 to the north-east corner of Elk No. 10 represents the contact between Topley Granite and Volcanic Rocks of unknown age, OR:

(ii) The magnetic low crossing Elk No. 9 and No. 10 mineral claims indicates an area of altered and/or sheared Topley granite.

The weak magnetic high referred to above is not capable of interpretation.

Respectfully submitted,

*Roderick Macrae*  
Roderick Macrae, P. Eng.

Nov. 10/61.



