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

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07/23/87

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: HOWARD COPPER

ALTERNATE NAMES:
COPPER SCHIST PAT. MS 3645

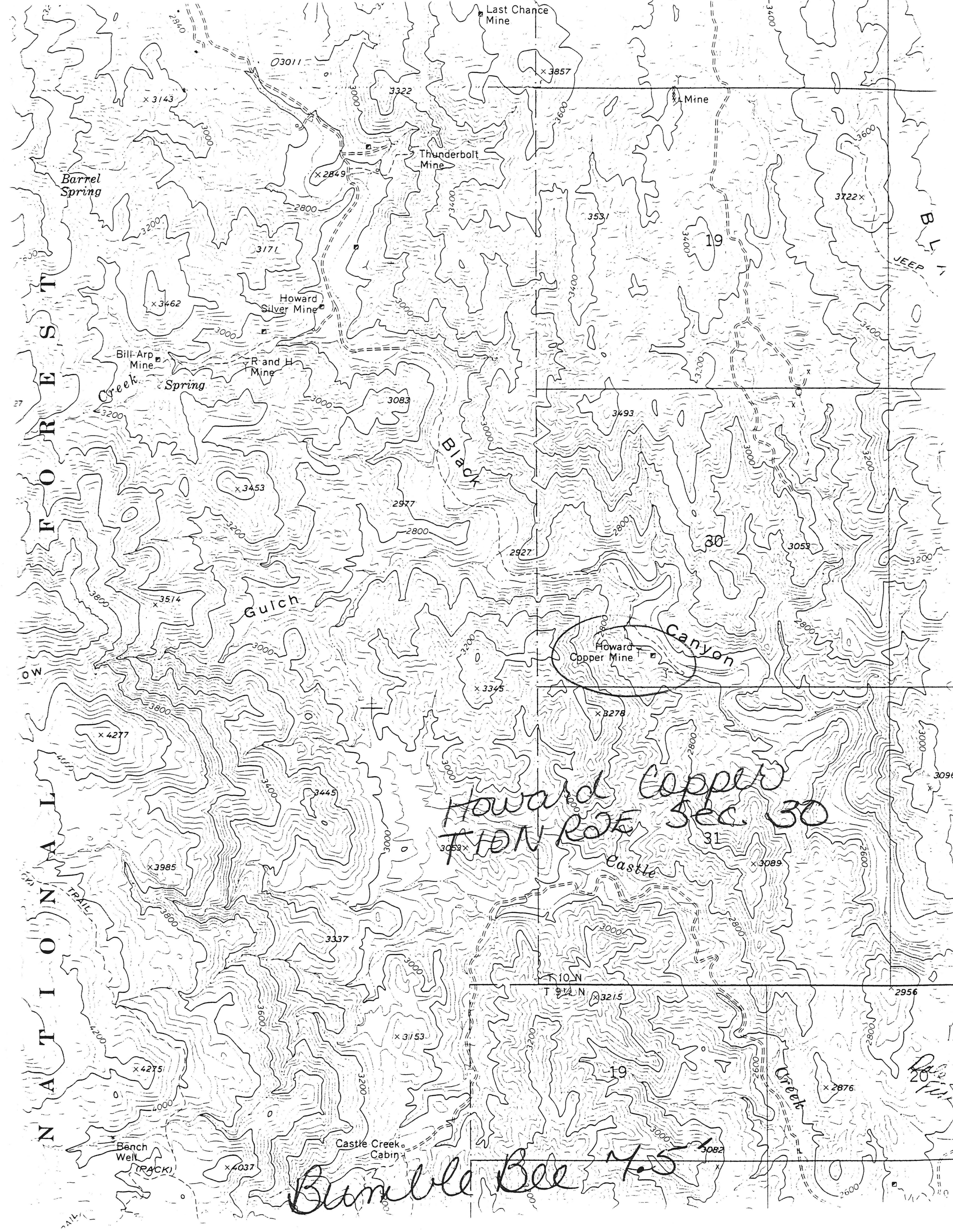
YAVAPAI COUNTY MILS NUMBER: 778

LOCATION: TOWNSHIP 10 N RANGE 2 E SECTION 30 QUARTER SW
LATITUDE: N 34DEG 12MIN 39SEC LONGITUDE: W 112DEG 11MIN 29SEC
TOPO MAP NAME: BUMBLE BEE - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
COPPER
GOLD
SILVER

BIBLIOGRAPHY:
ADMMR HOWARD COPPER FILE
BLM MINING DISTRICT SHEET 42
LINDGREN, W. ORE DEPTS OF JEROME & BRADSHAW
MTS QUAD USGS BULL 782 1926 P 154
ARIZONA MINING JOURNAL NOV 1, 1920 P 15
USBM IC 6905 P 31
ADMMR HOWARD COPPER FILE (COLVO)

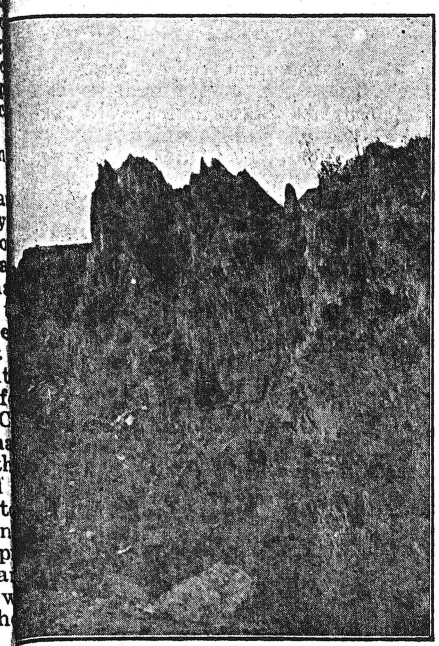

Last Chance Mine
Mine
Thunderbolt Mine
Barrel Spring
Howard Silver Mine
Bill Arp Mine
R and H Mine
Creek
Spring
Black
Gulch
Howard Copper Mine
Canyon
Castle
Creek
Castle Creek Cabin
Bench Well
(PACK)
TRAIL
JEEP
NATIONAL FOREST
T 10 N
T 9½ N
19
30
31
19
20
Howard Copper
T10N R2E Sec. 30
Bumble Bee 7.5'

MINES OF TOMORROW—NO. 11
THE HOWARD COPPER COMPANY

By CHARLES F. WILLIS. Yavapai schist belt shows up a prospect that looks promising for a good sized concentrating deposit.

Yavapai schist, that broad band of hist that covers the most of Yavapai unty has been the medium in which any mines have been found and on hich there are thousands of prospects at have not been opened up sufficiently determine their ultimate value. The ccess of mines like the Blue Bell, De oto, the Arizona Binghampton and the y has led to extension locations on the hist belt with the result that in look- over the list of the mines of Yavapai unty, a very large percentage show as ing in schist.

Yet with the known propensity of the hist for carrying copper it might seem ther remarkable that a large schist out- op, standing 50 to 60 feet high and for length of several hundred feet, show- heavy in copper carbonate, not stain the real malachite, should have waited til the year 1920 to get its active de- lopment under way. Yet this is pre- ely the case at the property of the ward Copper Company, located about miles from Turkey Creek station on Crown King branch of the Santa Fe. It is not that the outcrop was not own, for it was known and located ny years ago, but when one sees the ccessibility of the country and the ggedness of Black Canyon, it is realized it is no prospector's propositon to ke a mine in this schist. It requires



ntic Mineralized Schist Outcrop on Howard Property

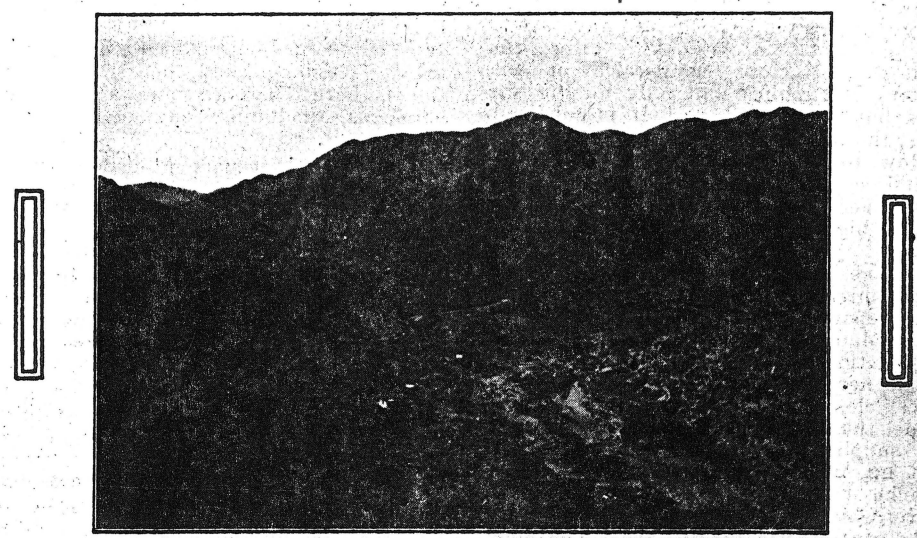
al, geological knowledge and engi- ng ability. So that it remained for Howard to recognize the possibilities is gigantic outcrop and to undertake ob of finding the people who could t in with the same confidence as lf.

Howard found his men in I. D. L. Williams, Ralph Roseberry and associates of Los Angeles who have now been working the property steadily since last January and feel that they have justified their in the big outcrop. They have done exceptional work in the development of the property for they had to start right at the beginning and build roads to it and to those who know the ruggedness of the Black Canyon country, this is some considerable task. The work that has been done has been extremely economical and conservative for they are working on the principle of finding what they have and then working out the plan to handle it.

The property of the Howard Copper Company consists of sixteen claims in the original group to which 2 fractions and a full claim have since been added by purchase or location in order to round out the group to about 360 acrs. It is situated about six miles from Turkey and about two miles from the Phoenix-Prescott highway Black Canyon road. It is in the middle of the great schist belt that crosses Yavapai county. This schist belt strikes about north 10 west and dips about 70 west. In various parts it shows different phases varying from a quartz porphyry schist to a diorite or greenstone schist and to a seracitic schist. All gradations between the above may be found.

The outcrop on the Howard Copper Company property shows as a silicified quartz porphyry schist, liberally stained with copper, a width of 46 feet and several hundred feet long. In numerous places are gossan bands, so called, running parallel to the strike. These bands are zones of more intense leaching and the schist is entirely altered to a copper stained limonite. These gossan bands may be followed in depth to the tunnel level below and are quite permanent in character. Work that has been done on these gossan bands have shown a richer ore directly associated.

A small shaft sunk some years ago on one of these gossan bands showed chalcocite at a depth of 18 feet running 8 per cent average in copper and $4.00 in gold. One of the particular significant features of the property has been the persistency and uniformity of the gold and silver values.



Howard Camp, New Road and Black Canyon Showing Ruggedness of Country

The main development work that has been accomplished during the nine months operation by the present company is a tunnel about 600 feet long running almost parallel to the ore bearing lense of schist. At a distance of 340 feet from the mouth of the tunnel the first crosscut was run for a distance of 120 feet and showed 25 feet of low grade pyrite and chalcopyrite ore. At 118 feet further the second crosscut across the ore was run and at 90 feet in struck 20 feet of chalcopyrite concentrating ore, four feet on which showed to quite high grade.

The third crosscut was run 27 feet from No. 2 and this time the ore was encountered at 30 feet in although this changed to a more siliceous phase of the schist shortly.

The tunnel went in further for a distance of 83 feet during which time some ore came directly in the tunnel itself as the trend of the ore deposit showed the strike of the ore slightly at variance with the strike of the schist. Just before reaching the present breast a fault was encountered and work is being done as a crosscut near to breast to determine the displacement of the ore by the fault.

The 25 feet of ore found in the first crosscut was but the beginning of the ore body and showed a 1% average copper tenor. The second crosscut showed

(*Continued to Page* 53)

THE HOWARD COPPER COMPANY

(*Continued from Page* 15)

ly a 1% copper content for the whole 20-foot width with $2.89 in silver and gold, while the high grade four-foot the same place showed 16% copper with correspondingly high values in gold and silver. The third crosscut had five feet of 9% ore.

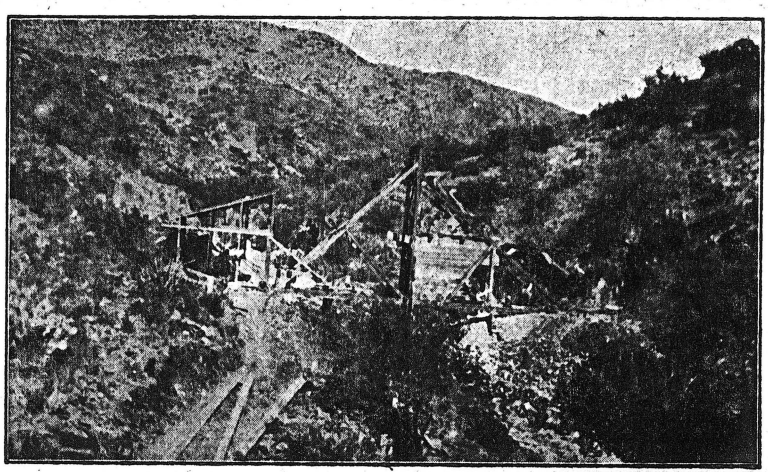
The ore body having been crossed at three places in a distance of 145 feet it was then determined to get below this ore and to that end a shaft is planned, the shaft being about 100 feet from the edge and will strike it in depth owing to the dip of the schist. The shaft is being so located that it will be possible to have a mill close by and handle ore directly to the mill without immediate tramming.

The present equipment of the property is a 35 h. p. Western engine running a 8½x9 Laidlow compressor. R. H. 36 Cochise jackhammer drills are used with bull bits. The power house being right by the creek finds a liberal supply of water and an air pump handles the water to the tanks on the hill from which place it is piped to the camp and for cooling the engine and compressor.

During the past summer, the possibilities of the Black Canyon for gardening were shown as the camp raised sufficient fresh vegetables for their use and their is ample space and good soil for raising enough for a camp many times its size. The camp is very pleasantly located on one of the few flats that have not been washed out by the high waters of the creek.

The results of the development already done are very promising and sufficiently encouraging to lead to more extensive work. That it will be a milling proposition is assured and it is probable that one unit of a small mill will soon be on the property. The ore is easily milled and presents no unusual problems. The company is backed by men well capable of holding up their end financially and technically. Everything at the mine is being handled economically and, in fact, the technical end of the work is being taken care of by Mr. Roseberry who, as vice president and general manager of the company, serves without salary. The stock of the company has never been on the market and no treasury stock has been issued as yet.

The officers of the company are H. O. Howard, president; Ralph Roseberry, vice president and general manager, and J. J. Fagan of Phoenix, secretary and treasurer. The foreman in direct charge of operations is Frank Dryden. The company has planned extensive improvements in the near future which development will show whether the Yavapai schists contain still another mine, and the work already done by the Howard Copper Company indicates that this is to be a fact.



Silver Cross Shaft House and Surface Workings

HOWARD COPPER MINE YAVAPAI COUNTY
4 miles south of Cleator - Sec. 24, T1ON, R1E

Broyles is building and repairing the road to the Howard Copper mine. FTJ WR 9-23-66

Road to Howard Copper Claims finished. Intend to start mining Nov. 21, 1966. Claims owned by Henry Cordes of Cordes. Larry Wiseman and Broyles mining.

Dexter Broyles' partner and wife visited office re Howard Copper that they are trying to explore and develop. FTJ WR 5-15-70

Dexter Broyles and partner are driving a crosscut and drift at the Howard Copper mine. FTJ WR 5-22-70

Dexter Broyles and partner were exploring and trying to develop ore at the Howard Copper Mine south of Cleator. FTJ QR 7-1-70

IC 6905, p. 31

*GENERAL REFERENCES

REFERENCE 1 F1 < U.S. GEO. SURVEY BULL 782, p. 154-155 >

REFERENCE 2 F2 < ABGMT CLIPPINGS FILE >

REFERENCE 3 F3 < AZ DEPT MINERAL RESOURCES FILE >

REFERENCE 4 F4 < USBM I.C. 6905, p 31 >

U.S. CRIB-SITE FORM

RECORD IDENTIFICATION

*RECORD NUMBER B10 < >
*RECORD TYPE B20 < X,1,M >
DEPOSIT NUMBER B40 < >
REPORT DATE G1 < 8,1,0,9 > (YR. MO.)
*INFORMATION SOURCE B30 < 1,2 >
*FILE LINK IDENT. B50 < USBM 004 025 1151 >

REPORTER(SUPERVISOR) G2 < DEWITT, ED, H > ( )
(last, first, middle initial) (last, first, middle initial)

REPORTER AFFILIATION G5 < ABGMT >
*SITE NAME A10 < HOWARD COPPER MINE >
SYNONYMS A11 <

LOCATION

MINING DISTRICT/AREA A30 < KAY DISTRICT >
COUNTY A60 < YAVAPAI >
*STATE A80 < A,Z >
*COUNTRY A40 < U,S >
PHYSIOGRAPHIC PROV A63 < 1,2 >
DRAINAGE AREA A62 < 1,5,0,7,0,1,0,2 >
*LAND STATUS A64 < 0,0 > ( )
QUADRANGLE NAME A90 < BUMBLEBEE > (1,9,6,9)
*QUADRANGLE SCALE A100 < 2,4,0,0,0 >
SECOND QUAD NAME A92 < > ( )
SECOND QUAD SCALE A91 <
ELEVATION A107 < 2,6,2,0 FT >

UTM

NORTHING A120 < 3,7,8,6,0,0,0 >
EASTING A130 < 3,9,0,2,1,0 >
ZONE NUMBER A110 < 1,2 >

*ACCURACY

ACCURATE (ACC) (circle)
ESTIMATED EST <

GEODETIC

*LATITUDE A70 < _ _ N >
*LONGITUDE A80 < _ _ W >

CADASTRAL

TOWNSHIP(S) A77 < 0,1,0 N >
*RANGE(S) A78 < 0,0,2 E >
SECTION(S) A79 < 30 >
SECTION FRACTION(S) A76 < SW >
MERIDIAN(S) A81 < GILA AND SALT RIVER >

POSITION FROM NEAREST PROMINENT LOCALITY A82 < 2.8 MILES WEST-NORTHWEST OF BUMBLEBEE, ARIZONA >
LOCATION COMMENTS A83 < LOCATED ON BLACK CANYON - TURKEY CREEK - BELOW HOWARD SILVER MINE >

ESSENTIAL INFORMATION
ESSENTIAL SOMETIMES OR HIGHLY RECOMMENDED

COMMODITY INFORMATION

*COMMODITIES PRESENT C10: CU, AU, AG
ORE MINERALS C30: CHALCOCITE, PYRITE
COMMODITY SUBTYPES C41:
GEN. ANALYTICAL DATA C43: ORE ZONE ON 200 AND 400 LEVELS = 9.5% CU, 1 OZ AG, MINOR AU
COM. INFO. COMMENTS C50:

* SIGNIFICANCE

	PRODUCER	NON-PRODUCER
MAJOR PRODUCTS	MAJOR:	MAIN COMMODITIES PRESENT C11: CU, AU, AG
MINOR PRODUCTS	MINOR:	MINOR COMMODITIES PRESENT C12:
POTENTIAL PRODUCTS	POTEN:	
OCCURRENCES	OCCUR:	OCCURRENCES OCCUR:

*PRODUCTION

PRODUCER	NON-PRODUCER
*PRODUCTION YES (circle) PRODUCTION SIZE SML MED LGE (circle one)	PRODUCTION (UND) NO (circle one)

EXPLORATION OR DEVELOPMENT

*STATUS

PRODUCER	NON-PRODUCER
STATUS AND ACTIVITY A20: 4	STATUS AND ACTIVITY A20:

DISCOVERER L20:
YEAR OF DISCOVERY L10: EARLY 1900's *NATURE OF DISCOVERY L30: 6 *YEAR OF FIRST PRODUCTION L40: *YEAR OF LAST PRODUCTION L45:
PRESENT/LAST OWNER A12: HENRY CORDES, CORDES, ARIZONA (1966)
PRESENT/LAST OPERATOR A13: DEXTER BROYLES
EXPL./DEV.COMMENTS L110: MUCH ACTIVITY AND WORK DONE IN 1910-1920. NO PRODUCTION RECORDED

DESCRIPTION OF DEPOSIT

*DEPOSIT TYPE(S) C40: STRATIFORM MASSIVE SULFIDE
DEPOSIT FORM/SHAPE M10: LENSE
*DEPTH TO TOP M20: *UNITS M21: *MAXIMUM LENGTH M40: 560 *UNITS M41: FT
*DEPTH TO BOTTOM M30: 558 *UNITS M31: FT *MAXIMUM WIDTH M50: 558 *UNITS M51: FT
*DEPOSIT SIZE M15: (SMALL) M15: (MEDIUM) M15: (LARGE) (circle one) *MAXIMUM THICKNESS M60: 30 *UNITS M61: FT
*STRIKE M70: N 0 W *DIP M80: 85 W AVERAGE
*DIRECTION OF PLUNGE M100: *PLUNGE M90:
*DEP. DESC. COMMENTS M110: HOWARD COPPER DEPOSIT IS MASSIVE SULFIDE LENS WHICH IS ONLY PARTIALLY EXPLORED. MINERALIZED ZONE KNOWN TO EXTENDS DEEPER THAN 558 FT AND AT LEAST 600 FT ALONG STRIKE

DESCRIPTION OF WORKINGS

*Workings are: SURFACE M120 UNDERGROUND (M130) BOTH M140 (circle one)
*DEPTH BELOW SURFACE M160: 558 *UNITS M161: FT *OVERALL LENGTH M190: 560 *UNITS M191: FT
*LENGTH OF WORKINGS M170: 800 *UNITS M171: FT *OVERALL WIDTH M200: 10 *UNITS M201: FT
*OVERALL AREA M210: 5600 *UNITS M211: SQ FT
DESC. OF WORK. COM. M220:

GEOLOGY

*AGE OF HOST ROCK(S) K1: P,R,O,T, U/PB GREATER THAN 1720 MILLION YEARS
*HOST ROCK TYPE(S) K1A: META RHYOLITE
*AGE OF IGNEOUS ROCK(S) K2: P,R,O,T,
*IGNEOUS ROCK TYPE(S) K2A: META RHYOLITE
*AGE OF MINERALIZATION K3: P,R,O,T, U/PB GREATER THAN 1720 MILLION YEARS
*PERT. MINERALS (NOT ORE) K4: QUARTZ, CHLORITE, ANKERITE
*ORE CONTROL/LOCUS K5: STRATIGRI
*MAJ. REG. TRENDS/STRUCT. N5: FOLIATION AND TRANSPOSED BEDDING TREND N-S
*TECTONIC SETTING N15:
*SIGNIFICANT LOCAL STRUCT. N70:
*SIGNIFICANT ALTERATION N75: CHLORITIZATION AND IRON STAINING OF RHYOLITE
*PROCESS OF CONC./ENRICH. N80: OXIDATION AT NEAR SURFACE
*FORMATION AGE N30: P,R,O,T, U/PB GREATER THAN 1720 MILLION YEARS
*FORMATION NAME N30A: UNNAMED PROTEROZOIC METARHYOLITES AND RHYOLITE TUFF
SECOND FM AGE N35:
SECOND FM NAME N35A:
*IGNEOUS UNIT AGE N50: P,R,O,T,
*IGNEOUS UNIT NAME N50A: UNNAMED AS IN LINE N30A
SECOND IG. UNIT AGE N55:
SECOND IG. UNIT NAME N55A:
GEOLOGY COMMENTS N85: MASSIVE SULFIDE LENS IN PRECAMBRIAN METARHYOLITE

GENERAL COMMENTS

GENERAL COMMENTS GEN: