

0430 0025

PROPERTY NAME: Alligator Ridge Mine  
 OTHER NAMES: Vantage Deposit  
 MINERAL COMMODITY(IES): Au, Ag (minor), Sb, Hg  
 TYPE OF DEPOSIT: Disseminated, hydrothermal  
 ACCESSIBILITY:  
 OWNERSHIP: Joint venture - Amselco Minerals, Inc. & Occidental Minerals.  
 PRODUCTION:  
 HISTORY: Claims first staked by a prospector in 1976.  
 Exploration & development property occurred within the last 18 months. The mine officially opened in July 1981.

(323)

County: White Pine *Item 25*  
 Mining District: (south of Bald Mtn.)  
 AMS Sheet: Ely  
 Quad Sheet: Cold Creek Ranch 15  
 Sec. 23/26, T 22N, R 57E  
 Coordinate (UTM):  
 North 4 4 0 2 0 0 0 m  
 East 0 6 2 7 0 0 0 m  
 Zone +11

DEVELOPMENT: One large open pit  $\approx$  250' deep called Vantage I. 2 or 3 more pit sites are planned to south of Vantage I. Crushing equipment & leach pads located south of open pits

ACTIVITY AT TIME OF EXAMINATION: Open pit mining.

#### General info:

~~XXXXXX~~ The estimated reserve of mineralized rock is about 5 million tons at 0.1 oz/ton Au. The cut-off point is .023 oz/ton Au. Amselco is currently processing between 8,000 to 10,000 tons per day. Ag values in mineralized rock run up to as much as .5 oz/ton in the carbonaceous rock & are negligible in the silicified rock.

There are 4 leach pads on the property which hold 150,000 tons of ore each. It takes 2-3 months to leach each pad with a recovery of 75-80%. The leach pads are active from April through Nov. The size of the crushed rock leached is - 5/8". The current stripping ratio is 1:5, but this will later drop to 1:3. Blasted pit faces are being mapped.

#### Geology:

The disseminated Au ore occurs in silicified siltstones of the Pilot Shales, with high-grade ore occurring in discontinuous, carbonaceous lenses. The ore zone is about 300-400' wide & lies directly above an unmineralized jasperoid unit which has replaced the lowest portion of the Pilot. Formation marks a transition between the Miss-Dev Pilot Shale & the underlying Dev. Aged Devils Gate limestone.

The ore zone is apparently related to a N-NE striking normal fault(s) which is exposed in the N & E walls of the Vantage I open pit. This fault flattens at depth where it resembles a low-angle or bedding plane shear. Measured just E of the Vantage I pit, the Vantage Fault strikes N10E & dips 70° E. This fault has upthrown the Devils Gate Limestone on the E against the down thrown Pilot & JoAnna sequence, which lie to the west of the fault. The Devils Gate Limestone underlies most of Alligator Ridge. The beds generally dip to the SE. Within the pit the Pilot & JoAnna sediments dip to SW. There is probably more than 1,000' of displacement along the Vantage Fault. The faults observed in the pit are probably sprays off the main Vantage Fault.

The structure exposed in the Vantage I pit is complicated by the existence of at  
 (continued on attached sheet)

#### REMARKS:

Tour given by mine geologist Pam Klesig.

Sample 928 - Silic Pilot Sh siltstone breccia, Feoxs.

Photos.

#### REFERENCES:

EXAMINER: Bentz/RBJ/Smith

DATE VISITED: 7/15/81



least two N-Ne faults(mentioned above) , many small faults, & the brecciated nature of the silicified ore zone. In the footwall rocks, the Au ore is disseminated in the brecciated siltstone. Jasperoid exposed in the footwall (west of the pit). It contains many shale fragments that show liesegang bands which are characteristic of the Pilot siltstones. The jasperoid is unusual in that it is networked by 1-2' wide calcite veins & lenses.

The highest grade ore occurs in discontinuous carbonaceous lenses which lie along the silicified shear zone. These lenses are, of course, carbon rich & complicate the leaching process. Free Au occurs in quartz veinlets, which along with calcite cement breccias. The presence of free gold also causes problems with the cyanide leaching process.

On the E side of the pit, the rocks are not as silicified. Here, the JoAnna limestones are exposed at the upper level of the pit & the Pilot siltstones lie beneath & extend to the present pit floor. Red & white banded cherty beds & a "channel" exposure of limonite stained, sandy (rounded quartz) waterlain tuff are exposed in the SE wall of the pit. Amselco has used the cherty beds as marker horizons when drilling exploratory holes elsewhere.

The typical ore material is a breccia of silicified, oxidized siltstone which has been recemented by siliceous solutions. Jarosite, barite & goethite are often associated with the ore. Anomalous amounts of Sb, As & Hg are found within the ore zone. Very little pyrite has been found.

The origin of the hydrothermal solutions is not known. No intrusives have been found in the area, but Tertiary volcanic rocks are found some distance S of the mine (Buck Mtn. area). It is not known if the mineralizing solutions channelled along faults which later moved, or whether the faults have simply downdropped pre-existing mineralized rock into their present position.

The discontinuous & inconsistent nature of the Au ore makes it difficult to determine grade & tonnage. Amselco is planning to dig another pit, Vantage #2, south of the present location so that they can mine the structurally deeper part of the silicified breccia zone. However, Vantage I will not connect with Vantage II. Two other pits, Vantage 3 & 4 are planned.