BARRINGER LABORATORIES INC.

15000 W. 6TH AVE., SUITE 300
GOLDEN, COLORADO 80401
PHONE (303) 277 1697

1455 DEMING WAY, SUITE 15
SPARKS NEVADA 89431
PHONE (702) 358-1158

PROGRESS REPORT DESCRIBING

THE PRELIMINARY GEOLOGICAL EVALUATION OF

PERMITS 1164, 1165 AND 1166 AND

AREA OF MUTUAL INTEREST

By

Ray Lett and Howard Lahti

Barringer Geoservices

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1. INTRODUCTION

This report describes a preliminary geological evaluation of Permits 1164, 1165 and 1166 and of targets within the area of mutual interest. The evaluation was carried out to meet the first objective of the overall exploration program. This objective is to focus on ground truthing anomalous geology, geophysics and geochemistry within the Permits. Four targets have been selected for more detailed exploration within the Permits and two areas in the area of mutual interest as a result of the evaluation.

2. GEOLOGY

The GSC Map 14-1966 shows that the Permits are underlain by highly folded Penrhyn Group rocks comprising a granite gneiss (Unit 10) to the north, crystaline limestone and quartzite (unit 13) cross the central part of the Permits and paragneiss to the south (units 15). Field examination of these lithologies during a preliminary evaluation (August 22-26th) reveals the following relationship between rock types, geological structure and sulphide mineralization.

2.1 Magnetic Anomalies

The highly magnetic response along an east-west trend within the belt of granite gneiss across the northern part of the Permit can be explained by up to 5% disseminated magnetite. Magnetite content increases to the south and the most southerly limit of the mineral occurrence has not been established. The granite gneiss is relatively uniform in texture and structure except in the area where magnetite becomes abundant. Here, pods of coarse textures serpentine-talc rock up to one meter thick follow the gneissosity. Xenoliths of dark green rock possibly amphibolite are also visible. The strike length of the magnetite zone has also not been established.

2.2 Rusty Weathered Zones

Numerous rusty weathered and iron stained zones, revealed by the green tones on the TM 5.3.1 band color composite have been confirmed by field examination and by sampling. Several different types of mineral occurrence contribute to the rusty weathered zones these types are.

2.2.1 Folded Quartzite - Graphite Schist.

Within the central part of the Permits, a sequence of garnet-biotite gneiss, quartzite and graphite schist has been folded into an open synform. The limbs of this fold, which trends 80° and plunges about 20° to the east are further deformed by tight, isoclinical folds. Pyrite and pyrrhotite appear concentrated in pegmatitic quartz segregations along the secondary fold structures. At surface the sulphides have been oxidized to a friable gossan which can be traced along part of the exposed fold core. Graphite schists appear as a grey discoloration of soil just beneath the surface. In addition to the gossan material, disseminated pyrite is common in the dark grey quartzite and the schist. Oxidation of these rocks results in several cases of iron stained rock fragment coating frost boils. Also observed on the frost boils were fragments of massive quartz giving a strong hydrocarbon odor when broken.

2.2.2 Disseminated Pyrite-Pyrrhotite in Quartzite

A sandy textured limestone-marble band generally up to 1m thick in contact with a rusty weathered quartzite has been identified in the south-central part of the Permits. The limestone contains more resistant silica rich interbeds commonly deformed into ptygmatic folds and occasionally pods of dark green massive rock up to 10cm thick. This massive rock may represent an ultramafic inclusion. Pyrite and pyrrhotite segregations up to 0.5cm across are often found in a quartz-rich pegmatitic band in the quartzite. Scattered, coarse graphite grain are also present.

2.2.3 Disseminated Pyrite in Garnet Gneiss

Rusty weathering is also common within large areas of garnet gneiss in the southeastern part of the Permits. This rusty coating, impressive in appearance commonly reflects small isolated pyrite grains or concentration in the rock.

After examining the surface geology for several gossans and comparing the structural setting and geophysical expression, four areas were selected for more detailed exploration.

3. SELECTED EXPLORATION TARGETS

3.1 Area G1

Surface expression of sulphide mineralization in this area is a crusty zone about 50m long and 20m wide. Sediment from a lake 800m to the south contains up to 1920 ppm zinc, 325 ppm nickel and 270 ppm copper. Local geology consists of garnet gneiss, limestone-marble, rusty quartzite (biotite gneiss) and pods of dark ultramafic rock. A major northwest trending strike-slip fault crosses the area about 500m to the west of the rusty zone. Combination of structure, geochemistry and lithology suggest presence of base metal sulphides. Grid G1 600m by 300m will be established for initial geochemical sampling, detailed mapping and geophysics.

3.2 Area G2

The geology and style of mineralization has been described in Section 2.2.1. Although no geochemical lake sediment anomalies have been detected (due to low sample density), the strong magnetic response, structure and traceable gossan suggest an appreciable subsurface mineral sulphide accumulation beneath the zone of surface weathering and down plunge of the east dipping synform. Grid G2, 390m by 300m has been established over this area.

3.3 Area G3

Area G3 geology is largely concealed beneath boulders and overburden although sandy limestone, containing ultramafic pods, granite and quartzite crop out 400m to the south. The area lies on a major northwest trending strike-slip fault and close to the axis of an east-west trending fold. The lake immediately to the north has sediment containing 2000 ppm zinc, 360 ppm nickel and 225 copper. A seepage draining an area of rusty quartzite fragments in frost boils have a pH of 4.5. This seepage discharges into the lake. Grid G3 450m by 280m has been established for ground geochemistry, geophysics and for geological mapping.

3.4 Area G4

Area G4 geology has been described in Section 2.2.2. The surface expression of the pyrite-pyrrhotite is a small area 20m x 5m of rusty weathered quartz segregation in quartzite. This area occurs in a small saddle between two lakes. The lake north of the occurrence has up to 1680 ppm zinc, 380 ppm nickel and 235 ppm copper in the sediment. Water from a small seepage draining into the lake from the area of the saddle has a pH of 4.5. The area is also situated at the transition between a magnetic high to the north and a low to the south and appears to be associated with a drag fold on the south limb of the major syncline. Grid G4 320m by 300m was established.

4. AREA OF MUTUAL INTEREST

The regions within the area of mutual interest east and west of the Permits were examined. East of camp the carbonate rocks become more massive and no obvious targets were visible. The high lake sediment geochemistry needs additional investigations. West of the Permits a number of areas were examined and two selected for more detailed sampling and staking. These areas can be summarized as follows.

4.1 An area of highly graphitic, pyrite rich phyllite. This lithology occurs in bands in contact with granite. A good gossan is developed in places and warrants additional investigation.

4.2 An area of previous drilling where up to 8% lead-zinc sulphides occur in hornblende gneiss is also associated with a good gossan and a particular knobby form of graphitic rock.

SIGNIFICANT LAKE SEDIMENT ANOMALIES (ppm)

■ 265 ZINC
62 NICKEL
(96) COPPER

▩ G1 Target areas for detailed investigation

7° 10'

5'