CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
3550 N. Central Ave, 2nd floor
Phoenix, AZ, 85012
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

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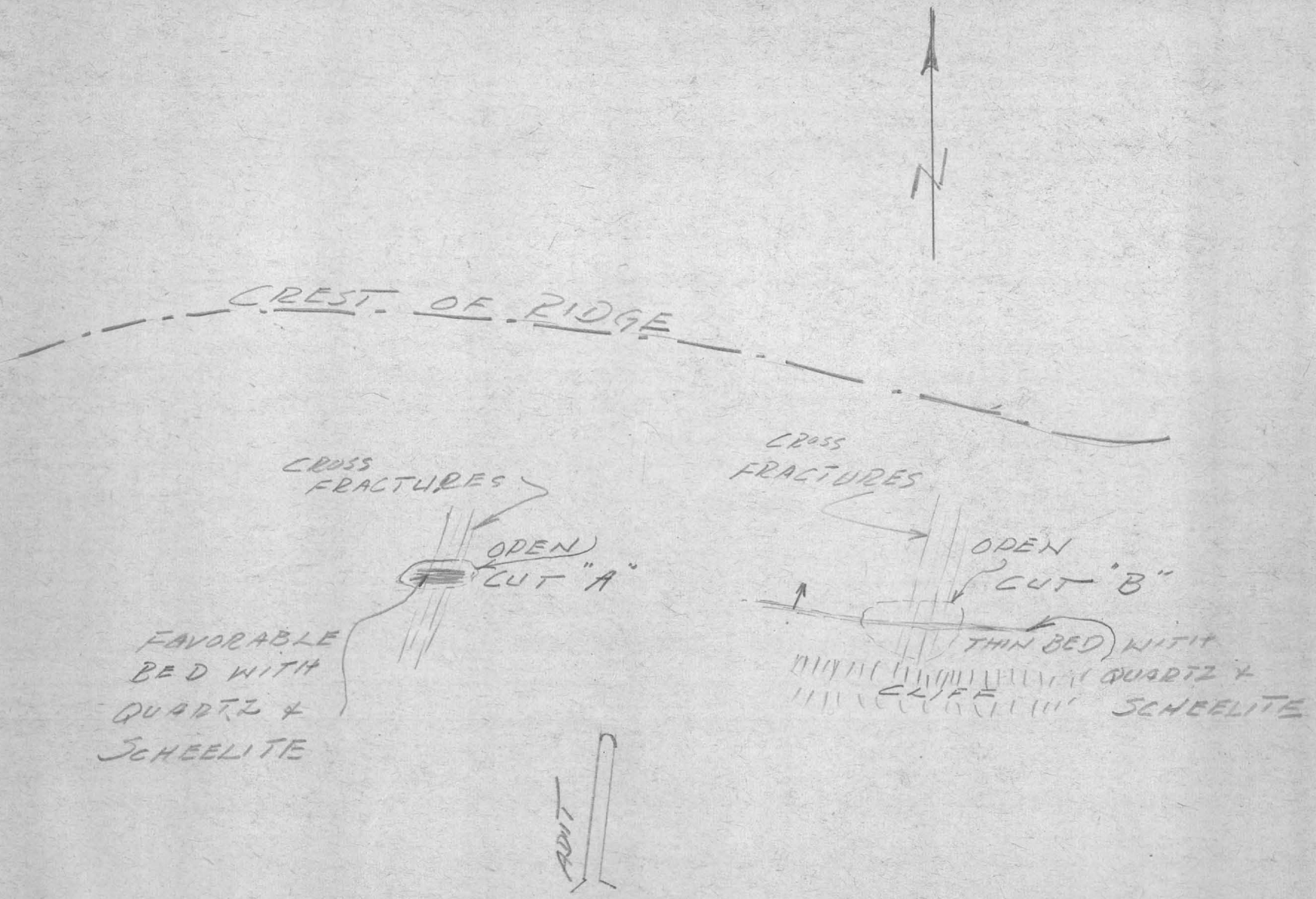

SKETCH OF JEWEL-ANN AREA

NOT TO SCALE

SCHEELITE DEPOSITS
OF THE
JEWELL-ANN MINING CLAIMS
YUMA COUNTY, ARIZONA

E. N. PENNEBAKER
CONSULTING GEOLOGIST
SCOTTSDALE, ARIZONA

SCHEELITE DEPOSITS

OF THE

JEWELL-ANN MINING CLAIMS

YUMA COUNTY, ARIZONA

-- Submitted to Mr. E. V. Cohoe
September 2, 1966
By E. N. Pennebaker

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SCHEELITE DEPOSITS
OF THE
JEWELL-ANN MINING CLAIMS
YUMA COUNTY, ARIZONA

GENERAL INFORMATION

On August 26, 1966, the writer made a brief examination of the Jewell-Ann mining claims, Yuma County, Arizona, in company with the owner, Mr. E. V. Cohoe of Glendale, Arizona.

The property consists of three unpatented lode mining claims situate in the southeasterly portion of Township 6 N, Range 15 W, Gila and Salt River Base and Meridian, within the Ellsworth mining district of west-central Yuma County. In a bee-line the claims are found about 10 miles northwest of Salome, but the distance by road from Salome is about 23 miles. From the main highway and the A.T. & S.F. railroad siding at McVey the distance is about five miles northeasterly over fair gravel road. The area of interest lies at an elevation of about 2,000 feet above sea level near the southwesterly tip of the Harcuvar Mountains. (See Map No. 1 at the back of this report, on which the area of interest is enclosed by a red circle.)

The nearest water supply belongs to the A.T. & S.F. railroad and is found at McVey. Other water might be developed nearby by deep wells.

GEOLOGY AND MINERALIZATION

In the general vicinity of the mining claims the granite gneiss (gn) making up the bulk of the Harcuvar Mountains is separated from the sedimentary rocks (Ms) at their southwest end by a body of granitic rock (Lgr). (See Map No. 1 and the legend at the back of this report.) Near the northwesterly part of this body of granitic rock there is a limited area of limestone (PMu), and it is near this granite-limestone contact, within the limestone, where the scheelite occurs.

The limestone is gray in color and is generally thin-bedded. It carries zones of sedimentary chert nodules and lenses in fair abundance and is erratically marbleized here and there. In a general way the limestone layers strike east-west and dip from gentle to moderate angles toward the north. Locally the beds are folded and twisted to steeper dips and variable strike. This is displayed in the adit where the strike is northerly with a west dip.

The limestone is cut by a series of steep fractures that strike northerly, and in places dikes of basic igneous rock (called lamprophyre) have been intruded along them. Most of the steep fractures show little or no fault movement, but a few may be faults of substantial throw.

As mentioned above, the limestone has been erratically converted to marble in various places. Generally these areas are relatively small and occur along particular beds or fractures or in wedge-like blocks bounded by fractures.

Tungsten occurs associated with white quartz, as specks and patches of the mineral scheelite (the calcium tungstate). (Pure scheelite contains 80.6% of tungsten trioxide, WO_3.) Although there is a sparse scattering of scheelite grains in marble, most of it is in or near quartz.

Quartz occurs as irregular lenses and along beds of limestone or marble.

The best scheelite showing is in and near the small open cut labelled "B" on the rough sketch accompanying this report. Here a thin bed (12 to 18 inches) of quartz carrying scheelite is exposed for 100 to 150 feet along a shelf cut into the face of a steep cliff. Where this bed is intersected by a group of north-south cross-fractures, the scheelite and quartz mineralization swells into an irregular body a few tens of feet in diameter. Here scheelite occurs as grains and coarse patches associated with quartz. A small open-cut excavation has been made into it, and a small body of ore has been extracted, concentrated and shipped. (The grade of the concentrates was about 24 units per ton.) This ore body has not been followed by mining well into the face of the cliff, where it would be expected to have a tortuous course inclined downward to the north.

The second major exposure is in the small open cut on the west labelled "A" on the accompanying sketch. This is a much smaller showing than that exposed in cut "B" on the east, extending over only a few square feet. Nevertheless it shows similar controls: cross-fractures cutting a favorable bed. Here, however, quartz-scheelite mineralization accompanied by a trifling amount of copper, has been pretty well confined to the area of the intersection, and it does not persist outward on the bedding.

There is no continuous exposure of mineralization going from open cut "A" to open cut "B", although it is suspected that both occurrences occur within the same limestone bed.

The grade of the crude scheelite ore has not been determined accurately, although the owner, from his experience, believes it to be about 0.75 to 1.00% of WO_3. A sample was taken by the writer from the pile of loose rock remaining on the floor of open cut "B", from which high-grade chunks had earlier been picked out and shipped. This remaining material assayed 0.33% of WO_3.

Elsewhere on the property there are scattered small patches of quartz, some with and some without accompanying scheelite. It was the writer's impression that scheelite decreases as one goes up the mountain above the open cuts.

EXPLORATION

In addition to the two small open cuts mentioned above, the property is explored by an adit driven northerly from near the base of the mountain. (See sketch.) This has been driven about 95 feet along and through thin-bedded gray limestone. Only a few scattered grains of scheelite are exposed in the tunnel. At the face there is a very small pocket of limonite and quartz that is reported to contain $8.00 per ton in gold.

There are other small cuts and pits here and there on the claims, but no other exploratory work of any consequence.

CONCLUSIONS

1. It is the writer's conclusion that scheelite ore in this area occurs at the intersection of certain groups of cross-fractures with a particular favorable limestone bed (or beds). Such deposits would have the form of irregular sausage-like bodies with their long axes inclined downward crookedly to the north.

2. The distribution of the scheelite appears to be erratic, and the exploration of deposits of this type is a very speculative venture. There is no assurance at this stage of the program that further search would result in the return at a profit of the money spent.

FURTHER EXPLORATION

Should it be decided to assume the risk, then the following modes of exploration may be considered:

1. The proper way would be to follow the ore into the mountain by driving northerly on it from open cut "B"; however, this is very inconvenient because of open cut "B"'s location on a cliff face and because the ore showing probably plunges down to the north.

2. A second procedure would be to drive the adit another 100 feet northerly, then turn to the right (east) and proceed another 100 or 200 feet. If steep scheelite-bearing fractures are cut leading upward toward open cut "B", then raise on them toward open cut "B". If not, have a survey made by a competent engineer and raise to hit the mineralized zone about 50 feet northerly from open cut "B".

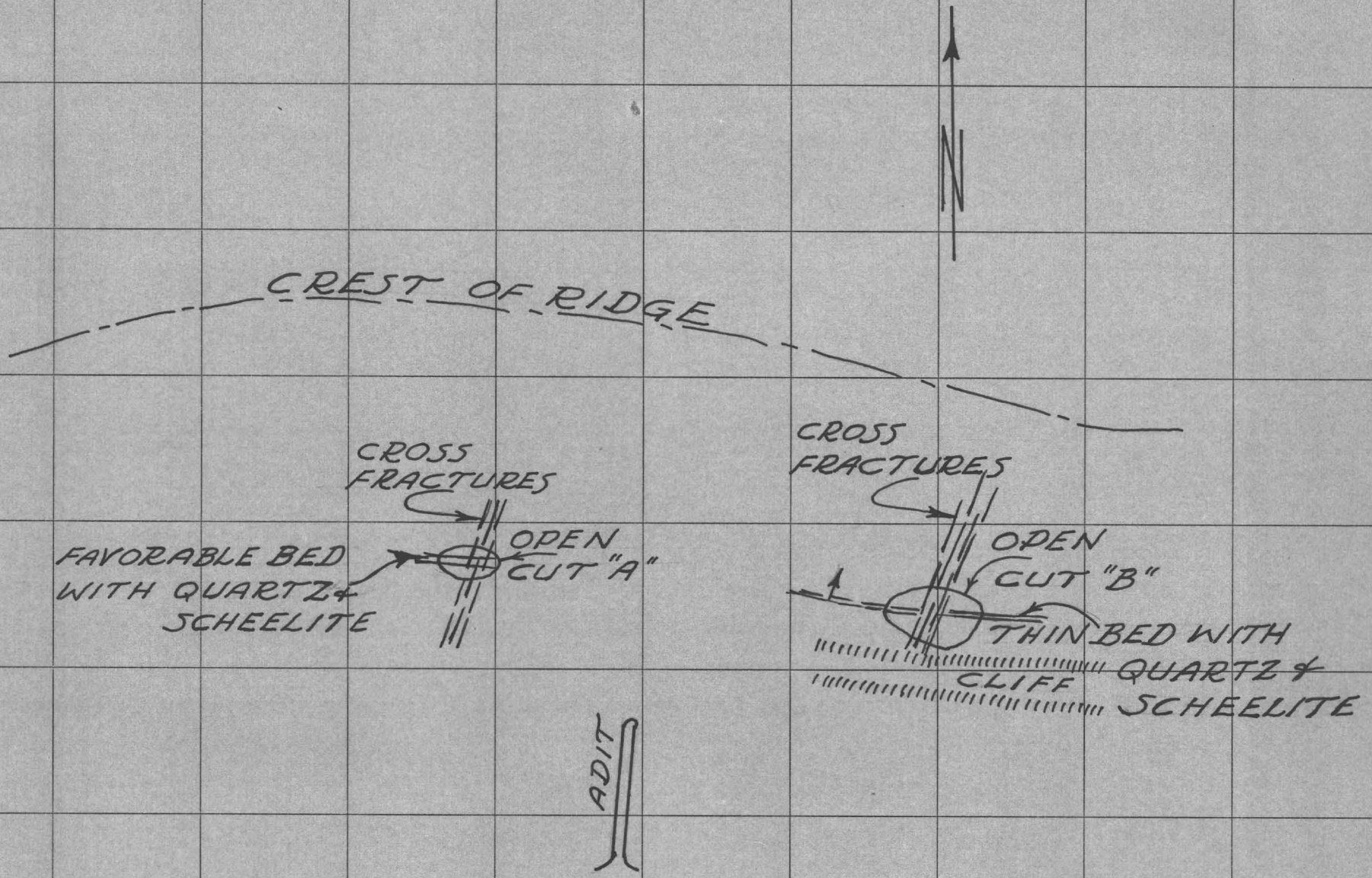
3. It is possible that a more favorable bed lies buried below the elevation of the adit. Drilling downward by diamond drill

from a site to be determined by further study offers another speculative possibility.

4. The gravels in the main dry wash south of the adit should be lamped in search of placer scheelite.

E. N. Pennebaker

Scottsdale, Arizona
September 2, 1966



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