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Bob Daniel
San Simon Prospect

REPORT: GRAHAM COUNTY ARIZONA SAN SIMON PROSPECT

PROPERTY AND LOCATION:

The property consists of four sections of Arizona state lands as follows: Sections 13, 14, 23, and 24 in T11 S R 26 E Salt River Meridian. The subject property is in Graham County, Arizona about two miles north of the Graham County - Cochise County line and is twenty-four miles south of Safford, Arizona. The property is adjacent to and partially crossed from north to south-easterly by U. S. Highway 666. Paralleling the highway and on its east side is a major electric power line. The property takes in part of a low strip of foothills extending eastward into the San Simon Valley from the main range of the rugged north-south trending Pinalena Mountains, which are about three miles to the west.

OWNERSHIP AND LEGAL:

The above-listed lands are owned by the state of Arizona. Under the provisions of Arizona Statute A.R.S. "Rules and Regulations Governing Prospecting Permits" the undersigned applied for a prospecting permit on the above described property on November 10, 1969. To acquire a prospecting permit:

1. $2.00 per acre ($5120 for the four sections) must be paid within 45 days from application date.

2. Probably surety bond for possible damages must be put up (at discretion of the Arizona Land Commissioner.)

3. Permit is renewable before end of each year upon proof

that $10 per acre was expended on mineral exploration during the first two years and $20 per acre for last three years of the permit, which can be extended yearly for a maximum period of five years.

4. Permit gives exclusive right to a mineral lease at any time upon proper application. See enclosed bulletin, "Laws and Regulations Governing Mineral Rights in Arizona, pgs. 59 to 63.

TOPOGRAPHY AND CLIMATE:

The relief is gentle and generally varies from 4200 ft. elevation to 4500. There are a few low hills rising up to 150 ft. above the average terrain and a number of broad east-west arroyos down cutting usually twenty or thirty feet below adjacent territory. The lands tilt rather gently down slope in to the San Simon Valley.

The property is in the Basin and Range Province, in which is situated most of the Arizona Copper Belt. It is in the center of the Belt. The nearest major copper deposits are the tremendous unexploited reserves of Kennecott Corp. and Phelps Dodge Corp. eight to ten miles east of Safford.

Of geologic note is the prospect's situation on the north side of a low several miles long eastward spur extending from the northwest - southeast trending Pinalena Mountain block. This undoubtedly represents a major tectonic cross break from the regional NW-SE trend.

At this early stage most study has been devoted to the prospect proper and little time has been devoted to the surrounding

region. Trending north-south on the west side of the property, highway cuts reveal a much disturbed and somewhat altered and mineralized biotite granodiorite. A major east-west fault zone crosses the highway about 500 feet south of a windmill and corrals west of the highway in Section 23. The fault zone is intensely brecciated and silicified. Iron oxide mineralization is intense. Large outcrops of silica make this zone traceable for a mile to the east, where it is buried under alluvium.

North of the fault described is a large mass of lighter intrusive rock that seems to vary generally from granite porphyry on the east to quartz monzonite porphyry on the west in a belt about 6000 ft. long by 4000 ft. wide. Intense faulting within the block together with intense alteration and wide-spread silica flooding, iron mineralization, and introduction of hydrothermal K-feldspars make definite rock-type identifications uncertain at this time. Suffice it to say that the intrusive complex is a highly acidic varient and demonstrates a major feature of differentiation from the biotite granodiorite to the west. At a number of places south of and within the intrusive are small intrusive masses of diabase. There seems to have been an early dense fine grained introduction of dark rocks and a later (post mineralization) more coarse textured variety.

About 1000 ft. east of section Corner 13, 14, 23, 24 are two prospect shafts (old timer diggings) that were sunk to about twenty-five feet below the terrain. Several tons of sorted copper ore have been accumulated from the bottom of the two shafts, which

are about 200 ft. apart. Between the shafts and the top of the hill labeled on the accompanying topog. sheet, B. M. Karl, is a highly mineralized belt (extending southward over a mile) showing many north-south faults and numerous east-west very persistent breccia filled fault fissures. The inter fragmental filling in the fissures is largely dark chocolate to red jasperoidal material. The breccia fragments are usually jagged chunks of silica. There are many of the breccia filled fault-fissures throughout the intrusive zone and intensity of iron mineralization and widespread quartz stringering seems to be directly related to their presence. In areas where the breccia fissures enlarge and/or branch, large masses of the out-crop capping are almost completely silicified. In some areas the breccia fissures splay out into stringer zones, some of which are still miniature duplicates of the large structures. At quarter-corner ¼ 23, 24 is an outstanding zone of the above described massive silica accumulation. An outstandingly highly mineralized area occurs north of the broad alluvium filled arroyo about 1000 ft. north of Cor. ¼ 23, 24.

The previously mentioned north-south faults are a broad zone of fracturing parallel to the north-south axis of the intrusive. Many of them have silica flooded their walls and stand out as bold and roughly parallel rib-like outcrops. Slickensides indicate considerable movement on some of these fractures.

It is hoped that this description of surface features of the intrusive will give some idea of the widespread nature of the "plumbing system" which should have permeated the mineralized

zone on the structure with a dissemination (hopefully) of copper mineralization.

A number of the breccia fissures terminate in the area of the two copper bearing shafts. The ores from the shafts vary from granite porphyry with seams and inter-granular dissemination of cuprite, malachite, and crysocolla to predminantly silica replaced porphyry, to straight quartz ore containing irregular rather massive pods of cuprite. Brilliant yellow molybdite staining is widespread, particularly in the more siliceous ore material. In the vicinity of the shafts are a number of other shallow surface excavations which show traces of copper mineralization.

The shafts are located on the east edge of the mineralized zone in what is generally only lightly mineralized dense predominantly orthoclase granite porphyry. Except for extra penetration of the borders of this material by the mineralized breccia veins in this area, this rather tight impervious rock would not have been mineralized. This dense imperviousness also explains why copper mineralizatinn still lingers at shallow depths and has not been completely leached out. Following the system of breccia veins westward into the more highly altered, fractured, and mineralized features of the main zone of mineralization should lead into much higher grade ore material, but at greater depth. Because of the quite mature nature of the erosional features of the prospect there should be a wide-spread blanket of supergene mineralization at moderate depth.

Additional observations:

1. Mature age of the land surface with much silica healing but still box-work detected in voids indicates widespread copper mineralization.

2. Magmatic differentiation associated with much crackling and faulting, as here, have been the best criteria on most southwestern copper deposits.

3. The shafts got into good copper-moly mineralization in a part of the structure not nearly as favorable as in 90 % of the mineralized zone.

4. Ore material shows both sericitization and hydrothermal introduction of orthoclase. (Increased K-factor)

CONCLUSIONS:

The property should be thoroughly mapped a drill hole or two should be done west of the copper bearing shafts, and some geophysical work (I. P. lines) should be run.

In order of precedence I would recommend a drill hole near the shafts. If favorable, then other drill holes should be done in numerous other similar surface stuations on the property, followed by a complete gridded drill program.

SUMMARY:

This is a very favorable prospect and should be adequately explored.

Robert B. Daniel