The files
Tucson, Arizona

August 11, 1971

J. E. Kinnison
Tucson, Arizona

J. J. Durek
JEK files
blue

Morgan Copper Prospect
E & E Corporation,
Gila County, Arizona

Conclusions and Recommendations

The subject property is a relatively small zone of spotty alteration and weak sulfide mineralization. Although typical porphyry of the "porphyry copper" type is not present, the deposit otherwise is similar to, but weaker, than other Southwestern porphyry deposits. The best areas have been drilled and found to contain very low values in primary copper. No enrichment is indicated. Accordingly, the property is not of interest to KEM.

Background

The Morgan property is about 4 miles south of Miami, Arizona -- about 6,000' in elevation -- on the north slope of the Pinal Mountains. A drill road provides access to the property.

On August 4, 1971, I briefly reviewed data on this property in the offices of the E & E Management Corporation, of 7244 E. Indian School Road in Scottsdale. The data consists of the following:

1. Geological report by Arthur Blucher, February 23, 1970. Blucher provided a geological reconnaisance and logged the four drill holes which E & E had sunk on the property.

2. Heinrich's Geo-Exploration Company reported on a variety of geophysical surveys, including I.P., magnetics, resistivity, and a geochemical survey for Cu and Mo. The data gets the usual Heinrich verbose treatment, and I only scanned these data.

3. A report by Richard E. Mieritz, a mining engineer from Phoenix, April 25, 1970. Mieritz had visited the property, and presents not only his opinions but also reviews all previous reports and drill data.

The Morgan property was formerly known to me under the name of the Madera prospect, from work by ASARCO in the late 50's. The property had been drilled prior to 1950 by Miami Copper Company, who sunk two churn drill holes in the area of better-looking surface outcrops. The results of these holes are not available, and only one of them was located during the recent work by E & E. Consolidated Uranium Company sunk three diamond drill holes in 1957, from underground in the working known as the Pinal adit.

E & E Corporation obtained the property in 1970. They cleaned out the Final adit and sampled it, and cleaned up the access roads and prepared drill sites. Four vertical drill holes were sunk by E & E. At this time they hold 61 federal claims.

E & E Drilling

The following drill hole logs are abstracted from Blucher's report.

DDH 1

0 - 180' Leached capping
- 300' Ave < .1% Cu
- 500' Ave slightly > .1% Cu
- 560' Ave .15% Cu
- 600' Low core recovery - shear zone. Recovered core ave .23% Cu. Intense alt.
- 670' Ave .13% Cu

Total Depth
Rock: gneissic diorite and qtz diorite, with schistose texture.

DDH 2

0 - 79' Leached capping
- 530' "Weak sulphide zone," < .05% Cu.
- 570' Ave .2% Cu
- 787' Range .03 - .4% Cu

DDH 3

0 - 75' Leached capping
- 180' Chalcopyrite and occasional chalcocite Ave .25% Cu, .006% Mo
- 702' Primary chalcopyrite, range .03 - .4% Cu, Ave .1% Cu

DDH 4

0 - 320' Leached capping, "with limonite indicative of moderate to strong primary mineralization."
- 465' Sulphide zone, primary cpy, range .02 - .76% Cu, ave .14% Cu. Last 3 samples ave > .4% Cu.

Blucher's Comments

In a passing comment Blucher suggests that there must be "several hundred million tons of about .3% Cu." I fail to understand the reason for this statement, for it is not backed up by the values obtained by drilling. This is the only obvious inadequacy in Blucher's comments, and otherwise his report appears sound.

In summarizing the deposit, he categorizes it as a porphyry copper deposit, in which alteration and mineralization is notably "spotty." He flatly states that the surface geological studies which he made failed to yield evidence in the leached capping ~~in the~~ OF secondary chalcocite enrichment.

Blucher is experienced and proficient in analyzing leached capping, and I believe his opinion on this matter can be accepted. He further provides the following speculations:

The Miami deposit, noted for its exceptional chalcocite zone, is topographically much lower than the Morgan prospect. He suggests that there may be post-ore faults between the two deposits which have down-dropped the Miami deposit, causing the chalcocite zone -- of Tertiary age -- to be protected from erosion. On the other hand, any chalcocite zone which might have existed over the Morgan area may have been removed by erosion in the Pinal Mountains. This would seem to be justifiable inference. Blucher goes further,however, to speculate that tilting associated with this post-ore faulting could have tilted the deposit down to the north, and that the secondary chalcocite zone could in theory exist below Morgan Peak in an area which has not been drilled. He notes in this connection that there is no limonite indicative of secondary enrichment on Morgan Peak, and -- perhaps as a concession to his client -- he rather lamely suggests that the high chalcopyrite to pyrite ratio might prevent diagnostic limonite from forming. This suggestion is not to be taken too seriously. If anything, I would suggest that the low pyrite content of the deposit would greatly inhibit leaching and subsequent chalcocite enrichment.

Blucher's work suggests that the best part of the mineralized zone has been drilled, and he does not recognize any chance for improvement in Cu value laterally within the deposit beyond the area of drilling.

Heinrich's Results

The I.P. surveys had delineated a narrow, north-trending analomous zone. A scattering of small oval-shaped magnetic highs are also present. The geochemical survey delineated a narrow east-trending zone approximately 1,500' east-west and about 300' north-south, which contained +300 parts per million Cu in rock chips. A fewscattered Mo samples indicated greater than 30 ppm Mo in the same general area as the anomalous Cu zone. Mo background is less than 1 ppm and Cu background is 30-50 ppm.

Mieritz' Review

Mieritz is undoubtedly the person most familiar with the deposit, as he was also a consultant for Consolidated Uranium when they drilled in 1957. He has prepared a succinct report which appears to be a satisfactory summation of the potential of the property, although minor faults may be found with some of his suggestions.

Mieritz has calculated a "mineralized reserve of four million tons" at a grade of .352% Cu, .005% Mo, .1 ounce per ton silver, .01 ounce per ton gold. He concludes, with equivocation, that a substantial tonnage of this grade does not exist. This reserve -- in the vicinity of the Final adit -- is all contained as primary chalcopyrite. Mieritz does not believe that secondary enrichment is to be expected.

Recognizing that the above reserve is not economic, Mieritz suggests that E & E might try to explore what he terms a "minor target." The tonnage

and grade of this "minor target" objective is not specified, but it is presumably small. The concept behind his minor target is the coincidence of a Mo high (a single sample) within the overall Cu anomaly, and a small magnetic anomaly in the same position.

The Mieritz report clearly defines the problem. Drilling to date has produced a very low grade primary Cu zone, not remotely economical, and without a recognized potential for improvement laterally. The "minor target" proposed by Mieritz is not attractive, and would not in any event be of interest to KEM.