CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
1520 West Adams St.
Phoenix, AZ 85007
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the

Arizona Department of Mines and Mineral Resources Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

PRINTED: 12/18/2002

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: CALLAHAN CLAIMS

ALTERNATE NAMES:
OLD CAMP

YAVAPAI COUNTY MILS NUMBER: 129

LOCATION: TOWNSHIP 14 N RANGE 9 W SECTION 17 QUARTER N2
LATITUDE: N 34DEG 33MIN 22SEC LONGITUDE: W 113DEG 13MIN 15SEC
TOPO MAP NAME: BAGDAD - 15 MIN

CURRENT STATUS: EXP PROSPECT

COMMODITY:
COPPER SULFIDE
ZINC

BIBLIOGRAPHY:
ADMMR CALLAHAN MINING CLAIMS FILE
BLM AMC FILES 42789 AND 50687
CLAIMS ALSO IN SEC. 18, 19 AND 20

(602) 968-1275

(602) 242-8345

CHARLES R. WARD CORPORATION
Mining Development & Mineral Recovery

4728 N. 21ST AVENUE

PHOENIX, ARIZONA 85015

CALLAHAN MINES

LOCATION

The callahan mining claims lie 6 miles S. W. of Bagdad, ArizoanThey are easily accessible over a well maintained road The property is situated between two active mines and consists of 13 umpatented claims and a fraction ammounting to total of 300 acres.

HISTORY

The production history of the massive sulfide deposits surrounding the callahan claims is important to realizing the potential size of ore occurrences on the. The Copper Queen Mine, now exhausted produced 141,000 tons of 4.7% copper and 14.4 % zinc; the copper king mine, now exhaustgd produced about 25,000 tons of 3% copper and 23% zinc, the Old Dick Mine, now exhausted produced 677,000 tons of 3.36 % copper and 10.6% zinc: The greeks mine apparently was never commercially exploited. The Bruce orebody lies elow the Old Dick orebody and off to one side and is presently being mined at the rate of 600 tons per day. The Bruce is the only "blind" orebody discovered in the district to date. It Extends from approximately 1,000 feet below the surgace to more than ½ mile deep and the bottom of the sulfide zone has not yet been found. Production to date is approximatley 350,000 tons and minimum ore reserves are 460,000 tons of 4% copper and 14% zinc with strong gold silver and lead credits.

GEOLOGY

An abundance of lithologic units and fault structures conprise the geology of the claims and surrounding area. However, the gross features important to the occurrence of an orebody are easy to depict, The claims are located over metamorphic rpcks of the precambrian Yavapai series. The hillside formation has large masses of pre cambrian granite in it. A tertiary quartz-monzonite prophyry stock intrudes the Yavapai Series just norgh of the claims. Theis stock contains the Bagdad porphyry copper deposit with reserves estimated at 900,000,000 tons of 0.5 % copper. In addition to the ore controlling contact feature the massive sulfides are localized more specifically in fissure veins from one to thirty feet wide. ~~-Old literature records-~~

DEVELOPMENT

Production to date is approximately 350,000 tons and minimum ore reserves are 460,000 tons of 4% copper and 14% zind with strong gold, silver and lead credits. The diamond drilling done by the owners found nothing of interest. This is largely because the holes were poorly placed and none of them tested the potential ore bearing structure. The drill holes were all vertical and consiquently were drilled right down the bedding

(602) 968-1275

CHARLES R. WARD CORPORATION
Mining Development & Mineral Recovery

4728 N. 21ST AVENUE

PHOENIX, ARIZ

DEVELOPMENT (continued)
plane of the andesite. The drilling, of course, should haave been designed to cross cut the structural trends with the use of angle holes. There is no engineering data available on the drill cores.

EQUIPMENT

Records unavailable.

SUMMARY

The ore potential of the Callahan claims appears to be generally good. It is surmized that the chances of finding a massive sulfice deposit of greater than 500,000 tons of 4% copper and 15% zinc are excellent.

Lloyd Frost & Associates

6226 WEST KEIM DRIVE
GLENDALE, AZ 85301

PHONE (602) 937-3318
274-9296
CPA-994-3149
939-9406

CALLAHAN MINING CLAIMS

EUREKA MINING DISTRICT

BAGDAD, ARIZONA

INTRODUCTION

The land that comprises the Callahan Mining Claims, lies entirely within the Eureka Mining District. It is located 72 Road miles west of the City of Prescott, Arizona, near the community of Bagdad. The Bagdad area covers thirty-eight square miles in the mountainous region of West Central Arizona, the topography is that of a combination of lava mesas and mountains cut by the deep canyons of Boulder and Copper Creeks.

PROPERTY

The Callahan Mining Claims lie some six road miles southwest of Bagdad, Arizona, easily accessible over a well maintained road. The property is situated between two active mines owned and operated by Cyprus Mining Corporation and consists of 13 unpatented claims and a fraction amounting to a total of 300 acres. Two of the claims are removed about 1,000 feet to the northwest of the main block. Claims marginal to the Bagdad porphyry copper deposit pit border the Callahan claims for about 2,000 feet on the north end, and claims covering the Old Dick - Bruce massive sulfide mine are adjacent to them for about 2,000 feet on the south end.

GEOLOGY

An abundance of lithologic units and fault structures comprise the geology of the claims and surrounding area. However, the gross features important to the occurrence of an orebody are easy to depict, and I have diagrammed them on the accompanying sketch map constructed largely from data obtained from a U.S.G.S. report now out of print.

The claims are located over metamorphic rocks of the pre-Cambrian Yavapai Series. The Yavapai Series is subdivided into three formations. The oldest, the Bridle formation, consists of metaandesite and metabasalt intercalated with metasediments and metarhyolitic tuff. The second formation, the Butte Falls tuff is a well bedded metamorphosed water deposited tuff. The youngest formation is the Hillside mica schist which consists of quartz-muscovite schist and a micaceous quartzite.

The Bridle formation has been intruded by numerous pre-Cambrian dikes and sills of gabbro and rhyolite quartz porphyry. The Hillside formation has large masses of pre-Cambrian granite in it. A tertiary quartz-monzonite prophyry stock intrudes the Yavapai Series just north of the claims. This stock contains the Bagdad porphyry copper deposit with reserves estimated at 900,000,000 tons of 0.5% copper.

Five strata-bound massive sulfide zinc-copper deposits are contained in the Bridle formation. The Old Dick-Bruce Mines and the Copper Queen Mine are just south of the claimed area and the Copper King Mine and a prospect referred to as Greek's Mine occur just to the north. All of these mines are localized near the contact with an "intrusive" rhyolite quartz porphyry which trends with the general northeast strike of the Bridle formation through the claimed area. Dips are steeply northwest. The Mountain Springs Fault cuts out some of the favorable contact zone on the claimed area by down faulting the unfavorable ore environment of the Hillside schist formation.

In addition to the ore controlling contact feature, the massive sulfides are localized more specifically in fissure veins from one to thirty feet wide. Old literature records the discovery outcrop of the Old Dick Mine as being a gossan vein lined with dog tooth quartz and calcite. I have seen drill cores from deep in the Bruce Mine displaying layered sulfides of chalcopyrite-sphalerite parallel to the vein walls which are lined with such quartz and calcite. Strong chlorite alteration and weak sericite alteration generally envelope these ore structures. As I stated in my earlier report on the Callahan, no one has conclusively been able to determine if these deposits are of the pre-Cambrian volcanogenic type or of the Tertiary fissure vein type.

I observed a similar concordant fissure vein in the Bridle formation on the Callahan claims. The structure is steep dipping, several hundred feet in strike length and a few inches to several feet wide. It generally parallels the rhyolite prophyry contact and, interestingly, it occupies the projection of the like structure of the Old Dick outcrop. This structure is poorly exposed and has been explored only by the shallow shaft mentioned previously to a depth approximating the base of the oxidation zone.

Massive sulfide gossan was not observed on this Callahan structure. At the point where the shaft was sunk, the structure appears to be a series of parallel quartz veins individually up to one foot wide over a span of five or six feet. The centers of these veins are either open vugs or vugs filled with transported brown limonite. I did see several clots of galena and chalcopyrite intergrown with the "tooths" of quartz lining open spaces.

This silicic structure has what appears to me to be a strong halo of hydrothermal alteration enclosing it. Seritization and bleaching of the andesites extends several inches outward from the vein. And sporadic but strong epidotization of the rock was found enveloping it for as much as 200 feet outward. At one point adjacent to the structure, an outcrop of very magnetic silicified andesite (?) was observed.

This find of magnetic rock was interesting to me, because I observed that the massive sulfides of the Bruce Mine were equally as magnetic. I have heard that Cyprus' area exploration efforts have been oriented towards drilling deep areomagnetic highs. I do not know if they found a mag high over the Callahan claims, but I did notice that Cyprus did a substantial amount of drilling at Greek's Mine just to the north of the Callahan claims. I tested some of the sulfide bearing rock on that mine dump and found it to also be magnetic.

The diamond drilling done by the owners found nothing of interest. This is largely because the holes were poorly placed and none of them tested the potential ore bearing structure. The drill holes are all vertical and consequently were drilled right down the bedding plane of the andesite. The drilling, of course, should have been designed to cross cut the structural trends with the use of angle holes. There is no engineering data available on the drill cores.

PRODUCTION HISTORY

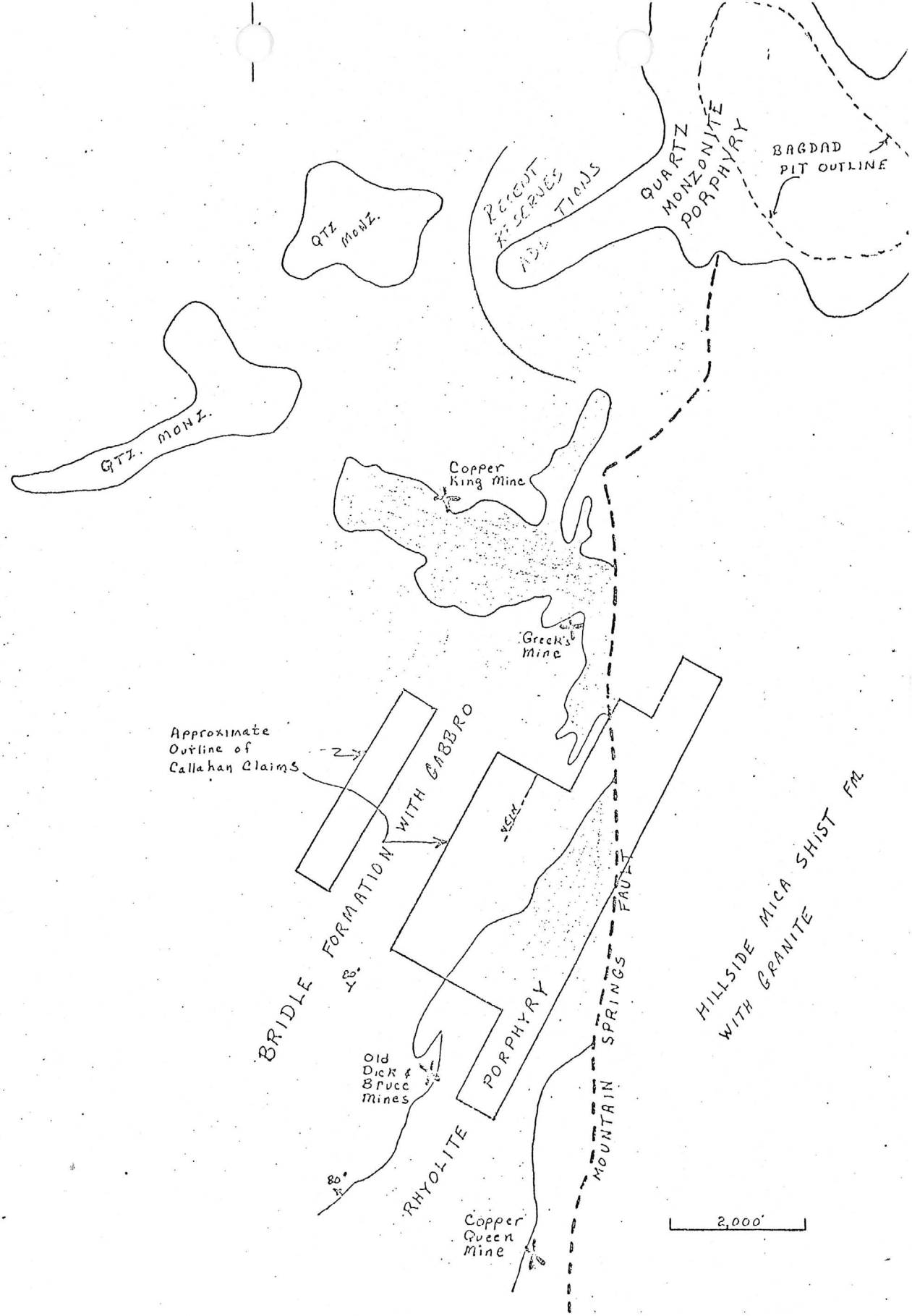
The production history of the massive sulfide deposits surrounding the Callahan claims is important to realizing the potential size of ore occurrences on them. The Copper Queen Mine, now exhausted, produced 141,000 tons of 4.7% copper and 14.4% zinc; the Copper King Mine, now exhausted, produced about 25,000 tons of 3% copper and 23%

zinc; the Old Dick [illegible], now exhausted, produced [illegible] tons of copper and 10.6% [illegible]c; the Greek's Mine apparently [illegible]s never commercially exploited. The Bruce orebody lies below the Old Dick orebody and off to one side and is presently being mined at the rate of 600 tons/day. The Bruce is the only "blind" orebody discovered in the district to date. It extends from approximately 1,000 feet below the surface to more than 1/2 mile deep and the bottom of the sulfide zone has not yet been found. Production to date is approximately 350,000 tons and minimum ore reserves are 460,000 tons of 4% copper and 14% zinc with strong gold, silver and lead credits.

CONCLUSIONS

In conclusion, the ore potential of the Callahan claims appears to me to be generally good. I surmise that the chances of finding a massive sulfide deposit of greater than 500,000 tons of 4% copper and 15% zinc are excellent.

A logical sequence of exploration would consist of about one week of geologic mapping by one geologist followed by a combined turam-ground magnetometer survey also expected to take about one week. Favorable results would justify diamond drilling. I point out that there is no graphitic rock units on the claims to give false E.M. responses.



Callahan Mining Claims
Bagdad Arizona