MARENGO MINES LTD.

MAGNETOMETER SURVEY & REPORT ON
VIDA AND RED MINERAL CLAIMS.

92H/15E

Long: 120 - 30' Lat: 49 - 58'

Prepared By: A.D. Tidsbury, P. Eng
May 1967.

92 H 15

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May 26, 1967.

Marengo Mines Ltd., (N.P.L.),
302 - 550 Burrard Street,
Vancouver 1,
British Columbia.

Attention: Mr. John J. Brown, Esq.

Gentlemen:

As was requested by Mr. Merrell, I have completed a summation of the results from the recently completed magnetometer survey conducted over the Vida and Red mineral claims, and submit my covering report and map herewith.

The completed work locates several zones of pronounced low magnetic intensity bordered by areas of magnetic high. These trends warrant further investigation, and a proposal for the direction of this work is included in the report.

As results from the work become available, more direct inference as to mineral potential in the claim groups may be made from the plot of magnetic susceptibilities recorded. Present generalities in interpretation are occasioned by the fact that the late spring has not as yet permitted geological reconnaissance and correlation of observed geology with results from the magnetic survey.

Two copies of the subject report have been submitted to Mr. Merrell, in Merritt, for his further handling.

Yours very truly,

A.D. Tidsbury

A.D. Tidsbury, P. Eng.

MAGNETOMETER SURVEY

ON THE

VIDA AND RED MINERAL CLAIMS

NEAR

QUILCHENA CREEK

NICOLA MINING DIVISION

BRITISH COLUMBIA

Prepared by:

Tidsbury Engineering Ltd.
Calgary, Alberta.

May 26, 1967.

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MAGNETOMETER SURVEY

ON THE

VIDA AND RED MINERAL CLAIMS

QUILCHENA CREEK

NICOLA MINING DIVISION

BRITISH COLUMBIA.

INTRODUCTION

The twenty Vida and nine Red mineral claims constitute contiguous blocks, which together with thirty adjacent Kit mineral claims comprise the property of Marengo Mines Ltd. in the vicinity of Quilchena Creek and Pothole Lake, Nicola Mining Division, British Columbia.

Because the claimed area is largely deeded and utilized for grazing by ranching interests, non-destructive evaluation methods are desirable to localise areas worthy of intensive investigation. Accordingly, during the summer of 1966, test magnetometer profiles were conducted across the total property. This work indicated that the magnetometer was capable of defining structural trends known to be associated with copper - molybdenum mineralization observed in occasional outcrops of rocks underlying the mineral claims.

During the past fall and winter, a system of grid lines was cut and chained to establish stations for geophysical and geochemical surveys of the property. In March and April of this year, a magnetometer survey was conducted over the Vida and Red mineral claims.

It is the purpose of this report to compile and set out the findings of this survey, and to make recommendations for the further evaluation of mineral potential within the claim group.

LOCATION AND ACCESS

The Vida and Red claims are located immediately south of Quilchena Creek, and the southern portion of the property is east of, and adjacent to, Pothole Lake.

The area of survey coverage may be more particularly located

as follows:

Longitude : 120 degrees 30 minutes.

Latitude : 49 degrees 58 minutes.

Access to the mineral claims is by means of the Pothole Lake Road, which branches from the Merritt - Princeton Highway some two and one-half miles north of the Aspen Grove Store.

Travel about the claimed area is facilitated by old logging access trails which were utilized in logging the region.

Merritt, the nearest business center, is approximately twenty miles distant and is adequately served by road and rail facilities.

PROPERTY

Records pertinent to mineral claims within the study area are on file in the office of the Mining Recorder at Merritt, British Columbia.

The twenty Vida claims were recorded on April 29, 1966, and bear record numbers as follows:

Vida # 1	29766
to	to
Vida # 20	29785 (inclusive).

The nine Red mineral claims were optioned from Harry Nesbit, Aspen Grove, British Columbia. Claim and option details are on record in the Vancouver office of Marengo Mines Ltd. at:

302 - 550 Burrard Street,
Vancouver 1, B.C.

The Red claims predate the Vida claims, the latter being located to cover a known mineralized trend extending from the Kit group to the immediate north. Detailed reconnaissance completed during completion of the base line and grid system has enabled a chain and compass survey of the property to be prepared. This plot indicates that there is considerable overlap within the claimed area resulting in a decrease in acreage claimed, but that the area is well covered and no voids requiring location by fractional claims are apparent.

GEOLOGY

The study area is mainly open and rolling rangeland, with wooded valleys and depressions. Outcrops of underlying rock types

are erratically scattered about the claim group, being mainly confined to areas with little overburden along the crest of ridges and gullys.

Regional geology for the surrounding district is presented in Geological Survey of Canada Memoirs 243 and 249, with reference to the Princeton and Nicola Map-Areas respectively. The subject mineral claims are located in the extreme north-central portion of the Princeton map sheet.

The claimed area is located in a zone of altered Nicola Group volcanic and sedimentary rocks of Upper Triassic Age lying to the west of the northwesterly nose of the Pennask Batholith.

The Kit mineral claims, being a portion of Marengo Mines holdings, contain exposures of an altered fringe area which appears to be a halo bordering the more massive grano-diorite of the batholith proper. It is believed that this rock type, now a near monzonite in appearance, trends southerly from the Kit group and underlies a portion of the Vida group. Several dykes and sills of similar nature are known to outcrop on the Vida claims. It has been observed that this rock type is sparingly mineralized with pyrite, chalcopyrite, and molybdenite.

Near the contact with the intruded greenstones, the andesite is considerably altered and silicified. Epidote, pyrite, chalcopyrite, and minor pyrrhotite occur in favorable sheared and fractured zones.

The property is located on, or near, the projected trace of the Summers Creek Fault System, which extends northward from the vicinity of Princeton. Reference to aerial photographs indicate substantial fracture systems trending twenty degrees south of east and thirty degrees north of east which interrupt the main fault system in the general area of interest.

Limited reconnaissance completed to date suggests that regional bedding trends some ten degrees west of north, with dip variable between fifty-five and eighty degrees to the west.

GEOPHYSICAL STUDY

A. PREPARATION AND PROCEDURE

A test study conducted over and near the Vida and Red mineral claims indicated that the magnetometer was capable of defining the contact zone between the plutonic mass of the batholith and the intruded Nicola Group rocks. Relief of between 8,000 and 10,000 gammma was obtained across the contact.

The study also indicated that lesser relief was evident in altered zones of intrusive and intruded rocks when compared with readings from less altered and fresher areas of the same series.

Accordingly, a decision was made to grid the study area

and conduct a magnetometer survey for the purpose of defining regions of low and high magnetic intensity, and to utilize this resulting information in the direction of further exploratory work and a better knowledge of structural conditions considered to be related to control of mineral deposition.

In the period from the fall of 1966 through the present time a system of base and grid lines has been established by chain and compass. As is indicated in the contoured plot of magnetic intensity appended to this report, the property was surveyed in two sections, Areas " A " and " B ".

Lines were established at two hundred foot intervals in Area " A ", with stations being set at one hundred foot spacings along all lines. Area " B ", exhibiting lesser magnetic relief, has lines four hundred feet apart with stations set at one hundred foot intervals along all lines.

Base lines were run north - south, and grid lines east - west, all compass headings being true.

During March and April the magnetometer survey was run with progress being hindered by snow and a late spring. Readings were taken at each station using a Sharpe Fluxgate Magnetometer.

A base plan of the gridded area was prepared to a scale of 400' equals 1", and all readings were plotted. A contoured trace of the resultant magnetic profile appears as Exhibit 1, attached.

B. PERSONNEL

Line cutting and setting of stations was undertaken by G. Barra and D. Beamer, employees of H. Merrell Contracting Ltd., Merritt, B.C.

Magnetometer readings were taken by D. Beamer, assisted by G. Barra, status as above.

Supervision, plotting, and contouring was completed by the writer, and procedures were checked in the field during the course of the project.

C. RESULTS

In all work completed to date on the study area, trends of magnetic anomalies are north-south, approximately northwest, and some ten degrees west of north. The latter trend is thought to be influenced by the regional bedding as discussed under ' Geology ', while the north-south influence may be associated with the Summers Creek Fault, the extended trace of which has this general heading.

In both Areas A and B, prominent and continuous areas of

low magnetic intensity trend generally northwest and are bordered by zones of high intensity. Relief in Area A across this feature is some 2,600 gamma.

Also of interest is the separation of the study area into two sections with approximately 2,000 gamma difference in magnetic background. In general this zone of demarcation also has a trend approximating northwest.

RECOMMENDATIONS

Because the work was undertaken with the mineral claims snow covered, it was not possible to attempt correlation of the magnetic plot with geological reconnaissance. In consequence it is not presently possible to distinguish between magnetic anomalies attributable to bedded rock types and those caused by structural features thought to be associated with mineralization. It is, hence, suggested that additional exploratory effort be undertaken as follows:

1. Complete that geological mapping possible and correlate geological information with the magnetic survey.

2. Undertake additional magnetometer work in the border zone between Areas A and B. This should permit better knowledge of features governing the increase in magnetic intensities to the north.

3. Continue with current magnetometer work in progress on the Kit claims to the north of the Vida and Red claims, and plot all results as a unified project.

4. Strip across the " Low " in Area B at line 18 S and 7 west for geological and minerological information. Similarly undertake cuts at line 42 S - 9 W and line 56 S - 13 E

5. Based upon the results of the foregoing, additional stripping and testing of indicated structures at depth by drilling should be undertaken as warranted.

CONCLUSIONS

The magnetometer survey of the study area has indicated prominent trends of low magnetic intensity which warrant further investigation for mineral potential.

Additional and detailed geological information is required to complement the information gained from the survey. This geological data, together with the results of work now in progress on Marengo Mines property as well as that on neighboring mineral occurrences should materially assist in directing the nature and scope of future effort on the Vida and Red mineral claims.

As results from the work proposed become available, and the nature and tenor of mineralization encountered is known, magnetic susceptibilities may be more directly utilized as a measure of potential for the study area.

Respectfully submitted,

A.D. Tidsbury, P. Eng.

APPENDIX - SURVEY DATA

1. Instrument: E.J. Sharpe. (Magnetometer)
Model MF-1R ; Serial 505147.

2. Survey Period: March and April, 1967.

3. Grid System; Area 'A' - Stations 100' apart on lines spaced 200'.

Area 'B' - Stations 100' apart on lines spaced 400'.

Baselines N - S, Grid lines E - W. (True).

4. Control: Base Map by chain and compass, scale - 400' equal 1".

5. Survey Method: Survey conducted from a magnetic reference point located at Station Line 0 - 2W. As required, secondary reference points were established along Baseline # 1 and Baseline # 2. Secondary reference points were checked with the prime reference point before and after each days work.

Survey procedure required a control reading from the pertinent secondary reference point at 1 or 2 hour intervals throughout the working period, depending upon diurnal variation. Each reading, together with the hour and minute of observation, was recorded on the daily data sheet along with prime and secondary reference point observations.

6. Calculations: Diurnal variation was noted and a weighted value assigned appropriate observations for each working period.

7. Plotting: All readings, corrected, were plotted. The resulting contoured plot of magnetic intensity accompanies this report.

A.C. Lindsay

APPENDIX - PERSONNEL

The base line and grid system was undertaken and completed by employees of H.D. Merrell Contracting Ltd., Merritt, British Columbia.

The same employees conducted the Magnetometer Survey, and are responsible for the in-field observations and the recording of the observations on the daily work sheets.

Direction and supervision of the field work was by A.D. Tidsbury, P. Eng., resident in Merritt during the major portion of the survey period.

QUALIFICATIONS

G. Barra:

Field work in various localities in British Columbia with Kennex Ltd. Duties included day to day assignments in geochemical sampling and geophysical work under the direction and supervision of the respective Area Engineer.

D. Beamer:

Field work in southern British Columbia with H.D. Merrell Contracting Ltd. Duties have included geochemical and geophysical assignments under the direction and supervision of the Operator.

Note: Mess'rs Beamer and Barra were familiarized with the equipment used for the subject project by the author. In-field progress and direction was similarly furnished.

A.D. Tidsbury

RED 9 RED 5 RED 6 RED 4 RED 3 RED 2 RED 1 RED 8 RED 7

BASE LINE #1.

VIDA 11 VIDA 12 VIDA 2 VIDA 1 VIDA 13 VIDA 4 VIDA 3 VIDA 14

AOW

26 S 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64

AREA "A"

AREA "A" - LEGEND

CONTOUR INTERVAL 500 γ
GRID 200' X 100'
COLOUR CODE:

- 2000 γ (PLUS)
- 1500 to 2000 γ
- 1000 to 1500 γ
- 500 to 1000 γ
- 0 to 500 γ
- -500 to 0 γ

AREA "B"

VIDA 16 VIDA 15 VIDA 6 VIDA 5 VIDA 18 VIDA 1 VIDA 7 VIDA 8 VIDA 20 VIDA 9 VIDA 10

HIGH LOW -200 700 800

BASE LINE "2."

4 8 12 16 20 24 28 32 36 40

AREA "B" - LEGEND

CONTOUR INTERVAL 100 γ
GRID 400' X 100'
COLOUR CODE:

- 700 γ (PLUS)
- 600 to 700 γ
- 500 to 600 γ
- 400 to 500 γ
- 300 to 400 γ
- 200 to 300 γ
- 100 to 200 γ
- 0 to 100 γ
- 0 to 200 γ (MINUS)

STATISTICAL DATA

CO-ORDINATES	120° 30' LONG. 49° 58' LAT.
INSTRUMENT	SHARPE, MF-IR, FLUXGATE.
SENSITIVITY	± 5 GAMMA.
SURVEY	COMPASS & CHAIN.
GRIDS	AS INDICATED.
LINE CUTTING	JANUARY TO —, 1967.
MAG WORK	MARCH 9 TO —, 1967.
BASE MAP	G. BARRA.
MAGNETOMETER	D. BEAMER.
PLOTTED, COMPILED, CONTOURED	TIDSBURY ENGINEERING.

MAGNETOMETER:

MODEL	SHARPE, MF-IR, FLUXGATE.
SERIAL	505147
READINGS	TOTAL FIELD.

MARENGO MINES LTD.

VANCOUVER, B.C.

MAGNETOMETER SURVEY
ON
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QUILCHENA CREEK
NICOLA MINING DIVISION

SCALE: 1" = 400' DATE: MAY 26/67

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