0750 0014

PROPERTY NAME: Buckhorn Mine - south pit.

OTHER NAMES:

MINERAL COMMODITY(IES): Au, Ag

TYPE OF DEPOSIT: Breccia (fault), vein

ACCESSIBILITY:

OWNERSHIP: Cominco American Exploration Co. Main office- Seattle, Washington.

PRODUCTION:

HISTORY: See crib for early history. Cominco acquired this property when they bought out Bethex Corp.

County: Eureka Item 14 (108)

Mining District: Buckhorn

AMS Sheet: Winnemucca

Quad Sheet: Horse Creek Valley 15'

Sec. 31, T 27N, R 49E

Coordinate (UTM):

North 4 4 4 8 1 0 0 m

East 0 5 4 3 4 2 5 m

Zone +11

DEVELOPMENT: 2 relatively small open pit mines (glory holes) along N-S breccia zone. Several old underground workings exist near & within one mile of open pits. Bethex Corp. had drilled about 300 exploration holes. Cominco continued with a program of drilling during the summer of 1982.

ACTIVITY AT TIME OF EXAMINATION: Cominco was actively conducting exploration work on this property at the time of our examination. Their work during the summer of 82 included geologic mapping of their claim area, geochemical sampling & core drilling within & near the existing open pits.

GEOLOGY:

The main workings of the Buckhorn Mine are two small open pits, or glory holes. The southern pit is the larger of the two & will be described in this write-up.

The southern pit is elongate in a N, NW direction along the strike of a mineralized breccia zone. This zone is bound within a faulted horst* block. The breccia is centered along a high-angle reverse fault which exists in the central portion of the horst. All of the faults are steeply inclined & east dipping. Geochemical sampling along the reverse faul indicates the presence of high gold values (several range from 1-10 ppm Au) & anomalous amounts of Hg, As & Ag. (see reference below for source of information).

The rocks within the mine area consist of a bedded sequence of Tertiary basalts, clastic sediments & chert. In general, within the pit area, altered basalts overlie & are faulted against siltstone, chert & conglomerate. The bedded rocks dip approximately 10-15° to the east.

Samples 1512 A & B were collected from a highly argillized (kaolinized) & chaotic breccia zone exposed in the north(west) end of the open pit. Boulder to pebble size fragments of altered amygdaloidal basalt are cemented(suspended) & veined by a matrix consisting of silica, gouge (clay) & abundant limonite. Black chalcedonic silica, limonite & jarosite are common constituents of the matrix. The altered basalt fragments are altered to an argillic assemblage of kaolin & mont morillonite. Some microfossils were found in part of the crushed sample indicating that sediments are ground up within the breccia zone also. Bright yellow & green oxides which coat the breccia fragments were X-rayed, but could not be identified because of their amorphous character. (These may be arsenic mins or silica & clay mixtures).

Samples - 1512 A & B - From breccia zone in north part of pit.

1513 - From breccia zone in south part of pit. Sample from limonitic, fractured fault zone.

REMARKS: Photos.

According to Scott Monroe, geologist for Cominco, free gold is associated with limonite occurring in fine fractures within the breccia zone. Gold occurs with the oxidized limonitic & kaolinitic ore at the surface, but drops off with depth, even though there are high amounts of pyrite & marcasite below the oxide zone. The oxide zone is estimated to be 100' deep in the area of the open pits.

The great amounts of clay associated with the oxide ore has caused problems in the removal of gold with cyanide leaching techniques.

* The horst block has been recently reinterpreted as a graben structure (oral comm., Scott Monroe)

REFERENCES: Cominco Geologist Scott Monroe conducted tour of the property.

Wells, & Elliot, 1969, Preliminary Geologic & Geochemical Maps of the Buckhorn Mine Area, USGS Open-file report.

EXAMINER: Bentz/Tingley/Bonham/Smith

DATE VISITED: 7/82