REPORT ON THE
GEOPHYSICAL SURVEY
OF THE
TYNER LAKE 1-28 MINERAL CLAIMS
HIGHLAND VALLEY AREA, B. C.
Department of Mines and Petroleum Resources

ASSESSMENT REPORT

NO. 755  MAP #1

KEY MAP SHOWING LOCATION OF TYNER LAKE PROPERTY

HARVEY H. COHEN, P.ENG.
August 5, 1965

Boraway Mines Ltd.
569 Howe Street
Vancouver 1, B. C.

Dear Sirs:

Geophysical Survey
Tyner Lake 1-28 Mineral Claims
Highland Valley Area, B. C.
Nicola Mining Division
File No. 65-124

Pursuant to your instructions, we have carefully conducted a geophysical survey on the Tyner Lake 1-28 Mineral Claims in the Highland Valley Area, B.C., and submit herewith a map together with a report on the results of our findings.

Respectfully submitted,

HHC/mm

Harvey H. Cohen, P. Eng.
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#1 - Key Map showing location of Lynis Lake Property

#2 - Magneto-meter Survey

D.W.G. 65-124-4

Scale 1" = 200 feet
GEOPHYSICAL SURVEY

TYNER LAKE 1-28 MINERAL CLAIMS

NICOLA MINING DIVISION

INTRODUCTION

The Tyner Lake 1-28 Mineral Claims, located in the Highland Valley Area, B. C., in the Nicola Mining Division, are held by Boraway Mines Ltd. (N.P.L.) of Vancouver, B. C. The period from June 23 to July 23, following an examination, was spent on the property conducting a geophysical survey employing a Sharpe Magnetometer, Model 43, surveying of claim location lines, establishing grid lines and stations on a pattern of 400 feet by 100 feet. The map and report are compiled from the results of this fieldwork.

Purpose of Investigation

The purpose of the geophysical survey was to detect, measure and record any magnetic influences other...
than the natural or normal vertical component of the earth's magnetic field on a regular grid pattern over the area—plotting the observations and resulting anomalous areas which would indicate the presence or absence of magnetic minerals—primarily magnetite—in the bedrock or caprock of the mineral claims examined. A magnetic anomaly of high or low magnetic intensity located by this geophysical survey would indicate or select an area deserving detailed attention and investigation for, copper mineralization in the area has been found to occur closely associated with structural changes in the rock formations, magnetite accessory content, and geological contact zones.

Location and Access

The Tyner Lake 1-28 Mineral Claims (part of the entire block consisting of the Tyner Lake 1-28 and Twin Lake 1-30 Mineral Claims) are held by location and purchase by Boraway Mines Ltd. of Vancouver, B. C.

The property is located in the Tyner Lake Area near the headwaters of Skukum Creek approximately 15 miles in a direct line northeast of Merritt, B. C. The area lies at an average elevation of 4,500 feet above sea level. (Latitude: 50° 20' N by Longitude: 120° 55' W.)
The property is reached from Merritt, B. C., via the Merritt-Spences Bridge Highway westerly for five miles to Lower Nicola; thence via the Craigmont Road north for a distance of four miles to the Chataway Road. This road is followed to a point just south of the old Aberdeen Mine where it turns westerly directly to the property. The total road distance from Merritt is 26 miles. Access to Tyner Lake is considered good and is readily reached by standard type vehicles.

From Tyner Lake, a road leads westerly to Farr Lake, south to Abbott Lake, and joins the Merritt-Spences Bridge Highway at Dot - the mid-point on the Merritt-Spences Bridge Road.

The most northerly claims of the Tyner Lake Group were reached on foot through the jackpine country. Windfall areas and swamps presented some inconvenience in grid line survey in this area.

Physiography

The area is situated within the dry belt of British Columbia. The relief, while not rugged, reaches elevations of up to 6,000 feet while the valley floor lies below the 3,000 foot elevation.
Most of the area is covered by a layer of overburden and jackpine forest growth. Natural outcrops are few and these are limited to ridges and bluffs, road cuts, and minor creek beds.
GENERAL PROCEDURES

The claim location lines for the Tyner Lake Group were surveyed and established as a north-south base line for the survey. The cross lines were established at 400 foot intervals along the base line, marked and flagged. The base line trends true north and south.

An arbitrary zero cross line was established at the extreme south end of the property and terminated at North 84, the north end of the Tyner Lake claims and south end of the adjoining Twin Lake Group.

Cross lines were run east-west, to the outside boundaries of the claims and cut the base line at 400 foot intervals. Stations were marked and flagged at 100 foot intervals along the cross lines and recorded as east or west of the base line. All lines were run by Brunton and chain, and magnetometer readings were taken at each station. In all approximately 30 miles of line were marked, chained, flagged in this survey.

The instrument employed on this survey was the Sharpe Magnetometer, Model A-3, having a sensitivity of 50 gammas per degree using the "null method". Readings were taken consistently at each station, facing south by
bringing the magnet drum inside the sphere of the instrument to zero position by means of the micrometer which operates the auxiliary magnet. The readings that were recorded were the micrometer settings taken directly from the Vernier.

The resulting isogonial lines plotted on the map were marked in gammas, the intensity of the vertical component of the absolute magnetic field. The contour interval plotted was 260 gammas and this conversion factor was obtained from the calibration charts for this particular instrument.
RESULTS OF GEOPHYSICAL INVESTIGATIONS

The prime purpose of the geophysical survey was to determine the existence of any magnetic anomalies on the property and if so, what was their size, intensity and possible cause. The magnetometer actually measured the vertical component of the absolute magnetic field at the point or station where the readings were taken. Thus, the variation in vertical magnetic intensities was the plotted result, and these variations are due to causes other than the normal magnetic field of the earth. An anomaly detected by this type of geophysical work would result from the presence or absence of the magnetic mineral magnetite in the rock underlying the area being investigated. A resulting magnetic anomaly would comprise an area of interest in the search for possible copper-iron ore bodies and certainly indicate areas worthy of more detailed attention and geological investigation.

Factors which produce variations in vertical magnetic intensity are:
1. A concentration of magnetic minerals possibly associated with valuable minerals.
2. A variation in amount of accessory magnetite in the granitic or volcanic bedrock.
3. A variation in amount of magnetite distributed through or connected with the overburden.

4. A variation in depth of non-magnetic overburden on caprock over bedrock having a constant vertical magnetic intensity.

5. Variation in amounts of magnetic minerals in adjacent bands of volcanic and sedimentary and/or intrusive rocks which produce elongated highs and lows parallel to the strike of the formation. These variations are not expected to be great.

6. Any combination between variations in magnetic minerals in the rock and variations in the thickness of the overlying magnetic or non-magnetic overburden or caprock.

7. Variation in the degree of alteration or replacement of magnetic constituents of igneous rocks by valuable minerals - particularly in sheared zones in granitics.

It will be seen from the above factors that the magnetic variation serves to indicate zones or areas that may be structurally favorable to ore deposition and are worthy of further geological investigation.
ANALYSIS OF RESULTS

Anomalies of interest that were identified on the Tyner Lake 1-28 Mineral Claims are described as follows:

1. **O-N-24**:

   An absolute high of 56,140 gammas on cross line O-N-24 just east of Tyner Lake. It adjoins a low of 55,000 gammas with a structural trend in a northeast-southwest direction. The magnetic differential is approximately 1,140 gammas and is indicative of a variation in magnetite content in two adjacent zones of intrusive rocks. It is quite possible the "low" is a zone of alteration or shearing with replacement of magnetite by valuable minerals. The anomalous zone measures 900 feet by 400 feet and conforms closely to the general structural trends of the major fault system in the area.

2. **O-N-32**:

   This anomaly on the southeast corner of Tyner Lake No. 6 Mineral Claim reveals a differential magnetic intensity of 1,600 gammas. To the south of the anomaly, a regular stable condition exists followed by the anomalous sequence in the northerly direction.
indicative of a pronounced structural change exhibited by three "lows" surrounding a "high". It appears to be an intrusive plug surrounded by an area of alteration and metamorphism. The area measures 800 feet by 400 feet.

3. **O-N-36:**

This anomaly with a differential of 1,040 gammas is a structural change trending north-south showing possibly a variation in magnetic minerals in the rock with minor magnetic variations in the overburden. The area is flat lying and the bedrock contour may be at least, in part, responsible for these variations. The apparent structural change appears related to the O-N-32 anomaly and may be a repetitive sequence of it.

4. **O-N-52:**

A circular area of approximately 600 feet in diameter exhibiting a low-high crossover on the Tyner Lake No. 3 Mineral Claim with a magnetic differential of 1,560 gammas appears as a cross fracture system within the batholith at an easterly trend from the north-south predominating structure. There appears to be, other than minor differences due to depth of overburden, reasons for the marked change that could provide a reasonable location for further exploratory work.
5. **O-N-52 West:**

A smaller but significant anomalous area occurs to the west extremity of the property just east of the road and west of a small un-named lake. The narrow elongated low intensity contour, indicative of structural changes appears to show distortions, possibly related to flow structure and secondary movement of intrusives. Thus, there could be rock openings sufficiently competent to provide access channels for mineralizing solutions to enter the host rocks.

6. **Other:**

Anomalous areas throughout the property are confined to variations of low intensity parallel to the general strike of the formations. While interesting from a geological viewpoint, such areas—particularly in the centre of the map sheet, appear confined to elongated zones of uneconomic interest.
RECOMMENDATIONS

In view of the magnetic influences recorded by this geophysical survey on the Tyner Lake 1-28 Mineral Claims, and too, the active exploratory programs presently being conducted on the Lomex, Jericho, Bornite Ridge, Chataway and Stellaco properties in the near proximity, the more significant anomalies in the area are worthy of further investigation and the recommendations presented in our report of June 28, 1965, should be completed.

This work, part of Phase 1, consists of:

Geophysical survey
Access roads and initial trenching $5,000.00
Mapping of trenches, supervision, sampling and engineering 5,000.00
Transportation and contingencies 1,000.00
$11,000.00

In addition, prospecting of the anomalous areas may be conducted prior to setting out the bulldozer work. An additional $1,000.00 should be allocated for this purpose.
Phase 2:

Consisting of a diamond drilling program of 1,000 feet minimum is estimated to cost, complete with supervision and engineering, etc. $15,000.00