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**J.C. STEPHEN
EXPLORATIONS LTD.**

WEEKLY CAMP REPORT

PROJECT NEWEX CAMP NAME ECHO 5 - EAR MTN.

NTS MAP SHEET 104M9E DATES JUNE 29 - JULY 5, 1982

AIR PHOTOS BC 5686 #150, 153 LAT. & LONG. 59°43'N 134°04'W

SILT SAMPLE SERIES 82NXV12 - 82NXV15

SOIL SAMPLE SERIES 82NXE-191 TO 82NXE194

ROCK SPECIMEN NUMBERS 80645 TO 80649

EAR MTN GEOLOGY

ROCK UNITS

UNIT 1 - LIMESTONE

The limestone, assumed to be of the Cache Creek Group, is found only in the farthest east area prospected. There it is variable from black, (graphitic?) finely-crystalline limestone (Spec. HAB2-5-7) to white, medium-grained crystalline limestone (Spec. HAB2-5-8). Near rhyolite dikes, it is very strongly silicified (to a grey, high-silica rock) - see specimen 80649 (but without the calcite-galena(?) lumps).

Sulphides are very rare in both silicified and unsilicified limestone.

UNIT 2 - VOLCANICS

SUB-UNIT 2a - LITTLE-ALTERED VOLCANICS

Most of the outcrop above tree line is agglomerate (Spec. HAB2-5-6 and HAB2-5-10), with sub-rounded volcanic clasts of varying composition (mostly porphyritic) enclosed by a ~~gr~~ blue-green, hematitic groundmass of finer dasts and crystals. Locally (eg. on hill immediately south of camp), jasper occurs as clasts or between clasts. This agglomerate is both thick and extensive, and is probably continuous with the similar agglomerate east of the Sunday Peak camp. Sparse quartz or quartz-epidote stringers and ^{diss.} crystals of calcite ~~more~~ are the only alteration present.

A few other little-altered volcanic rocks cover more limited areas (to the north-east of the agglomerate).

SUB-UNIT 2b - SILICIFIED VOLCANICS

The most strongly altered volcanics found ~~were~~ ^{are} those in the rusty zone in the creek (found by Bravo). They are strongly silicified and pyritized and cut by numerous vuggy quartz stringers. Fifty meters north of the rusty zone, the volcanics are propylitic chloritized and silicified. A zone of silicified volcanics extends at a bearing of 100° from there for at least three kilometers. The rocks are highly silicious and vuggy quartz stringers and pyrite are common, but much less abundant than in the creek. Spec. HAB2-5-2 is so silicious that it appears chertlike, but nearby it is more obviously silicified.

Much of the "silicified volcanic" east of the creek on which silt sample 82 NXV 12 was taken is actually silicious argillite (Spec HAB2-5-9), probably of the Cache Creek Group. The ~~argillite~~ argillite is uniformly silicious, black, fine-grained and contains fine-grained, disseminated, syngenetic (?) pyrite. (It may be silicified, with rare quartz-stringers).

SUB-UNIT 2c - Rhyolite dikes (Spec. HAB2-5-4, 5-5, 80648)

Most of the silicified volcanics surround large (five to twenty plus meters) rhyolite dikes. Most trend about 100° and are near-vertical, but individual dikes ~~one~~ individuals were measured trending 075° and 050° . Hornblende and biotite phenocrysts form about five percent of the rock, aligned (by flow?) and largely replaced by iron and manganese oxides. Feldspar phenocrysts form another ten percent of the rock; ~~while~~ the remainder is very fine-grained, ~~cream-~~ white and silicious, and contains fine cubes of pyrite.

Rhyolite forms a rusty patch on Ear Mtn (Spec. 5-5), probably surrounded by agglomerate and continues at least as far east as the limestone.

Lamprophyre dikes are commonly associated with the rhyolite and are generally parallel. The lamprophyre contains biotite and hornblende phenocrysts in a dark matrix and is slightly magnetic. (Spec HAB2-5-3). ~~The~~

UNIT 3 - Greywacke (LABERGE GROUP)

The greywacke is massive, grey and uniform. In the area prospected, south-west of the camp in the area of reported gold float, ^{there are} two separate areas of ^{abundant} ~~quartz~~ stringers. To the north, vuggy quartz stringers, with sparse amethyst and calcite, and with rare pyrite, are common. (Spec 80647). Farther south and ~~east~~ west, carbonate (dolomite orankerite) stringers, with rare quartz, are common, giving the greywacke a rusty-weathering outcrops and floats. The greywacke adjacent ^{Spec. 80646} to the stringers appears unaltered.

Porphyry dikes are common in the northern part of the prospected area. The granodiorite may extend near to the greywacke ridge.

STRUCTURE

The only bedding orientation obtained was from the greywacke; 020/50W. Although the measurement and outcrop looked good, this does not fit with our preconceptions (ie a SE-striking stratigraphy), which seems borne out by the limestone and agglomerate units.

No faulting was observed or inferred.

ECONOMIC POTENTIAL

1. The alteration and mineralization in the rusty creek showing looks very good. It is a wide zone and probably extends well to the east and possibly to the west. Further delineation of the zone will be difficult, due to the thickness of glacial cover to the east (and poor soil development).

The general scarcity of sulphides in the silicified volcanics east of EAR 1 will probably be reflected in lower precious metal values.

2. The silicified limestone is extensive but poorly mineralized.

3. The stringer-cut Laberge greywacke areas are extensive, but probably the proportion of stringer to greywacke is too small to give decent bulk grades.

CAMPSITE

The campsite is excellent, with good running water, ~~flat~~ level ground, easy accessibility (for the helicopter) and sufficient trees and firewood.

MISCELLANEOUS

1. A few pans were made one evening of the silt and sand immediately below the rusty creek showing. No gold was seen, but a few flakes of a very bright silver-white mineral (native silver? argentite? platinum???) occurred at the end of the magnetite tail (is slightly denser).
2. Glacial boulders cover most of the area prospected, including the area of reported gold float. They will make further work difficult.
3. We attempted to avoid duplicating the work done by Bravo. That, and the lack of the key air photo, complicated the work. (The result may be two half-reports that don't sum up to a whole one).
4. The agglomerate, argillite and silicified limestone (?) should have been mapped as separate units (although the argillite and S.L. are not thick and may be interbedded with volcanics).
5. EAR 1 was staked with the LCP as shown, 4 units north and 5 units west, centered approximately on the rusty creek showing.
6. On July 5, while waiting for helicopter, took a quick look at Ear Mtn rocks. Peak is agglomerate; ridge trending NE from peak is cream-colored, silicious feldspar porphyry, locally brecciated by iron oxides (after pyrite?). This area, rusty creek zone and silicified rocks beyond aligned: 110° bearing. Porphyry almost certainly source of rhyolite. Assume Bravo mapped and described porphyry more carefully.

(Spec. HABR-
5-11)

