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October 1, 1984

Attention: Dietar Schindelhauer, Director
Steven Hodgson, Director

Soil Geochemistry & Geophysics Surveys
Chalice Claims
Sechelt Inlet Area
Vancouver Mining Division, British Columbia

Dear Sirs:

At your request we have examined the data from the exploration program carried out to date on the above-named property. Supplied to us was the following:

1) Geophysical Report on Induced Polarization, Magnetometer and VLF-EM Survey by Douglas MacQuarrie, geophysicist, April 14, 1983.

2) Report and Work Proposal on the Chalice Property, by Edward W. Grove, consulting geological engineer, June 1, 1983.

3) Geological Map of the Chalice I Claim by Steven Hodgson.

4) Soil Geochemistry Map showing gold results of the Chalice I Claims.

Much of the work, in examining the data, which also involved some data reduction, was done by R.R. Fassler, geophysicist.

Our comments on each of the surveys are as follows:

1) Magnetic Survey

The data was only partially contoured. We felt more use could be made of the survey by contouring the data down to a 500-gamma interval, which is still a rather large contour interval. The data, however, is quite noisy, which is quite likely due to the variety of intrusive rock-types occurring on the property.

Many of the contours are parallel or sub-parallel to the survey lines. The first thought is that the diurnal corrections were not done properly in the field, which could also be the cause of the noisy data. However, some geological structure as well as all of the intrusive dykes are parallel and sub-parallel to the survey lines. Furthermore, many of the anomalous highs do cross from one line to the next.

Some of the magnetic highs correlate with topographic highs. This can be caused by less overburden on hilltops than elsewhere. Or, the writer feels, a more likely cause of the magnetic high is caused by a certain rock-type that is more resistive to weathering resulting in topographic highs. Contrary to this correlation, other highs occur on the side of topographic highs and some magnetic lows correlate with topographic highs.

There are a number of lineal magnetic lows that for the most part are striking northwesterly. There is a strong possibility that these are caused by geological structure such as faults, shear zones and/or contacts. Some of these correlate with topographic lows which can mean deeper overburden and therefore a lower magnetic response. However, very often the cause of topographic lows such as creek valleys is geological structure.

A few of the magnetic highs correlate with or occur near known sulphide mineralization some of which are auriferous. This would suggest that the other magnetic highs may indicate areas to explore for gold mineralization as well.

In conclusion, the magnetometer appears to be a useful tool for

mapping geology. It also indicates areas to explore for gold mineralization rather than pinpointing the mineralization itself.

It is felt that further reduction of the data such as filtering techniques would have limited use and is not recommended at this time.

2) VLF-EM Survey

Two stations were read in carrying out the survey, Hawaii and Seattle. The direction to the Seattle transmitter is parallel to the direction of the survey lines and therefore the data is quite useless.

The direction to the Hawaii station, however, is perpendicular to the survey lines. We therefore Fraser-filtered this data which revealed several northeasterly-trending conductors, five of which are shown by MacQuarrie on his map.

The Fraser-filtering revealed four extra conductors that are somewhat weaker than the other five. Furthermore, it has shown that the westernmost conductor and the one near the baseline each may be two parallel conductors rather than one.

Most of the southeastern conductors correlate at least partly with known mineralization, as, for example the TY zone and the PC zone. However, the JR zone and the DF zone occur between VLF-EM conductors. The VLF-EM survey did not cover the NL zone due to Hydro lines nor the C zone on the beach. Furthermore there is only minimal correlation between the VLF-EM conductors and the soil geochemistry gold results.

The VLF-EM appears to be more of a mapping tool of geological structure rather than a direct indicator of mineralization. It should be remembered that VLF-EM conductors are very surficial due to the relatively high frequency. Conventional EM methods such as the MaxMin horizontal loop may be much more beneficial since the depth of exploration is much greater.

3) Induced Polarization

It is expected that the IP method would work quite well since the

gold mineralization occurs with sulphides. However, in the writer's opinion, it only responded to some of the mineralization, most notably the JR zone.

It is felt, however, that none of the zones were tested thoroughly enough. The IP survey did not cross some of the zones and where it did, the depth of exploration was quite shallow.

The southwestern part of the survey area has a lower background of about 2 msec compared to the rest of the survey area where it's about 6 msec. This indicates a change in bedrock though granodiorite appears to be the bedrock mapped in both areas.

4) Resistivity

This survey should respond to the alteration of epithermal vein systems as resistivity lows. However, being part of the IP survey, its depth of exploration is also quite shallow. The resistivity lows appear to be caused by topographic lows caused by deeper overburden rather than alteration within the bedrock itself.

5) Soil Geochemistry (for gold)

This appears to be the most diagnostic tool on the property. The gold analysis of the soil appears to have responded to most of the gold mineralization discussed to date on the property, sometimes with very strong values as high as 6,600 ppb. The background is less than 5 ppb. This indicates a very low mobility of gold within the soil which is normal. In other words, a soil sample would have to be very close to the source in order to respond to it. As a result, and considering the size of the grid is 50 m by 25 m, it is possible for a gold-tested soil sample to miss gold mineralization, or at least to respond with a value that is barely anomalous. Detailing should therefore be carried out around any sample site with gold results above, say, 30 ppb. A suggested detail grid would be 10 m centers for 50 m in each direction.

The following, on a line by line basis, was observed in correlating each of the gold highs with the mapped geology and the geophysical surveys. Each anomaly is located by the number of meters

it's center is west or east of the baseline (i.e. 50W means 50 m west of the baseline).

Line 0+00

60W - 10 ppb gold
- correlates to known pyrite showing
- high IP value of 8.5% at n = 3 about 25 m east of pyrite showing
- possibly southwestern extention of PC zone

Line 100N

75W - 70 ppb
- correlates with showing known as PC zone wich contains pyrite
- IP high of 8% about 25 m west

Line 200N

450 to 650 W - 10 ppb
- correlates with IP high of 2.5 to 3.0% (background is 0.5% here) and magnetic high

200E - 10 ppb
- correlates with IP high of 6% and pyrrhotite mineralization.

Line 300N

25 to 100E - 10 to 40 ppb
- correlated with pyrite and small magnetic high
- possible southwest extention of JR zone.

370E - 1000 ppb
- occurs about 80 m west of NL zone and therefore could easily be new gold zone

Line 400N

Baseline - 2000 ppb
- correlates with JR zone and IP high of 8%

200E - 20 ppb
- IP high of 8% is 25 m east
- correlates with magnetic high of 8000 gammas
- near pyrite mineralization

Line 500N

900W - 80 ppb
- no known correlation but could well be southwestern extension of C1 and C2 zones.

275W - 220 and 1440 ppb
- correlates with DF zone which contains pyrite

450E - 40 ppb
- correlates with pyritization and IP high of 7%

Line 600N

85E - 20 ppb
- quartz-pyrite veins occur nearby
- correlates with magnetic high of 7500 gammas and IP high of 6 to 7%

Line 700 N

875W - 160 ppb
- correlates with C1 and C2 zones

Line 1000N

900W - 20 to 40 ppb
- could be northeastern extension of C8 zone
- no other data available

475 to 725W - 10 to 40 ppb
- no data available
- possible indication of new mineralization

Line 1200N

50W - 80 ppb
- 50 m east of pyritization and IP high of 6.5%
- possible new mineral zone

Lines 1300N to 1700N

- numerous anomalous values 40 to 6,600 ppb with which there is no correlating data and yet the values are very interesting (no IP done in this area)
- exception is 6600 ppb high at (1500N 875E) which correlates with pyritization
- on northeastern part of survey is easterly-trending high occurring on lines 1500N, 1600N and 1700N containing values of 40 ppb, 700 ppb and 300 ppb, respectively. Within this anomaly between lines 1500N and 1600N is pyritization.

Conclusions and Recommendations

There are many prospecting targets on the Chalice property, especially as revealed by the geological mapping and the gold soil

geochemistry survey. In our opinion, however, we feel the most logical option at this point is to concentrate on two to four of the best showings with the following program:

1) Soil sample on a 10 m center grid at least 50 m in each direction as mentioned above. All samples could be tested for gold as well as possibly other metals. As the results are obtained, the 10 m center grid may have to be extended.

2) Detailed resistivity - IP surveying should be carried out using a small electrode spacing of 15 to 50 m for proper delineation, with a high number of separations for a good depth penetration. Our experience is that detailed resistivity sections across epithermal gold veins have been very useful in delineating the alteration zone, and hence the associated gold quartz-carbonate vein, and hence an optimum drill target. On the Chalice property, sulphides are associated with the gold mineralization, and therefore the IP readings should be very useful as well in mineral delineation. The resistivity - IP survey would be used for determining the extent of the gold mineralization both down dip and along strike.

3) Diamond drilling based on the work discussed above should then be done. Considering that the volume amount of gold is excessively small, good core recovery is a must. This is best accomplished with a large diameter drill core. A face discharge bit may also be necessary.

For general prospecting, on the Chalice property, soil geochemistry with testing for gold is by far the best method. The survey should be extended over the remainder of the property using the same grid size. All samples with gold above 30 ppb should be detailed, as mentioned above, by 10 m centers, 50 m in each direction. This should then be followed up by backhoe trenching, if possible.

The exploration usefulness of the VLF-EM instrument appears to be

limited at this stage of exploration on the Chalice I claim. As further knowledge is gained, this may change. Only part of the grid is surveyed by VLF-EM. It is the least expensive of geophysical tools and therefore it may be cost effective to survey the rest of the grid, anyway.

MaxMin horizontal loop EM would detect conductors at a much greater depth than the VLF-EM since the VLF-EM, as mentioned above, is very surficial. The writer is doubtful, however, whether horizontal loop would delineate mineralization, but, considering the property's location, it is certainly inexpensive enough to test.

Respectfully submitted,
GEOTRONICS SURVEYS LTD.

David G. Mark,
Geophysicist