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ASARCO Incorporated
Tucson Arizona

October 2, 1975

J. H. C.
OCT 3 1975

file

Memorandum for T. C. Osborne

I am enclosing Mr. Graybeal's report (without attachments) on the Meadow Valley prospect. Please read his section "General Comments".

Mr. Awald greatly impressed our Mining Department who suggested he contact Mr. Collins concerning support for his ERTS work. Mr. Awald appears to be another "geocon man" to use a word coined by Mr. Courtright.

W. L. Kurtz

W. L. Kurtz

WLK:lb

cc: JHCourtright - w/enc.
FRGraybeal - w/o enc.

ASARCO Incorporated
Tucson Arizona

September 26, 1975

W. L. K.
OCT 2 1975

TO: W. L. Kurtz
FROM: F. T. Graybeal

Meadow Valley prospect
Red Rock Mining District
Canelo Hills
Santa Cruz Cty., Arizona

SUMMARY

The property is of no interest to Asarco.

INTRODUCTION

The Meadow Valley property is located in sec. 14, 15, 22, and 23 T22S, R17E in the southern portion of the Canelo Hills, about 8 miles east of the Red Mtn. porphyry copper deposit. The property is covered by 96 claims plus additional purchase options, all held by BAC Resources. In two previous meetings BAC has been represented by John Awald and Parker Bloomer. BAC recently completed a limited drilling program in the area and asked Asarco to review the drill core and other data in regard to a possible sale of the property.

GEOLOGY

The geologic map in the BAC report is highly generalized. Previous reconnaissance indicates the area lies along the contact of Late Cretaceous trachyandesite flows to the south and Mesozoic volcanic and sedimentary rocks with inclusions or fault blocks of Paleozoic limestone to the north. Several small irregular dikes of quartz monzonite porphyry are also present.

Spotty pyritic mineralization is locally present, although usually in amounts less than one percent by vol. Scattered calcite and barite veins often carry traces of oxide copper, chalcopyrite, and Ag and are cut by numerous trenches and short adits. The mineralization is probably related to quartz monzonite porphyry dikes. During my earlier reconnaissance it appeared that pervasive, widespread alteration or mineralization of any type were absent.

The BAC exploration program was mostly initiated by interpretation of ERTS photography and geochemical sampling. The resulting geochemical anomaly was generated by combining samples of stream sediments, outcrops, and mine dumps. Quite naturally a trend surface map of the values is

centered over the area of the mine dumps. What they fail to realize is that the mineralization is sharply confined to the narrow vein-fault structures mentioned above. Dispersion of values outward from the veins into the wall rocks is absent.

Holes ACH:1-3 were drilled to test a shallow barite vein and ACH:4-7 to test the porphyry copper potential. The locations of the BAC drill holes are shown on Figure 1 and the results summarized on Table 1. The summary is derived from my own examination of their drill core which revealed several serious misinterpretations made by BAC. Of greatest interest is the general decrease in both alteration and very weak pyrite mineralization (never over 1 vol. %/10 ft.) with increasing depth as seen in the two 500 ft. drill holes. The lack of pervasive alteration and mineralization, the very low copper content of the spotty pyritic mineralization, the absence of any evidence of vigorous hydrothermal activity, and the decreasing strength of both alteration and mineralization with increasing depth indicate that the property contains no potential for concealed porphyry copper mineralization.

GENERAL COMMENTS

The BAC report is a professional-looking compilation and is well-organized. It gives every indication that the "geologists" who assembled it knew what they were doing. In fact, the compilers had a pretty good idea of the steps to be taken when evaluating a porphyry copper prospect and in what order to take them. However, they had very little idea of how to execute each of the steps and almost no conception of what a porphyry copper deposit should look like on the ground.

The chief architect of the report appears to have been John Awald. He completed graduate work at Stanford with apparent emphasis in remote sensing and in statistical treatment of geologic data. His obvious lack of outcrop expertise appears to have been of little concern to him, and I think he honestly believes in the existence of a porphyry copper deposit in the Meadow Valley mine area.

The frightening aspect of all this is that several of Awald's friends have suggested that he publish the present report as a modern exploration case history. Such a publication would be read by many "armchair explorationists" whose reaction would be something like "exploration is easy; anybody can do it." It may also be brought to the attention of various government types who, upon being enlightened as to the ease of exploration, will wonder why the mining groups fight such things as H.R. 8435, and may take the attitude that if the mining companies can't do it then the government will.

F. T. Graybeal
F. T. Graybeal

FTG:lb
Atts.