# PRELIMINARY AIR PHOTO INTERPRETATION

## QUARTZ LAKE AREA

Watson Lake Mining District
Yukon

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# QUARTZ LAKE PHOTO INTERPRETATION

## L E G E N D

Attitude of Bedding - steep, moderate, gentle

LS — Limestone

GR — Granitic rocks (boundaries indefinite)

GL — Glacial feature

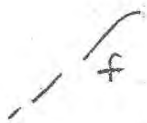
NG — Non-glacial

Obscure, minor, or superficial linear, may be fault fracture or bedding

More definite linear or discontinuous, may be fault, fracture or bedding

Strong or sharp linear, may be fault, fracture, or bedding

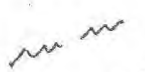
Topographic or physiographic trend or linear suggestive of underlying fault, fracture, or bedding control in this approximate location



Formational trend (bedding, foliation or banding, attitude not apparent or marked)

Glacial grooving, direction of ice movement not shown

Glacial grooving, ice movement southwest



Fault, inferred from other data

Areas of outcrop, light overburden, talus, or frost heave, most suitable for prospecting

Boundary of extensive and deep overburden, may contain rare outcrops. Areas between this and above outcrop areas consist largely of moderate overburden and float but contain some outcrops.

## GENERAL

A photo interpretation was done on the Quartz Lake vicinity by the writer and Gordon Davis on a basis similar to that on the Mt. Humidere property (see report on this).

The basic premise is that if a favourable environment of mineralisation and intrusives, rock types, etc. exists, that photo interpretation for visible structure will define the limits of a disturbed area in which structural traps would exist and within which environment mineralisation would be localised.

Formational trends (bedding, foliation, banding, etc.) are most diagnostic of important anomalous structural environments. These are indicated in numerous localities by the symbol f or by interpreted attitudes, bedding trends being pronounced over most of this area.

Rock types are indicated in a number of localities particularly where limestone is known or easily distinguishable on the photographs.

Numerous other linears are also indicated, many of which would correspond to fault or fracture systems that are also an important indication of the general nature or style and extent of the structural environment.

Glacial grooving, apparently approximately N80°E to NE in trend, accentuates some fracture and bedding directions and thus presents some difficulties in interpretation of linears in this direction.

## STRUCTURAL ENVIRONMENT INDICATED

The normal regional structural trend in the area consists of moderate to tight folding along north-south axes, but in the Quartz Lake vicinity this trend is very sharply disturbed by a strong N70°W trend and the only intrusive rocks in the area occur at the intersection of these two trends, at the bend of Coal River.

Favourable limestones and limy rocks occur within the stratigraphic section and in the case of the Quartz Lake lead-zinc deposit impure limestone is replaced by abundant pyrite and lead-zinc mineralisation adjacent to a north-south fault. Considerable work has been done on the property and some work has been done in the adjoining area; however, the extent, shape, and general nature of the structural environment has most probably not been recognised.

Aside from the formational trends and general cross-folding there are two chief directions of linears which reflect directions of fracturing that are believed to form a favourable environment for

channelways and mineralization within the anomalous structural envrionment with its favourable rock types. These are (a) northerly to NNE-trending lineare which also include some of the main creek valleys (physiographic lineare that may represent buried fault or fracture zones) and (b) ENE topographic lineare that may also represent fault or fracture zones.

On the basis of present information the favourable area is defined roughly as that within which most of the foregoing structural pattern and favourable rock types occur within the area of cross-folding. The favourable area extends NNE from Quartz Lake and the approximate southeast boundaries are longitude 127° 30' up to latitude 60° 35' N on the east, a line paralleling Quartz Creek 6 miles to the south, longitude 128° 00' on the west, and a northeast line through peak 5310' on the northeast. The area is completely open along the range to the NNE where metamorphic rocks and transverse structures continue or are repeated. Work should be concentrated within this general area, subject to further field results.

EXPLORATION

Prospecting should be started in the Quartz Lake vicinity and at Moose Lake 4 miles to the northeast, accompanied by geochemical silt testing and geologic mapping. Work should be especially concentrated along any north-south or ENE zones that have indications of mineralization such as geochemical anomalies, rust, quartz, pyrite, dolomitization, or lead and zinc sulfides. The area should be very closely prospected and all streams should be silt sampled and tested. Mineralization has been reported northeast of Quartz Lake and it may be anticipated that other important lead-zinc deposits or other types of mineral deposits exist in the area, and that these might be discovered if not covered by too much overburden. Geologic mapping will further define the rock types and structures, and give further indications of favourable localities.

Prospecting should be guided by the usual indications of mineralization or favourable conditions and by geochemistry but should not be specifically directed toward any of the lineare marked on the map unless there is some indication that they are directly associated with mineralization.

Further photo interpretation should be done to the northeast as work progresses.

Close liaison is necessary for possible staking purposes. Geologic work in the vicinity of any discovery should be immediately

directed toward determining, if possible, some of the structural and stratigraphic controls so that the favourable locality can be staked in the best manner.

Respectfully submitted,

Aaro E. Aho.