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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: ARIZONA-GLOBE COPPER PROPERTY

ALTERNATE NAMES:

SULFITE PROPERTY
COLE AND GOODWIN PROPERTY
LITTLE MIAMI COPPER CO. PROP.

GILA COUNTY MILS NUMBER: 92B

LOCATION: TOWNSHIP 1 S RANGE 14 E SECTION 34 QUARTER C
LATITUDE: N 33DEG 17MIN 53SEC LONGITUDE: W 110DEG 55MIN 35SEC
TOPO MAP NAME: PINAL RANCH - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

COPPER OXIDE
GOLD
SILVER

BIBLIOGRAPHY:

AZ MNG JR. 11/1919 P44
ADMMR AZ-GLOBE COPPER MINE FILE
RANSOME, F L, USGS PP 12, P 162; 1903
ADMMR GLOBE ARIZONA COPPER CO COLVO FILE
RANSOME F L GLOBE FOLIO 111 USGS 1904 SEE
AREAL GEOLOGY MAP AND P 15
PETERSON N P USGS BULL 1141H 1963 P H13
STEVENS H J CU HANDBOOK VOL 10 1911 P 1078

ARIZONA-GLOBE COPPER MINE

REFERENCES

GILA COUNTY
SUMMIT DIST.
T1S R14E Sec. 34

Gila County MILS Index #92B

AZ Mining Journal, November 1919, p. 44, April 1920, p. 43

USGS PP 12, 1903, p. 162

Globe Folio 111, USGS 1904 - Areal Geology Map and p. 15

USGS Bull 1141, p. H13

Copper Handbook Vol. 10, 1911 p. 1078 - Little Miami Copper Mines

Cole & Goodwin Mine

Pinal Ranch, AZ 7.5' Topo (included in file)



Present Operations

New Work Planned

Misc. Notes Valentine, a Phoenix attorney, re-
ports a good ledge, approximately 8 ft. wide,
from which he has shown samples of high-grade
sulphide ore in Superior. Owners may seek
financing for development.

DEPARTMENT OF MINER. RESOURCES.

News Items

Date 6/21/39

Mine Arizona Globe.

Location 2 Mi. from old Sam Gibson Mine on
divide between Miami and Ray.

Owner

Address Harry J. Valentine as attorney for
Phoenix parties has just settled
long standing litigation on property.

Operating Co.

Address

Pres.

Genl. Mgr.

Mine Supt.

Mill Supt.

Principal Metals ✓ Gold, little copper.

Men Employed

Production Rate

Mill, Type & Capacity

Power, Amt. & Type

Signed

Walter W. W.

(Over)

ARIZONA-GLOBE COPPER MINE

GILA COUNTY

NJN WR 6/4/82: Jim Vacer "the 49er" visited and picked up data on the Cole-Goodwin Mine and the Independence Mine (card) both in Gila County. The data will be used to evaluate the upper levels potential, along with a site inspection, to produce oxide copper specimens.

NJN WR 6/11/82: Jim Vacek "the 49er", visited to copy some maps and articles from the USGS Globe Folio on the Cole and Goodwin Mine, Gila, county.

Clear Creek Co., which was one of the old mines, had an output of \$1,000,000 in gold. The mine was a result of drainage difficulties and was in operation for years. The El Paso and Roosevelt drainage systems have a water level 1,000' or more below the lowest

working shaft was bottomed at 800' with the intention of management claims to have found an ore body. Warrants sinking the shaft to 1,300' level. Levels from the 4th to the 10th. The first ore body was found. **Equipment:** includes a new 65-h. p. air compressor.

MINING CO. NEVADA
 Montz, pres. Inc. May, 1908, in South Dakota. Capital, \$1,000,000. Treasury 1,000,000 shares. Listed on New York Stock Exchange. Mines: the Goldfield C. O. D. and the Gold Bar C. O. D., Golden Eagle and Zoe from the Gold Bar Co., and the Victor and Goldfield. Last two claims were obtained by purchase of stock. Controlled by Goldfield Cons. Group, 90 acres, at Goldfield. **Development:** 11 feet of workings. Was operated under Silver Lake Co. Reported under option in 1915 to the Belmont Dev. Co. Said to have a total of 1,000,000 milling ore on the dumps. Plan sinking

NEW MEXICO
 Lordsburg, Grant Co., N. M. Thos. A. Lister, pres. Aug. 13, 1909, in Arizona. Cap., \$1,000,000; issued, \$664,700. Annual meeting, first Monday

in the Pyramid district, 8 miles south of Lordsburg and a 55-shaft, showing lead and copper

IDAHO MINING CO. IDAHO
 Sept., 1915, reopened antimony mine on which it had been idle for 10 years. **Development:** to show two shoots of ore, the largest being a high-grade ore is said to assay 50% anti-

mony and started operating a 50-ton mill, producing 100 tons daily.

IDAHO MINING CO. IDAHO
 Phone Co., Idaho. Officers: Louis Bolduc, pres.; G. Johnson, sec.; Chas. Williams, treas.; J. G. Johnson, directors. **Lands:** 4 claims, 2 to 3 miles square and 200' of crosscuts, developing a copper ore and a little lead. **Equipment:** run by water power from Moon creek.

MENT CO. IDAHO
 g Co. and described thereunder.

MINES CO. MONTANA
 Herland, pres., 212 Peyton Bldg., Spokane. N. Stratton, sec.-treas.; preceded with J. H. Herland, ph, directors. Inc. in Washington. Cap.,

\$1,000,000; shares \$1 par; nonassessable. **Property:** 2 claims, 40 acres, near the Silver Cable mine, giving fair surface indications of lead and copper ore, with a short tunnel.

COLDWATER COPPER MINING CO.

COLORADO

Office: Encampment, Wyo. Mine near Pearl, Larimer Co., Colo. Z. L. Baldwin, pres.; H. N. Backus, v. p.; Walter Phipps, sec.; Burr Lobdell, treas. and gen. mgr. Inc. May 18, 1900, in Wyoming. Cap., \$1,000,000; shares \$1 par.

Property: 5 claims, 52 acres, in the Pearl district of Larimer county, Colo., known as the Wolverine mine. Claims have 3 fissure veins in granite and diorite, of which 1, of 20' estimated width, shows oxidized ores and native copper, with sulphides at a little depth, estimated to carry an average of 6% copper and 2.6 oz. silver per ton, opened by shafts of 90' and 170', bottom of principal shaft showing massive chalcocite and a little disseminated chalcopyrite, of high average grade. Has steam power. Idle several years.

COLE DEVELOPMENT CO.

ARIZONA

Office and mine: Globe, Gila Co., Ariz. P. J. Cole, pres.; P. J. Cole, Jr., sec.-treas. Inc. Sept., 1909, in Arizona. Cap., \$300,000; shares \$1 par; issued, 112,000 shares. **Property:** 17 claims, known as the Cole & Goodwin group, 4 claims wide and 4 claims long, extending along Mineral creek, 3 miles west of the Gibson mine and about 10 miles S. W. of Miami, the nearest available rail point, and 10 miles N. W. of Ray, but is separated from Ray by some extremely rugged country, through which no railway is likely to build within a generation or more. Country rock is Pinal schist, carrying the Cole & Goodwin fault, traceable about 1½ miles, that cuts the schist diagonally. This property carries fissure veins in schist, and also disseminated ores in schist.

Development: by the 420' Cole incline shaft, cutting several bodies of low-grade ore, and a 35' vein carrying an 8' paystreak, mainly of bornite, with a little chalcocite, somewhat similar to the ore in the Gibson mine, estimated to average about 8% copper. There also are several short tunnels, showing schist carrying impregnations of disseminated chalcopyrite, there being a 135' crosscut tunnel about one-half mile from the shaft, and a 480' crosscut tunnel, 1,700' west of the shaft, with portal 500' vertically below the collar of the shaft. **Equipment:** includes a 22-h. p. gasoline hoist. Idle since 1910, but development work resumed 1915 and small milling plant contemplated.

COLLEGE MINE

ARIZONA

Mine, 15 miles from Wickenburg, Maricopa Co., Ariz., is opened by an 80' shaft, said to show a 20' fissure vein carrying gold and copper ore. Relocated Jan. 1, 1914, by Cowell & Jacobs.

COLONEL SELLERS MINE

COLORADO

Office: Symes Bldg., Denver, Colo. Controlled by Empire Zinc Co. J. H. Troutman, gen. mgr.; Chas. Bargler, supt. **Property:** in California gulch, near Leadville, Lake Co., Colo., shows zinc, iron, lead and silver ore, as sulphides, occurring in typical Leadville deposits. **Production:** 200 tons daily. **Ore reserves:** 2 years supply estimated.

COLONIAL COPPER CO.

ARIZONA

Idle. Chelmsford, Mass. Herbert Moseley, sec.-treas.-gen. mgr.; Geo. H. Morrill, Jr., pres.; Adna T. Denison, v.-p. Inc. April 29, 1910, in Maine. Cap., \$3,000,000; shares \$10 par, non-assessable; issued, \$1,720,000. Was a reconstruction of the Growler Copper Co. Bonds, \$500,000 authorized, at 5%; issued, \$41,000. Annual meeting, first Monday in June.

Property: 30 claims, 26 patented, 516 acres, in 2 groups, also a 10-acre

Sixty thousand dollars claimed to have been spent on equipment of property. This was a promotion of "Dick Wick Hall," which caught many small investors.

COBRITA VERDE COPPER CO.**ARIZONA**

Mail returned and company presumably out of business. See Vol. XIV. Address: G. J. Kahn, pres., 1707 Leighton Ave., Los Angeles Cal. Officers: Judge W. M. McCrea, v. p.; J. W. Whittington, sec.; above with C. A. Wilson, P. E. Parentean, directors.

Inc. Nov. 13, 1916, in Utah. Cap. \$2,500,000; \$1 par; increased 1918 from \$1,000,000; 1,400,000 issued; 500,000 pooled. In January, 1918, company took lease and bond on property of Cobrita Mines Co., and relinquished Leatherby bond and lease on Vindicator and Little Grant Mines.

COBRIZA MINES DEVELOPMENT CORP.**ARIZONA**

Out of business. Described in Vol. XIII.

COCHISE DEVELOPMENT CO.**ARIZONA**

Address: Bisbee, Cochise county, Ariz.

Officers: Lemuel C. Shattuck, pres. Chas. L. Jones, v. p.-gen. mgr.; T. O. McGrath, sec.; Jos. M. Muheim, treas. Inc. Aug. 1, 1905, in Arizona. Succeeding the Cochise Copper Mining Co. Cap. \$1,000,000; \$10 par. Annual meeting, second Tuesday in January. Property: 16 claims, 176 acres, abutting on the Hollbrook mine of the Copper Queen mine and lying north of the Dividend fault and Dubacher gulch.

Development: by a 900' three-compartment shaft. Drifts on the 300', 600', and 900' levels show small bunches of sulphide ore.

Equipment: includes a 100 h. p. boiler, a 10x30" first-motion double-drum hoist, good for 1,200', and a 6-drill straight-line air compressor. Buildings are an engine house, boiler house, 20x40' carpenter shop, 20x30' smithy, and a coal trestle. Idle since 1907.

COCHISE MINERAL MINES CO.**ARIZONA**

Address: H. D. Buford, mgr. Paradise, Ariz.

Property: in the Chiricahua Mtns., near Paradise, Cochise county, developed by tunnel in 1,050', said to cut a mineralized zone showing lead-silver and manganese ore. The tunnel is to be 1,700' long.

C. O. D. MINES, INC.**ARIZONA**

Address: M. B. Dudley, gen. mgr., Kingman, Ariz.

Officers: Walter Heyn, pres.; Chas. L. Simonson, sec.-treas.; with M. B. Dudley, Jas. Lehy, directors. C. H. Urquhart, gen. supt., George Williston, supt., M. Pressler, mill supt.

Inc. 1920 in Delaware. Cap. \$5,000,000; \$1 par; all outstanding. Operating expenses for 1920 reported as \$125,000.

Property: 6 claims, 120 acres, in the Cerbat range, Mohave county, 1½ miles N. of Kingman. Ore occurs in fissure veins, with shoots of high-grade ore, from 6" to 7' wide, containing gold, silver and lead.

In September, 1919, the mine was taken over by M. B. Dudley, was unwatered to 300' level and machinery installed. The shaft had reached a depth of 500' by December, 1920, with drifts on the 300' and 400' levels. A new 3-compartment shaft is planned.

Equipment: includes 100 h. p. electric hoist, 1400 cu. ft. compressor and a remodeled 175-ton mill. The dumps are estimated to contain 100,000 tons of ore.

COLE DEVELOPMENT CO.**ARIZONA**

Office and mine: Globe, Gila county, Ariz. P. J. Cole, pres.; M. L. Cole, Jr., sec.-treas.

Inc. Sept., 1909, in Arizona. Cap. \$300,000; \$1 par; 151,000 issued. Company holdings reported under bond and lease to Arizona-Globe Copper Co. Only a limited amount of development work has been done under the option.

Property: the Cole & Goodwin groups, 17 claims, extending along Mineral creek, 3 miles S. of the Gibson mine and about 10 miles S. W. of

Miami, the nearest available rail point, and 10 miles N. E. of Ray, but is separated from Ray by some extremely rugged country.

Geology: country rock is Pinal schist with diabase intrusions, carrying the Cole and Goodwin fault, traceable about 2 miles, that cuts the schist diagonally. This property shows fissure veins and also disseminated ore in schist.

Development: by the 450' Cole incline shaft, with 5 drifts, cutting several bodies of low-grade disseminated ore and some high-grade from which regular shipments of 6% to 17% copper and \$2 to \$4 gold and silver were reported in 1917. There also are several short tunnels, there being a 135' crosscut tunnel about one-half mile from the shaft, and a 480' crosscut tunnel, 1,700' west of the shaft, with portal 500' vertically below the collar of the shaft.

Equipment: includes a 22 h. p. gasoline hoist. * Examined by G. M. Butler in 1919.

COLE-TENNESSEE MINING CO.**ARIZONA**

Successor to Schuykill Mining Co.; Controlled by Richard H. Cole, Pasadena, Calif.

Officers: R. H. Cole, pres.; David B. Gemmill, v. p.; Byron C. Hanna, Los Angeles, Calif., sec.; with Roy T. Richards and Allison L. Jones, directors. J. W. Crenshaw, Phoenix, Ariz., agent.

Inc. 1921. Cap. \$2,000,000; \$10 par; 60,000 shares issued to stockholders of Schuykill Mining Co. in exchange for the 150,000 issued shares of Schuykill stock. The Cole-Tennessee company assumed all liabilities of the old company, including \$300,000 due Frank A. Garbutt.

Permit to sell stock issued, August, 1921.

Property: the Tennessee and Schuykill mines in Chloride district, Mohave county. The ore contains gold, silver, lead and zinc in varying proportions and occurs in a fissure vein between pegmatite and schist, striking N. and S. The ore shoot averages about 300' in length and 6' in width and has been followed down to the 1,170' level. The ore is being extracted through a shaft which has reached a depth of 1,400'. Indications are that the ore shoot will be followed in undiminishing strength to a much greater depth than has been yet achieved. Reported, September, 1921, that 100,000 tons of milling ore are available.

The Schuykill is developed by 800' incline and levels at each 100'. The vein dips slightly E. and strikes N. of 9° W. At 500' the shoot is 5' wide. In a tunnel connected with the 200' level, the shoot is 8' wide.

Equipment: 100 h. p. steam hoist, 108 h. p. gas engine, 460 cu. ft. angle-compound compressor, lighting plant, etc.

COLONIAL COPPER CO.**ARIZONA**

Norwood, Mass. Geo. H. Morrill, former president, reported that company was sold out on foreclosure sale, March, 1916. See Vol. XIII.

COMBINATION SILVER MINES CO.**ARIZONA**

Address: Hackberry, Ariz. Inc. 1920, by J. H. Townsend and Sam Martin.

Property: an old silver mine north of Hackberry, reported reopened in 1920 and under development.

COMMERCIAL MINING CO.**ARIZONA**

Dead; see Vol. XIV. Absorbed by Phelps, Dodge Corporation and described thereunder, as Copper Basin Branch.

COMMONWEALTH DEVELOPMENT CO.**ARIZONA**

Office: Pearce, Ariz. Mine office: Patagonia, Ariz.

Officers: Andrew Y. Smith, pres.-gen. mgr.; Chas. E. Knox, v. p.; F. L. Bryant, sec.-treas., with C. M. Renaud and H. H. Brown, directors.

Property: a lease on the Commonwealth mine, near Pearce, Cochise county, reported to be shipping several cars of silicious silver-gold ore a week to the Douglas smelters.

OC

**DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT**

Date Sept. 17th 1939

Mine Arizona-Globe Copper ~~MINES~~
Mines

District Gibson & Bellevue Location Approximately 12 miles by road
Southwest from Miami, Ariz. in
Gila County

Former name Arizona-Globe Copper Co
Also Cole Development Co.

Owner George Golfinos.

Address 29 South First Ave.
Phoenix, Arizona.

Operator

Address

President

Gen. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Copper- Gold & Silver. Men Employed

Production Rate Undetermined Mill: Type & Cap.

Power: Amt. & Type None

Operations: Present None, Except repairing of roads to property.

Operations Planned

None

Number Claims, Title, etc.

17 claims. Good title.

Description: Topog. & Geog.

Mountainous, many slopes making a 30 degree angle with a horizontal plane. 2 Gulches split the property, 1 gulch cuts across the fault from the North east another from the Southeast, converging on the property. Property is in the midst of extensive area of Pinal schist, this schist was evidently once covered with a thick layer of limestone, but this has eroded away, exposing not

Mine Workings: Amt. & Condition

only the main vein, but many other smaller ones.

Mine workings are in the past, there has been approximately \$141,000.00 spent on development of this property. Part of this money spent in building a road to the property. The road is now in fairly good condition. A shaft 550 feet (Incline) was sunk on the apex of the large vein, on the Clifford claim together with approximately 600 feet of drifting. The shaft is now in such condition that we believe is not workable, water is within 50 ft of the collar.

Geology & Mineralization Panal schist, copy of Engineers report attached hereto.
"See geology of the District."

Ore: Positive & Probable, Ore Dumps, Tailings See character of ore deposits in Engineers report attached hereto.

Mine, Mill Equipment & Flow Sheet None

Road Conditions, Route Good roads, with exception with several places in the road will have to be repaired, caused by late summer rains. but can be repaired at a nominal expense. route; about 6 miles west of Miami on the main highway to sign showing the direction to the 66 ranch, follow this road about 4½ Mi. to a sign showing the direction of the Arizona-Globe Copper Co. This road to the left terminates at the mine.

Water Supply Undetermined at the present time. Shaft is full of water to within 50 ft. of the surface. Water can be developed in a large gulch about 600 feet from the collar of the shaft where there is now a well. Water can also be developed about a mile and half in a northerly direction from the property.

Brief History In 1901, The property was located by a man by the name of Cole, Cole, formed a Corporation, Named the Corporation, "Cole Development Company," PJ Ryan, and Son, Address 51 Wall St. New York City, took over the Corporation of the Cole Development Co. and formed what was known as the Arizona Copper Inc. stock was sold on the N Y Exchange.

Special Problems, Reports Filed

Sale or money to work this property with. Reports filed with the Arizona state Corporation Commission. Under the name of Arizona-Globe Copper Co

Remarks We believe, that this property with just a little development will make another large producer in Globe-Miami Mining District, for the reason that it has been examined, and passed on by G.M. Butler, Nationally known Geologist & Mining Engineer. "Quote Mr. Butler." "I regard this property of the Arizona-Globe Copper Co. as one of the most promising, that I have had the privilege of examining for some time."

If property for sale: Price, terms and address to negotiate:

Property for sale. Price and terms can be arranged satisfactorily.
Address;;; George Golfinos, for E.O. Castle, 29 South First Ave.
Phoenix, Arizona.

Signed

George Golfinos

Use additional sheets if necessary.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date Sept. 17th, 1939

Mine Arizona-Globe Copper Mines

District Gibson & Bellevue

Location Approximately 12 miles by road
Southeast from Miami, Ariz. in
Gila County

Former name

Owner George Golfinos

Address 29 South First Ave.
Phoenix, Arizona.

Operator

Address

President

Gen. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Copper-Gold & Silver

Men Employed

Production Rate Undetermined

Mill: Type & Cap.

Power: Amt. & Type None

Operations: Present None. Except repairing of roads to property

Operations Planned None

Number Claims, Title, etc. 17 claims. Good title

Description: Topog. & Geog. Mountainous, many slopes making a 30 degree angle with a horizontal plane. 2 Gulches split the property, 1 gulch cuts across the fault from the northeast, another from the southeast, converging on the property. Property is in the midst of extensive areas of Final schist. This schist was evidently once covered with a thick layer of limestone, but this has eroded away exposing not only the main vein, but many other smaller ones.

Mine Workings: Amt. & Condition Mine workings are in the past. There has been approximately \$141,000.00 spent on development of this property. Part of this money spent in building a road to the property. The road is now in fairly good condition. A shaft 550 feet (incline) was sunk on the apex of the large vein, on the Clifford claim together with approximately 600 feet of drifting. The shaft is now in such condition that we believe it is not workable, water is within 50 ft. of the collar.

(over)

Geology & Mineralization Pinal schist, copy of Engineers report attached hereto.
"See geology of the District."

Ore: Positive & Probable, Ore Dumps, Tailings See character of ore deposits in Engineers report attached hereto.

Mine, Mill Equipment & Flow Sheet None

Road Conditions, Route Good roads, with exception that several places in the road will have to be repaired, caused by late summer rains, but can be repaired at a nominal expense. Route - about 6 miles west of Miami on the main highway to sign showing the direction to the 66 ranch, follow this road about 4½ miles to a sign showing the direction of the Arizona-Globe Copper Co. This road to the left terminates at the mine.

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Brief History In 1901, the property was located by a man by the name of Cole. Cole formed a corporation, named the corporation "Cole Development Company", and P.J. Ryan and Son, address 51 Wall Street, New York City, took over the corporation of the Cole Development Co. and formed what was known as the Arizona Copper Inc. Stock was sold on the N. Y. Exchange.

Special Problems, Reports Filed Sale or money to work this property with. Reports filed with the Arizona State Corporation Commission, under the name of Arizona-Globe Copper Co.

Remarks We believe that this property with just a little development will make another large producer in the Globe-Miami Mining District, for the reason that it has been examined and passed on by G. M. Butler, nationally known Geologist and mining engineer. Quoting Mr. Butler - "I regard this property of the Arizona-Globe Copper Co. as one of the most promising that I have had the privilege of examining for some time."

If property for sale: Price, terms and address to negotiate.

Property for sale. Price and terms can be arranged satisfactorily.

Address: George Golfinos, or E. O. Castle, 29 South First Ave., Phoenix, Arizona.

Signed

Use additional sheets if necessary.

Arizona Commission
RECEIVED
APR 26 1926
DIVISION OF
CORPORATIONS

Report

— OF —

Arizona-Globe Copper Company

MAIN OFFICE

203 ELLIS BUILDING

MINES

GLOBE-MIAMI DISTRICT

Phoenix, Arizona



May 28, 1925. Erection of buildings completed. New plant in operation and work on main shaft resumed

OFFICERS

P. J. HICKEY, President and Treasurer

✓ PHILIP J. HICKEY, JR., Vice-President

A. W. CRANE, Secretary

DIRECTORS

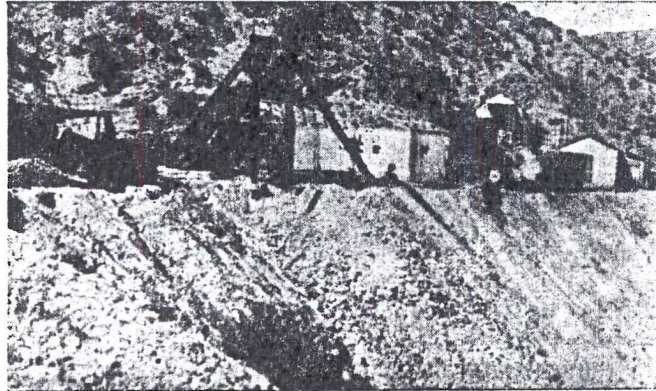
✓ P. J. HICKEY, Phoenix, Arizona

E. J. MORLEY, Rochester, New York

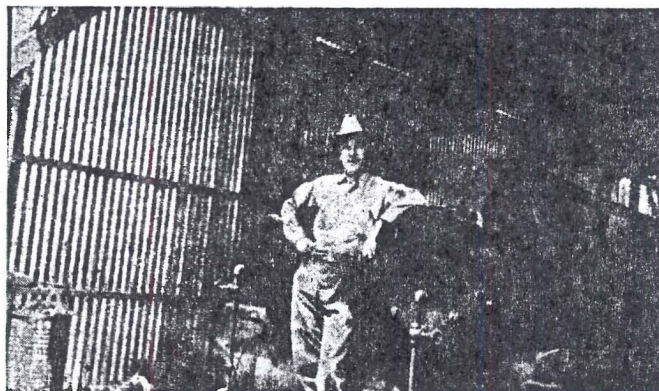
PHILIP J. HICKEY, JR., Globe, Arizona

A. W. CRANE, Phoenix, Arizona

P. M. HICKEY (Temporary), Phoenix, Arizona



During Construction



**Philip J. Hickey, Jr., Mine Superintendent, inside
Hoist and Compressor House**

Report of PHILIP J. HICKEY, Jr., Supt. Arizona-Globe Copper Company

Phoenix, Arizona,
March 22, 1926.

TO STOCKHOLDERS:

During the year 1924 very little was done on the Main Shaft of your Property but very satisfactory results were obtained from work done on other portions of your Property, notably that section known as Spring Gulch, where about four hundred feet of Drifting and Cross-cutting was done underground.

This development was done to demonstrate at depth the value of an Ore zone over sixty feet in width, which was opened up by crosscuts on the surface, assaying 2.8 per cent copper and about (\$2.00) gold and silver per ton, while below at the face of the Drift, at a vertical depth of one hundred and seventy-five feet, Assays as high as ten per cent copper were obtained.

Since March, 1925, a small Hoist was installed and a shaft put down on this Ore zone (Spring Gulch) to a depth of one hundred feet, and some very high grade Ore was opened up. This work with the drifting and cross-cutting done clearly proves this Ore zone to be of great value. From the bottom of this shaft a vertical depth of over five hundred feet can be obtained and it is reasonably certain that an immense tonnage of high grade Ore will be developed. To make this zone accessible a good trail three thousand feet in length was built which can be converted into a good road in the future. This trail connects the workings at Spring Gulch with the main road.

In December, 1924, a very important discovery, which I consider of great value was the sinking of what is known as Junior shaft, which was put down to a depth of over fifty feet on the Main Ore zone east of the Main shaft. Some very high grade Ore was opened up in this shaft. Work in this shaft was carried on in December, 1924, and January, 1925, and about seventy-five feet of drifting was done.

The results obtained from this work are of great value to the Property as they clearly demonstrate the continuance of the Main Ore Zone to the east of the Main Shaft, which is about (550) feet in depth and in Commercial Ore from top to bottom.

Since June, 1925, (350) feet of Drifting has been done on the one hundred and two hundred foot levels of the Main Shaft with the object in view of connecting these levels with Ore zone opened up by work done in Junior shaft. This work gave very gratifying results and is of great value to your Property.

It must be remembered that the Ore zone opened up at Spring Gulch is two thousand feet northwest from the Main Ore zone and is about sixty feet in width and can be followed for more than two thousand feet on the surface, while the Main Ore zone is from fifty to one

hundred and fifty feet in width and several thousand feet in length on your Property.

The Main shaft has been unwatered and repairs made but I recommend that that portion of the shaft between the two hundred and three hundred foot levels be retimbered as soon as possible.

Only one small shipment was made during the past year as the cost of sorting Ore mined in development, was too great. The Directors decided to make no further shipments for the present.

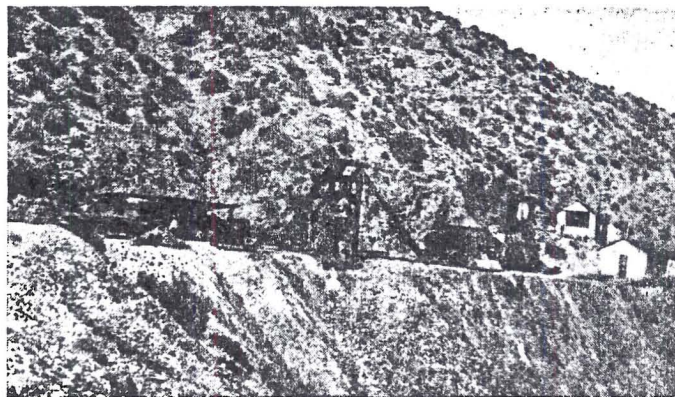
As to other improvements made and machinery installed. It is sufficient to say that a Primm Engine fifty-five horse power and four hundred foot Air Compressor have been installed. I am inclosing photographs showing the Plant as it was in March, 1925, and the improvements made from that date to June 1, 1925. Good concrete foundations were built for all machinery. A cooling tank of five thousand gallons capacity was placed in position. A fuel tank of five thousand gallons capacity was also placed in position at the Mine. An additional fuel tank of twelve thousand gallons capacity was placed in position at railroad siding near Miami. This tank now contains nearly one carload of fuel oil.

A valuable mining claim was purchased in June, 1925, which I believe will prove of great value in the future. A pipe line five thousand five hundred feet in length has been laid which will furnish pure water for domestic and other purposes.

Reviewing improvements made, buildings erected and the splendid results obtained from development during the year 1925 I can truthfully say that I believe that the Arizona-Globe Copper Company's Property will develop into one of the big Mines of Arizona.

Respectfully submitted,

PHILIP J. HICKEY, JR.,
Superintendent.



March 15, 1925. Main Shaft, depth 550 feet

Report of PHILIP J. HICKEY, President Arizona-Globe Copper Company

Phoenix, Arizona,
March 22, 1926.

TO STOCKHOLDERS:

Since my last report to you stockholders dated June 8th, 1925, I wish to say that progress made, while not as great as your President and Directors anticipated, still at the same time the development accomplished has been such, that it is a source of great satisfaction to your President and Directors and should be to all stockholders, to know that you now have a Property that will soon be classed as One of the Big Mines of Arizona.

I want to say to you stockholders, here, that primarily I went into the Arizona Globe, believing (after an experience of a lifetime in the Development of Mines) that the Property would surely develop into a Big Mine, and a financial success to me. Believing this I placed my own money into development of the same, and was reasonably sure that I did have a Mine before One Share was offered to anyone. In the ultimate as matters have progressed I feel very sincerely that I am and have been called upon not only to protect myself but every stockholder of the Company, and I want to say to you that my hope and belief is that in the near future we are sure to meet with financial success.

I have said to you many times not to sell your stock at the ridiculously low prices now offered on the Market. It surely must have occurred to you that no one would buy your stock at any price if they did not know or believe there would be a profit for them before they bought your stock. To assure success for us all we must all co-operate as one family and I want you to know and believe that your interest is my interest. We have a Mine and let us as stockholders reap the reward that is due us by our patience, diligence and perseverance.

Efforts are made and have been made to discourage you. Why? The answer is as we all know that those who are possessed of capital and have made their money in Mining are in touch with any Mining proposition of merit, and human nature is human nature wherever you may meet it, and it is the ambition of these people to obtain the interest of the timid stockholder and discourage as many of the stockholders as possible and obtain their holdings at many times less than their actual value.

I wish to say to you that as long as I am President of your Company and your Board of Directors remains as now composed, you will have no cause to be alarmed as we will protect your interest even at a sacrifice of our own, as I would not consider any sacrifice of my interest too great, if by such sacrifice I could obtain the object of our ambition—To be able to look with pride upon that which we created—One

of the Big Mines of Arizona, a dividend paying Mine, whose stock would be worth many dollars per share.

The Company now has in its Treasury sufficient shares of Treasury stock. If all stockholders would subscribe to their proportion of the same at a reasonable price, your Company would be placed in a financial position to complete its plan of development, and success would be assured. I heartily favor this plan. I also recommend that no matter at what price it may be decided to sell the stock now in the Treasury of the Company, that the stockholders be fully advised, and given the opportunity to purchase the same under any plan or at any price that may be decided upon.

As to the future development and equipment I would advise and recommend that a Concentrating Mill (Pilot Mill) of at least fifty tons per day capacity be installed. Several sets of Plans for such a Mill, adapted to the treatment and reduction of the Ores mined from your Property, are now in my possession, and there is no doubt but what sufficient Ore can be mined from Development to supply a Mill of said capacity, and revenues derived from the shipment of Concentrated Ore would be sufficient to carry on development, and place your Property on an earning basis.

I would also recommend that the Main Shaft be put down without delay an additional two hundred feet or to a depth of seven hundred feet, that the vein be thoroughly explored from the five hundred foot level by drifts and crosscuts. I would also recommend that when funds are available that exploration work be continued in shaft at Spring Gulch. This Ore zone being about two thousand feet west of Main Shaft, the showing there is very promising, and I believe a large body of high grade Ore will be developed.

I also recommend that, as soon as funds will permit, an up-to-date Geological Survey of your Property be made by a well known and competent Geologist and Mining Engineer, and a copy of said report mailed to all stockholders.

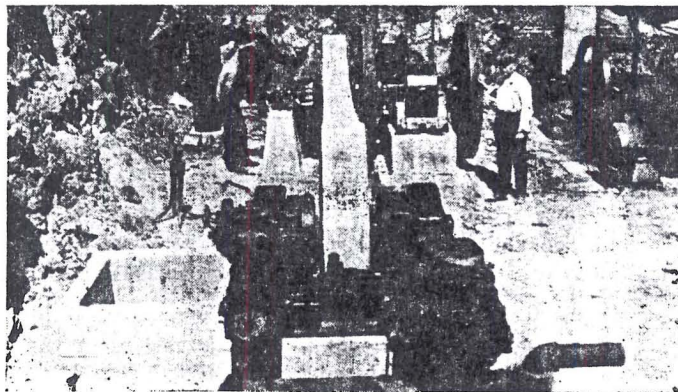
Respectfully submitted for your consideration,

Sincerely yours,

P. J. HICKEY,

President

PJH/H



Showing Hoist, Two-Stage Ingersoll-Rand Compressor and Semi-Diesel Engine, in place. President Hickey at right

**DURING THE YEAR THE FOLLOWING FUNDS WERE PROVIDED
FOR THE COMPANY:**

From Sales of Stock.....	\$28,596.92
Ore sales	208.76
Interest received	17.14

Total Cash received.....	\$28,822.82
Balance in Bank January 1, 1925.....	27.79

\$28,850.61

Which was accounted as follows:

Equipment purchased	\$ 5,174.53
Development work done	19,045.84
Office and other expenses.....	3,950.95
Paid for Hillside Claim.....	100.00
Advanced for Cole Development Co.	131.80
Balance in Banks December 31, 1925.....	447.47

Total Cash Accounted for.....\$28,850.61

The financial condition of your Company as at December 31, 1925, as shown by an audit report of A. W. Crane, bonded Member of National Association of Certified Public Accountants is as follows:

ASSETS

Capital

Mining properties	\$800,000.00
Development work	60,884.10
Buildings, Plant and Equipment.....	12,391.36 \$ 873,375.46

Current

Cash and accounts.....	\$ 601.79
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Inverted

180,000 shares of Colt Development Co. Stock cost.....	\$ 17,039.23
(and 180,000 shares, P. J. Hickey's personal stock, free of cost to Company.)	

Deferred

Preliminary and organization expenses, Roads, Legal Expense, Corporation Commission fees, Transfer Charges, Salaries and other expenses since Septem- ber, 1919	\$ 45,786.10
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\$936,802.58

Less—Liabilities

P. J. Hickey salary and money advanced.....	\$19,011.92	
P. J. Hickey, Jr., salary.....	3,928.81	22,940.73
		\$913,861.85

Representing

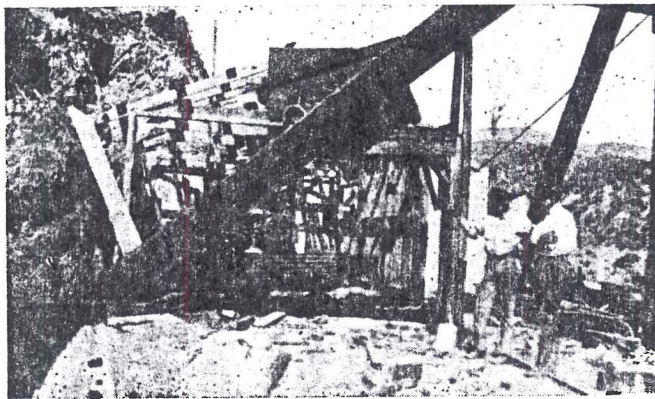
2,000,000 shares of Common Stock at \$1.00.....	\$2,000,000.00	
Less in Treasury.....	222,000.00	
Outstanding common stock at par.....	\$1,778,000.00	
1410 shares of preferred stock at \$2.00.....	2,820.00	
Total par value of Capital stock outstanding.....	\$1,780,820.00	

Less

Discount on Common stock sold below par....	\$861,022.25	
Commission paid on stock sold.....	6,161.80	\$ 867,184.05
Book-value of Capital Stock sold.....		\$913,635.95

Earned Surplus

Income from Ore Sales and Interest.....	225.90	
		\$913,861.85



Construction Superintendent P. J. Hickey, Jr.
at right, and Assistant Mechanic

COPY OF GEOLOGICAL REPORT ON THE PROPERTY OF THE ARIZONA-GLOBE COPPER COMPANY
BELLEVUE, ARIZONA.

REPORT OF G. M. BUTLER, DEAN AND DIRECTOR, ARIZONA SCHOOL OF MINES,
TUCSON, ARIZONA

DIVISIONS:

1. Introductory.
 2. Topography.
 3. Geology of the District.
 4. Character of ore deposits.
 5. Possibility of secondary enrichment.
 6. Persistence (probable) of the main ore deposit.
 7. Recommendations.
 8. Conclusions.
-

INTRODUCTORY STATEMENTS. This report is based on data collected during two consecutive days spent on the property at the request of John Stockdale, Esq.,
The time thus occupied was insufficient to permit me to trace the many smaller veins existing on the property or to visit surrounding mines. As I am planning to make another trip to the property in the course of the next few days I hope to secure considerable additional data which I will embody in a supplementary report.

TOPOGRAPHY. The topography on the property is decidedly mountainous, many of the slopes making at least a 30 angle with a horizontal plane. One prominent gulch roughly parallels the main fault mentioned later, to the Southeast; and a smaller gulch tributary to the one just mentioned cuts across the fault from the Northwest. These two gulches will, in this report, be called the main gulch and the tributary gulch respectively.

GEOLOGY OF THE DISTRICT. The property of the Arizona-Globe Copper Company lies in the midst of an extensive area of Pinal Schist near the South-western corner of the Globe quadrangle as mapped by the United States Geological Survey. A large dike of Diabase is mapped as occurring Northwest of the property, but no rock other than schist was seen during my stay on the ground. The schist was undoubtedly once covered with thick deposits of quartzite, limestone and other rock, but they have all been removed by erosion.

On the property is a prominent fault which strikes on an average about S. 40 W and dips 40 to the Northwest. The slipping or faulting has taken place along a single cleanout fracture, but on the other hand, the movement has occurred along a large number of rather closely spaced faults planes throughout a zone some fifty feet wide. This fault is shown in the Globe folio of the United States Geological Survey, written by F. L. Ransom in 1902, and is there given as being about a mile long. Just how much of this fault is included in the property under consideration cannot be determined until the boundaries of this property have been accurately located; but it seems certain that many hundred and possibly one or two thousand feet are present.

CHARACTER OF THE ORE DEPOSITS. The principal deposit, or at least, that which has been most extensively developed, occurs in connection with the fault zone just described. The Mineralizing solutions doubtless

worked upward from far below along the lines of weakness represented by the fault planes, and deposited ore and gangue minerals in one or more of these planes, forming fault fissure veins.

The ore minerals are principally pyrite (iron Sulphide) and chalcopyrite (copper sulphides) with a very little chalcocite (Copper sulphides), and occasional small amounts of sphalerite (zinc sulphides), and galena (lead sulphides), in the upper levels. Near the surface the ore minerals have been entirely leached out with exception of the iron which has been oxidized and now exists as either limonite (hydrus iron oxide) or hematite (iron oxides). A few feet below the surface copper carbonate and a little copper silicate appear, and these are plentiful down to about the 200 foot level, although they are more or less closely associated with sulphides ores which appear comparatively close to the surface and become increasingly prominent as depth is attained. On the 400 foot level these oxidized ores seem to be entirely lacking excepting in the workings where the sulphides have been altered by exposure to the air. There is no doubt but that the ore from here down is entirely primary, although some of the sulphides show an iridescent tarnish which represents incipient alteration.

The gangue minerals are quartz with decidedly subordinate amount of calcite and rhodochrosite. It is worthy of note that the last named mineral seems to accompany good ore in the Globe Dist.

Numerous veins which seem to bear a close resemblance to the deposit previously described outcrop in the tributary gulch. They strike nearly East and West and are nearly vertical. Whether they are simple fissure veins or fault fissures veins cannot be ascertained without further investigation, but as they appear to be identical in character with the main deposit already described. One of these deposits has been worked out rather extensively, and is said to have yielded good ore.

POSSIBILITY OF SECONDARY ENRICHMENT.	I do not believe that any enriched deposit of copper ore will be encountered at greater depth; I base this conclusion upon the following facts.
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1. There has been very little actual leaching of that portion of the deposit above the 400 foot level. In fact, most of this leaching is confined to a few feet directly below the outcrop. Below the leached outcrop there has been considerable oxidation, but the grade of this ore seems to compare so favorably with that of the unoxidized sulphides below that it seems likely that little copper has been carried downward in solution.

2. There is no doubt of the primary character of the ore exposed in the lowest working and for some distance above these points. Enrichments usually occur between oxidized ore and primary sulphides. It seems very improbable that copper bearing solutions have descended through the primary sulphides without leaving some trace of their passage that the possibility does not seem worthy of consideration.

PROBABLE PERSISTENCE OF THE MAIN ORE DEPOSIT. Fault fissure veins are probably the most persistent of all types of ore deposits. They may be expected to go down to a depth of at least as great as their horizontal length, and the last mentioned dimension is usually large. They are, however, very apt to show great irregularity, especially in thickness. Swells and pinches usually alternate frequently, both horizontally and vertically; and the richest mineralized portion may be expected to take a tortuous course throughout the faulted zone. It is to be expected that almost barren stringers will lead into good ore shoots, and that at some point there may be several good parallel ore shoots separated by lower grade milling ore.

There is no reason to expect any great difference in the average grade ore shoots as the property is developed to a greater depth, and future development plans should be laid on the basis of the ore exposed or which will be exposed with a little additional work, rather than upon the assumption that better ore will be encountered at greater depth.

RECOMMENDATIONS. I should recommend that the entire faulted zone be crosscut at the 400 foot level and the 450 foot level, and that these crosscuts be carefully sampled. If a considerable quantity of ore which can be milled profitably is exposed, I should further recommend that either the present shaft be sunk deeper, and the fault zone crosscut every fifty feet; or that the tunnel started near the bottom of the gulch be driven to intersect the vein. When the survey about to be made is completed it will be possible to decide which of these two plans should be followed. Some drifting along the fault will also be desirable.

The transportation problem is so serious that I do not believe it is wise to try to develop any shipping ore. The property should be regarded as a milling proposition and a small mill should be installed near the bottom of the main gulch when sufficient ore has been developed to justify such action. I believe that enough water to run such a mill can be obtained throughout the year by pumping.

CONCLUSION. I regard the property of the Globe-Arizona Copper Co. as one of the most promising that I have had the privilege of examining for some time. While I took no samples and made no attempt to measure up the ore now exposed, there seems to me to be little doubt that at least the main fault zone can be worked profitably as a milling proposition, provided the price of copper does not fall too low. If the smaller veins exposed in the tributary gulch fork off from or intersect the main fault zone, large ore bodies may be expected at their intersection. An attempt will be made to locate these points when the property is surveyed.

As the amount of money required to do the development work suggested is not large, and as the cost of the property does not appear to be unreasonable, I regard the proposition as an extremely promising speculation, and heartily recommend its further consideration.

Respectfully submitted

(Original) Signed, G. M. Butler, M. E.

December 16th, 1918

G. MONTAGUE BUTLER
GEOLOGIST AND MINING ENGINEER,
TUCSON, Arizona.

SUPPLEMENTARY GEOLOGICAL REPORT ON THE PROPERTY OF THE ARIZONA-
GLOBE COPPER COMPANY.

INTRODUCTORY STATEMENT. This supplementary report is based on data collected during three consecutive days spent on the property and in making an examination of the mines at Bellevue, which occur in Pinal Schist, and bear a close resemblance to the deposits owned by the Arizona-Globe Copper Company. So much of this time was spent in getting two engineers properly started on the survey of the property that there was little opportunity to collect any additional geological data, but the following facts are offered for what they are worth.

ADDITIONAL DATA ON THE GEOLOGY OF THE DISTRICT. In my first report I stated that no rock other than schist was observed by me but during my second trip I noticed a diabase dike running a little south of west from the main incline shaft. This dike was also seen on the eastern end of the Sulphate claim, and the two engineers who made the survey traced it continuously as shown on the map which accompanies this report. This rock has a close genetic connection with good ore bodies in some districts, and, while it would be unsafe to assume any such connection in the area under consideration, it may be at least considered a favorable sign.

ADDITIONAL DATA ON THE ORE DEPOSITS. Everything seen on my second trip serves to strengthen my belief in the merit of the property. A second, rather hasty examination of the numerous small veins and shear zones in Spring Gulch leads me to believe that these are largely the type of deposits known as fahlbands, that is, relatively porous bands of schist which have been mineralized by deposition from solutions working through them. Although the presence of surface wash and the lack of development work upon them made it impossible to trace them for any considerable distance beyond the gulches, I believe that they will be found to intersect and cross the main mineralized shear zone, and that there is a likelihood of concentration of minerals in such intersections. It is not improbable that the mineralized solutions worked out from the main mineralized shear zone into these smaller deposits; and that for some unknown reason the flow of these solutions was largely westward rather than eastward. Whether any of the veins, fahlbands, or shear zones shown on the map as recognizable south-east of the main mineralized shear zone have economic value, can only be ascertained by further development.

I did not have time to trace the main mineralized shear zone throughout its entire length on the property, but believe, from the examination of the outcroppings at the mouths of Spring and Lawrence Gulches that it crosses these gulches as shown on the accompanying map. The engineers who made the survey are inclined to think that it turns sharply near the south boundary of the Pyrite Claim, and crosses Spring and Lawrence Gulches at the

points indicated by the relatively wide zones of dashed lines. It is my belief that the latter represents an unusually large shear zone which intersects the main mineralized shear zone near the southern boundary of the Pyrite Claim. I observed at the point where this intersection would occur an unusual degree of mineralization on the surface. The outcroppings there were heavily iron-stained over a considerable area, and I regard this as an extremely favorable point to do development work sometime in the future.

I doubt whether this main mineralized shear zone pinches out on the Downey Claim as shown on the map, but so much wash obscures the surface on the eastern portion of this claim that the deposit could not be traced further.

As shown on the map, the main mineralized shear zone traverses the property for a distance of about 4000 feet, and it is known to extend at least several thousand feet further to the west.

The gentlemen familiar with the property were rather inclined to place little value upon the deposits in the upper part of Lawrence Gulch, but the engineers who made the survey state that several of these looked very promising, and recommend that they be investigated further. I am now sorry that lack of time caused me to neglect to examine this portion of the area.

Stated briefly, I am deeply impressed with the high degree of mineralization shown throughout that part of the property northwest of the main mineralized shear zone. Too little work has been done here to make it possible to speak definitely of the value of individual deposits or of the nature of the ores; but I am inclined to believe that the principal sulphide mineral encountered at greater depth will be pyrite and that the proportion of copper found will be low. The high grade of the copper ore said to have been mined on the Sulphate Claim indicates, however, that this theory may be incorrect in some cases. The small shear zones or fahlbands are so close together as some points that it is quite possible that the intervening rock is sufficiently mineralized to constitute very large low grade deposits.

RECOMMENDATIONS. I see no reason to modify the recommendations made in my previous report, but from knowledge now in my possession I believe that it would be best to begin work on the property through the main incline shaft rather than through the cross-cut tunnel, which appears to have been driven at a point where the vein has been faulted or where some other unusual condition exists. If subsequent developments make it seem desirable to work the main deposit through an adit, this can be driven from the gulch southeast of the main incline shaft, although this will give a vertical stopping distance of only about 275 feet.

It may be of interest to mention that the slope distance from the collar of the main incline shaft to the sump is 468.5 feet, and that the vertical distance between these two points is 308.9 feet. The sump is said to be 12 feet deep, but was so filled with muck and water that no measurements could be made in it. 615.5 feet of drifts and levels are connected with the main inclined shaft.

Respectfully submitted,

January 17, 1919.

(Signed) G. M. BUTLER.

EXHIBIT C.

REPORT ON THE PROPERTY OF ARIZONA-GLOBE COPPER COMPANY,
BELLEVUE, Arizona.

FORMERLY KNOWN AS COLE-GOODWIN COPPER MINE, OPERATED BY
COLE DEVELOPMENT CO.

REPORT OF THEO H. M. CRAMPTON, E. M.

DIVISIONS.

1. Purpose of Examination.
2. Nature of Examination.
 - (a) Limitations of Examination.
 - (b) Samples.
3. Summary & Conclusions.
4. Advantages and Disadvantages.
 - (a) Advantages.
 - (b) Disadvantages.
5. Location.
 - (a) Holdings.
6. Title.
7. History.
 - (a) Smelter Settlement Sheets.
 - (b) Difficulties Met with.
8. Surrounding & Adjacent Properties.
 - (a) The Independent Mine.
 - (b) The Gibson Mine.
 - (c) Other Mines.
9. Topography.
 - (a) Accessibility.
 - (b) Character of Surface.
 - (c) Water.
 - (d) Camp Sites.
10. Geology.
 - (a) Formations of Property.
 - (b) U.S.G.S. folio #111 and report on Cole & Goodwin Mine.
 - (c) Type of Deposit.
 - (d) Outcrop of Main Vein.
 - (e) Claim & Topographical maps of Property.
 - (f) Climatic Condition of District.
11. Ore Bodies.
 - (a) General Considerations of Ore Bodies.
 - (b) Number of ore bodies.
 - (c) Size of ore bodies.
 - (d) Tons of ore in sight.
12. Prospects & Limitations.
 - (a) Prospects.
 - (b) Limitations.
13. Present Equipment on the Property.

14. Mine Development.
 - (a) Shaft Development.
 - (b) Cross-cut Tunnel.
 - (c) Surface Developments.
 - (d) Other Workings.
15. Methods of working.
 - (a) Past.
 - (b) Future.
 - (c) Method of Extracting Ore.
16. Operating Costs.
17. Advice Respecting Development.
18. Initial Equipment Required.
19. Record of Samples.
- 20/ Record of Smelter Settlement Sheets.

PURPOSE OF EXAMINATION. This report was written after an examination of the Arizona-Globe Copper Co. mine, formerly known as the Cole & Goodwin Copper Mine of Miami, Arizona, for Mr. John Stockdale of Phoenix, Arizona.

It was desired to ascertain whether this property, with proper preliminary expenditures of money could be brought to a point of development such as to warrant extensive exploitation. Also to determine whether after this period of development it is possible to have sufficient ore blocked out to warrant the installation of a mill.

It was also desired to ascertain whether sufficient tonnage might be expected from this mine to furnish a mill of one hundred and fifty (150) tons capacity, and whether the operation of this mill will reimburse the initial expenditures and afford continuous operations at a profit.

It was also desired to study closely the geological features existing on the property, and I was assigned particularly to the geological features as they existed underground.

The physical conditions which would have any bearing on the operation of the property are given considerable detail in the report.

NATURE OF THE EXAMINATION. Limitations of Examination.
 The property was examined by Dr. G.M. Butler at the same time that I made my examination. The examinations by Dr. Butler and myself were conducted entirely separate. Dr. Butler gave more attention to the surface than I did, and from his report should be secured valuable data relative to the superficial conditions of the ore body.

Sampling. Samples were taken from the lower workings in the mine with a view to ascertain the values as they existed upon the lower levels. The oxidized portion of the ore body extends to an approximate depth of about four hundred (400) feet. This oxidized portion of the deposit did not receive much of my attention, but practically all of my time was devoted to that unaltered portion of the vein exposed below the oxidized zone. It is upon this unaltered part of the ore body that the conclusions will have to be drawn, as to the nature of the ore which is to be expected from the further development.

(The property is developed in such a way as to make it impossible to obtain any idea of the quantity of the ore which could be obtained from the present workings.) The previous operations of the property were conducted solely toward the extraction of high grade oxidized and re-enriched copper ore. As the work was carried to the unaltered portion of the vein which naturally comprises the primary ores, the parties who were doing the development did not carry any of the workings to any extent into the sulphide ores exposed in their development. This was naturally the case, as the sulphide ores were of too low a grade to permit extraction and shipping at a profit. These operators were not interested in the quantity of low grade material which might be developed, and consequently devoted no efforts toward crosscutting or blocking out the ore body.

(In lieu of the facts above mentioned, we find it a physical impossibility to obtain samples which would represent any quantity of ore blocked out.) (It is therefore immediately apparent that all samples which were taken from the mine will be of a qualitative nature and will not represent any quantity of ore.) I have endeavored to obtain samples from various parts of the mine which would indicate the character and grade of the ore which could be exposed and developed from future operations; such as sinking or drifting on the vein at any point below the oxidized zone.

(It will be impossible to sample this property with a view to blocking out any quantity of ore until some additional work is done, which additional work would involve the cross-cutting of the ore body at a number of points below the oxidized zone.)

(In very few places in the mine was it possible to measure the true width of the ore body, and at no place in the primary ore body did we find workings which cross-cut the vein.)

SUMMARY AND CONCLUSIONS. The Arizona-Globe Copper Co. mine may be considered a prospect of especial merit. With a small amount of development work, as advocated in the body of this report there will be a possibility of advancing this property from a prospect to a mine in a very short period of time, and at a small outlay of capital. The shaft upon the ore body has been sunk to a considerable depth, and has disclosed a character and grade of ore very satisfactory for milling. The quantity of ore exposed is limited, but the geological conditions and physical condition all point toward extensive ore bodies. The development work advocated will very rapidly develop large tonnages.

I believe that this mine when developed will afford sufficient tonnage of copper ore, which will average in the neighborhood of 3.75% in copper to furnish a concentrating mill, which will handle in the neighborhood of about one hundred and fifty (15) tons a day. This conclusion is based upon favorable developments from the preliminary work which is advocated in the body of this report, and upon the very favorable features which are apparent throughout the ore body.

ADVANTAGES AND DISADVANTAGES.

ADVANTAGES. We find on the property a true fault fissure cutting the schist diagonally. The vein is very extensive. The mineralization is continuous, although the width of the ore at various points will fluctuate. The grade of the primary ores as disclosed in the lower workings of the mine are satisfactory for concentration.

The characteristics of the ore are such as to permit concentration by flotation or by tables, or practically any other mechanical concentrating device.

The general characteristics of the vein as disclosed in the shaft are indicative of a very large deposit of copper ore. We find conditions throughout the deposit which are to be found in the larger copper deposits. We find at the bottom of the shaft, and at a number of points throughout the mine a width of ore in excess of eight to ten feet. The primary ore as exposed in the shaft carries chalcopyrite as a primary mineral, and consequently we can expect all primary ore to be copper bearing. The unaltered part of the vein appears at a relatively shallow depth below the surface, from three hundred and fifty (350) to four hundred (400) feet.

It is reported and I believe it is quite possible that power could be delivered to the mine from producers of such in the immediate neighborhood. The ground holds well and the mining difficulties which would be involved would be of a very inferior nature.

Very little timber will be required.

The vein has an average dip of a little more than forty-five (45) degrees, and is sufficient to enable the ore to reach the chutes from the stopes by gravity.

The topography of the country enables the operation of the mine through an adit tunnel, which will afford backs of ore up to six hundred feet.

DISADVANTAGES. The greatest disadvantage is the inaccessibility of the property, and practically all of the disadvantages could be attributed indirectly to this.

Before any extensive work can be done, it will be necessary to build a new road.

The cost of all supplies will be high. The cost of moving heavy machinery to the mine or to the future mill site will be high.

Before the property can be made to produce it will be necessary to do a considerable amount of development work. The amount of development work can be reached by consulting the maps, which will be the result of the present survey now being conducted on the property. The nature of this development will be an adit tunnel run along the vein at an elevation of about five hundred (500) feet below the collar of the shaft, and at a point where any ore extracted could be delivered through this adit tunnel direct to the mill site. (The position of the mill site will in no doubt be indicated from the survey of the property.)

The water in the mine is not suitable for domestic purposes, and probably could not be made suitable for flotation purposes. However, it is probable that considerable of this water could be used in a mill on tables where proper provision would have to be made on account of the excessive acidity of the water.

It is claimed that there is sufficient water in the canyon below the mine for domestic purposes. It will be necessary to pump the water.

LOCATION OF THE PROPERTY.

~~HOLDINGS.~~ The Arizona-Globe Copper Co. property is located about twelve miles southwest from Globe, and about twelve miles in a southerly direction by wagon road from Miami, in Gila County, in the state of Arizona.

Miami is the nearest railroad point, but there is a Post Office at Bellevue, about four miles from the mine.

HOLDINGS. The Arizona-Globe Copper Company's holdings comprise a group of seventeen claims. These are shown on the map of the claims, and are recorded in the County Recorder's office at Globe. It is probable that the number of claims will be increased upon the completion of the survey now being made.

TITLE TO THE PROPERTY.

The property is owned by the Cole Development Co. of Globe, Arizona.

The property is now under bond and lease to Philip Hickey. The property is at present being operated by several miners who are keeping the water out of the shaft, under the superintendence of Philip Hickey, Jr. The title is clear.

HISTORY OF THE PROPERTY.

The property was first worked in 1898, and the present shaft was started at that time. Little was done upon the property between the period of early operations and 1905. The property was operated in 1906 and during 1906 considerable ore was extracted by a Company. This Company secured ore from several places on the property. It is understood that some of the ore shipped at this time was secured from the main vein.

All of the work which has been done upon the vein has been of a chloriding nature. The operators and leasers of the property were in search of high grade oxidized ores which ran high in copper. These high grade copper ores occurred at irregular intervals in the main vein to a depth of three hundred and fifty (350) feet. Wherever these small pockets of high grade ore occurred the operator gophered them out. No attention has been paid in the past to any of the sulphide ores which did not carry high percentage of copper. No development in the past was done toward exposing any ores not suitable for immediate shipment at a profit.

In 1907 the property was in litigation, and remained so for a number of years. The case was finally taken to the Supreme Court, and decision was rendered in favor of P.J. Cole, who deeded the claims to The Cole Development Company, of Globe, Arizona.

The inaccessibility of the property has made it impossible for the operators of this mine to make a profit on anything but high grade ore. Whenever a pocket of high grade ore gave out or diminished in size, work upon that pocket ceased. No systematic development has been carried out on the main vein to disclose any quantity of ore, either for shipment direct or for blocking out as future ore reserves.

**SMELTER
SETTLEMENT
SHEETS.** Attached is a record of some of the shipments made from the mine covering two ~~particular~~ periods of operation; one in 1906 and the other in 1916 and 1917. From this record it will be seen that no large shipments appear to have been made from the property, and the returns from such shipments as appear in the attached set of smelter returns show no large profit from operations has been obtained in the past. From a consideration of the smaller returns we see the necessity of eliminating the possibility of operating the property for any shipping copper ore.

The smelter returns are probably upon shipments made from at least two localities on the property; one from the main vein upon which the shaft is sunk and the other from another copper bearing vein. It is not possible at this time to tell which ores of these were made from the main shaft.

From the record of the shipments herewith attached we see that the amount of silver which occurs in the ore cannot be expected to run more than four ounces of silver to each ten percent of copper. I believe that this ratio would be very close to the amount of silver in proportion to the percent of copper in such concentrates as might be obtained in the lower portion of the main workings.

The amount of gold which occurs in combination with the copper is quite negligible, but might be estimated at about .05 of an ounce to every 10% in copper. This is only a rough estimate based upon the shipments upon which returns for gold were given. The samples taken were not assayed for either gold or silver, because their presence in such small quantities would carry very little weight in the final decision which would have to be based on the percent of copper in the primary ores.

As to any of the profits which might have been made from the extraction of ore from the property in the past, I do not hesitate to conclude that they were negligible.

The quantity of ore obtained from the amount of work done upon the main vein is very small, and it is immediately apparent that the proceeds from the ore shipped did not pay for much more than the actual extraction and shipment of that ore.

The history shows that the property is not a shipping mine, but the history corresponds very closely to that of milling properties in their earlier stages of operation and development.

DIFFICULTIES MET WITH. The past operations upon the property disclosed only isolated pockets of high grade ore, and these isolated pockets could not be operated at a profit. We can conclude immediately that the property cannot be worked at a profit if the ore has to be shipped from the mine under the present existing conditions. One of the difficulties which were encountered in these earlier operations was naturally the crude method in which they had to work. The hoist and mine equipment is hardly satisfactory for operations on an economical basis.

The wagon haul from the mine to Miami is a very difficult one. The road over which the ore has had to pass is at present in need of much repair and apparently has given a great deal of trouble throughout the past. The inaccessibility proved a difficulty which early operations did not overcome.

SURROUNDING AND ADJACENT PROPERTIES.

THE INDEPENDENCE MINE. The Independence Mine is located upon the same vein as the Arizona-Globe Copper Co. property, but at an elevation of about seven hundred (700) feet lower. The ore which occurs at this property is of a similar character to that which occurs on the Arizona-Globe property. This property was not visited, and such information as I have was given to me by those familiar with the property.

This property is being worked at present and they anticipate developing the ore body they have with a view to blocking out the primary ore which they are just beginning to enter into.

This property has not been an extensive shipper, but has been examined and reported on by a number of engineers who speak very highly of it. The isolation of this mine is as great as the Arizona-Globe, and the general physical problems met with it are quite similar to those that exist on the Arizona-Globe property.

THE GIBSON MINE. The Gibson Mine, which is located about three or four miles in a Northerly direction from the Arizona-Globe mine, it is claimed has had a production of several million dollars in copper ore. The dumps at this property are very extensive and it is reported that the property is now being further opened up, with a view to blocking out sufficient ore to warrant the installation of a mill. The ore on the dumps at the Gibson mine is suitable for concentrating at a

profit. I am informed that the Gibson mine is being operated by parties who understand their business, and that the prospects for the Gibson mine to become a producer are very good. The Gibson mine was not visited.

OTHER MINES. The large mines belonging to the Miami Copper Company, and the Inspiration Copper Co., are located at Miami, Arizona, and at a distance of about twelve miles by wagon road from the Arizona-Globe Copper Mine. These mines are located in a different formation from that found on the Arizona-Globe property.

To the west of the Arizona-Globe mine at a distance, estimated by others, of about eight to ten miles, is Ray, Arizona, at which the large deposits of the Ray Consolidated occur.

It will be seen that the Arizona-Globe mine is located at a point about equi-distant from the large copper deposits of Ray and those of Miami. The mine is also located about twelve miles in a Southwesterly direction from the large copper deposits at Globe, Arizona?

The relation of the Arizona-Globe property to the adjacent may be remote, but it is interesting to know that the mine is located upon a fault which is of great magnitude and passes through the country for many miles in a northeasterly and southwesterly direction. A close study of this fault with its possible relation to surrounding properties might prove to be of great value in the welfare to the property, and might possibly connect it with mines located at some distance from the property.

TOPOGRAPHY. The collar of the shaft at the mine is located at an elevation of about four thousand (4,000) feet. The claims cover a number of very steep hills which range in height above the canyons from four hundred (400) feet to seven hundred (700) feet in elevation.

ACCESSIBILITY. The property is reached by a wagon road which might be called a very poor automobile road from Miami. The road runs south from Miami and ascends the north slope of a range of mountains, passing for a distance of a couple of miles up a rough creek bed. The road passes over a summit having an elevation of over 5,000 feet, and descends on the south side of the mountain to the collar of the shaft. It is reported that a road could be built from Miami to the mine through a pass which is not as high as that above mentioned, and which road would be of a more permanent nature from that described above.

It is also reported that a road could be built to the mine from Ray, but that such a road would traverse a very difficult country, and would pass through narrow rough canyons. In case it is deemed expedient to develop this property I strongly suggest that an endeavor be made to ascertain the feasibility of building a road to the mine from Ray.

In case the property cannot be reached with ease from Ray it would be necessary to either construct a new road to the mine over the lower pass mentioned above or to repair the existing wagon road and make it suitable for the transportation of such material and supplies as would be required if the operation of the property.

The present wagon road is in poor condition. It is reported that supplies can be taken to the mine as \$12 a load. The cost of hauling the ore which was produced in the past to the smelter is not known.

CHARACTER OF THE SURFACE. The surface of the property is exceedingly steep, having a variation in elevation of nearly fifteen hundred (1500) feet from the lowest point on the property to the highest.

There is a survey now being made upon the claims which will involve the making of a map of the claims, and will include a contour map of the group, and should also show the outcrop of the vein and the other topographical features existing on the property. In lieu of this fact, I will not go into further detail of the character of the surface, and refer directly to this map which is now in progress.

WATER. There is a canyon which passes across the property, in the bottom of which it is reported that water may be developed for camp use. This should be further corroborated. Water for milling purposes must also be developed.

There is no timber of any consequence upon the property or in the immediate vicinity. On the north side of the main slopes of the mountains occur live oak and considerable scrub brush.

CAMP SITES. The slopes of the hills are so steep that a camp site of any size located near the present shaft is almost out of the question, but there are suitable localities not distant from the shaft on the saddles of small ridges. The source of any water supply for a camp site located near the shaft would be at an elevation considerably below that of the camp site. The camp site suitable for operations on a large scale would have to be located at a point several thousand feet distance from the present shaft, and at a locality very close to the portal of the main adit, and thus locality would be close to the future mill site.

GEOLOGY.

FORMATIONS OF PROPERTY. The formation which exists upon the property consists almost entirely of schist of considerable extent which is known as the Pinal Schist.

U.S.GEOLOGICAL FOLIO #111 and REPORT ON COLE-GOODWIN MINE. I wish to call attention to the fact that the Arizona-Globe mine, formerly known as the Cole-Goodwin Copper Mine, is mentioned at a number of points in the geological atlas published by the United States Geological Survey, under the head of the Globe folio of Arizona, #111. This was published in 1904 and naturally does not cover any of the recent developments in the district. It will be noted that in this folio there appears a topographical map of the district, and the Arizona-Globe mine is located upon the topographical map showing the aerial geology in the lower left hand corner.

It will be seen that the Arizona-Globe mine appears on this map in the Pinal Schist and I further wish to call your attention to the fact that the fault upon which the Arizona-Globe mine is located is clearly shown on this map, and is given considerable importance. On this map the fault is shown for an extent of about one mile, but upon the property the fault can be traced by observation for a much greater distance.

A number of geological conditions existing on the property are mentioned in the report.

There are other formations which appear on the property but which were not studied, and will not be described at this point.

The fault which comprises the main vein on the property has a strike in a northeasterly and southwesterly direction and dips to the northwest and into the hill. The foot and hanging walls are both of Pinal Schist. The vein is accompanied on both hanging and footwalls by a gangue which is composed of ground up schistose material.

TYPE OF DEPOSIT. The deposit is of a strictly fault fissure type, and is described in the geological folio above mentioned as a lode deposit, which was corroborated by the examination.

OUTCROP OF MAIN VEIN. The outcrop of the vein is very prominent and can be traced together with the fault throughout the extent of the claims and for a great distance beyond the end lines.

The fault fissure crosses the schist obliquely. The strike of the schist has a more easterly and westerly strike than the fault.

The width of the outcrop of the vein varies at different points along the fault fissure, as we would naturally expect in a lode deposit of this type where the displacement was of such a great extent. The values in the outcrop are very low due to excessive leaching action which has taken place in the superficial and oxidized zone. The copper seldom appears at the surface, but is encountered at a depth of from five to fifteen feet below the surface. There are places on the property from which high grade oxidized copper ore has been extracted very close to the surface.

CLAIM AND TOPOGRAPHICAL MAP OF PROPERTY. I wish to refer to the map which is now being made on the property in reference to the claims and their positions with relation to the vein. This map should be completed in a few days, and I do not consider it necessary at this time to make a separate rough and more or less inaccurate map to accompany this report.

CLIMATIC CONDITIONS OF DISTRICT. There are certain times in the winter that snow covers considerable of the property and at such time the present road is apt to become very unsuitable for transportation purposes. The summers are mild and I can see no disadvantages which might arise indirectly through any climatic conditions.

ORE BODIES.

GENERAL CONSIDERATION OF ORE BODIES. The character of the ore bodies naturally are to be expected to occur in a more or less lenticular form, as this is the type to be expected in a lode deposit, traversing a schist formation.

It is impossible to at present describe the extent of any of these ore bodies, and it is out of the question to estimate accurately the average that any such ore bodies would assay in copper when exposed below the unaltered zone. However, in the lower part of the mine is disclosed on the footwall of the workings the hanging wall of an ore body. This was sampled at a number of points and from these samples we can secure information as to the grade and character of the ore, which can be expected from future developments. From the assays which accompany this report and from the observations taken in the mine it is safe to estimate that the primary ore which will be disclosed upon the property will average not less than 3% and that it will not in all probability average more than 4%. There will be certain places in the deposit that the development of considerable tonnage of ore would disclose a milling product of 3 3/4% in copper. The value which this ore would carry in silver and gold would be very small and hardly worth consideration at this point.

NUMBER OF ORE BODIES. At a number of places along the outcrop of the vein we find that the vein is considerably wider than at other points, and it is safe to figure that the ore will be more or less continuous throughout the extent of the fault fissure. In other words, I believe that the ore will be practically continuous throughout the extent of the mine. There will naturally be some places where the ore will be too narrow to mine at a profit, and some places where the ore body will be very wide.

SIZE OF ORE BODIES. No definite information can be given as to the size of the ore bodies or their value, but the surface outcrops and the showings as disclosed in the mine, indicate ore bodies averaging eight (8) feet in width, with a linear extent of several hundred feet and a depth we have no way of determining at this time.

It is well to keep in mind the nature of the fault and its extent, because faults which are extensive on the surface are invariably extensive in depth. If a fault of this character is mineralized for an extensive distance along its strike it is a natural conclusion to believe that the ore will extend to great depths.

TONS OF ORE IN SIGHT. There is no ore actually blocked out of any consequence, but the development of the property would soon block out a large tonnage, and until some preliminary development work has been done it will be out of the question to make any estimates of any value upon the possible tonnage, and the probable tonnage and the actual tonnage blocked out.

PROSPECTS AND LIMITATIONS.

PROSPECTS. The prospects of this property are exceptionally good. There are existing within the mine such geological conditions and such physical conditions as lead to a conclusion that development work will open up a sufficient quantity of ore, suitable for milling purposes as to warrant exploitation of the property.

The operation of the property from a shipping standpoint is out of the question. I have elsewhere enumerated a number of advantages which appear to the welfare of the property. There are certain surface deposits of ore on the property which were not visited by me, but which were examined by Dr. Butler, and which should be given a great deal of consideration, as from the description he gives me of these ore bodies it is probable that considerable tonnage of ore can be expected from development outside of the main fault.

LIMITATIONS. It is doubtful whether the development of this property would result in exposing sufficient ore to warrant a very large mill, that is to say, that the development work which is advocated in this report would not in all probability disclose a quantity of ore in excess of that amount which a one hundred and fifty (150) ton mill will handle.

In summation we see that the property has sufficient ore to warrant the exploitation on a scale sufficient to block out ore for, and furnish ore for a one hundred and fifty (150) ton mill.

PRESENT EQUIPMENT. At present the shaft is equipped with a small hoist and a small head frame. Mine rails extend to the bottom of the shaft and there are some rails laid on several of the levels. The present hoist is suitable for preliminary work only.

There is one building upon the property which will accommodate about four men, and in which is a stove and cooking equipment for about four men.

There is a blacksmith shop which is only on a small scale. This would have to be enlarged for future operations. There are not many mine tools.

MINE DEVELOPMENT.

SHAFT DEVELOPMENT. The mine development on the property comprises one shaft about four hundred and sixty-five (465) feet in depth, sunk on the inclination of the vein at angles varying from forty to sixty degrees, but averaging about forty-five degrees. At intervals of about fifty feet down this shaft are levels which have been run along the strike of the vein in both directions. These levels are invariably short. From most of these levels ore has been extracted from raises which are of limited extent. The development in the shaft has been solely for the purpose of disclosing high grade ores and has not opened up any quantity of the ore, which was encountered in the lower workings of the shaft.

CROSSCUT TUNNEL. At a point about fifteen hundred (1500) feet from the shaft a cross-cut tunnel was sunk at an elevation of about five hundred (500) feet below the collar of the shaft, and at a point near the creek bed below the mine workings, and this tunnel was run into the hill a distance of about four hundred (400) feet. I wish to call your attention to the fact that the vein is dipping into the hill and that this tunnel was run to intersect this vein, and naturally would have to be extended a great distance before it would reach the vein. I wish to refer to the map which is now in the process of completion as that will show the relation of the tunnel to the shaft in greater detail than can be described.

SURFACE DEVELOPMENTS. There are several open cuts along the outcrop of the vein, but they are of little consequence, except to demonstrate the continuity of the ore bodies.

OTHER WORKINGS. There is a shaft and other workings upon the property which appear on another vein. These workings were not visited, but from reports they have opened up considerable high grade ore of an oxidized character. Dr. Butler examined these. I consider that the main fault must receive the greatest consideration and that any secondary veins upon the property should be considered at this time solely as a side issue, and that the merits of the property to become a big producer must be judged chiefly upon the main fault and the ore body which is disclosed in the bottom of the shaft.

METHODS OF WORKING.

PAST. The methods of working the property in the past appear under the heading "HISTORY".

FUTURE. Future operations upon the property would have to be conducted from a main adit level located upon the vein at a point considerably lower in elevation than the collar of the shaft. This adit level would deliver the ore from all points in the mine to the proposed mill site. Any preliminary development work naturally would be carried on from the present shaft, but the future exploitation of the property would require the adit level above mentioned.

METHOD OF EXTRACTING ORE. The method of mining would be very simple, on account of the character and firmness of the hanging wall. Probably a shrinking stope method of mining would be most satisfactory, but the method of mining would be evolved along with the development of the property.

I wish to call your attention to the fact that an adit ~~level~~ level as I have mentioned would result in blocking out ore for a distance of about six hundred (600) feet along the dip of the vein at many places.

OPERATING COSTS.

The operating costs of the property cannot be reached at this time to any degree of satisfaction, but could be very closely estimated after some preliminary work has been done.

ADVICE RESPECTING DEVELOPMENT.

A survey of the property was suggested and this survey is now nearing completion. I suggest that the ore body at the bottom of the shaft be cross-cutted at several points to show the true width. This ore body should be cut at a point close to the bottom of the shaft, and this may be accomplished by extending the cross-cut which has entered the vein on the foot wall side of the shaft.

I suggest that the drift at the four hundred and sixty-five (465) foot level to the northeast be cleaned out and that this be extended to a distance not less than fifty feet in a linear distance along the strike of the vein from the cross-cut above mentioned. At this point I suggest cross cutting the ore body and disclosing its nature. It would be well and I advise that a drift be run to the southwest along the strike of the vein at the four hundred and sixty-five foot level for a distance of about fifty feet from the present shaft, and that the ore body be cross-cut at this point, and its true width and characteristics be closely studied. This work should be carried along the vein.

The above work summarized will involve not more than eighty (80) linear feet of drifting and should be commenced at once. This work should be done prior to any sinking operations, because at no place at the bottom of the shaft have we found the true width and the true characteristics of the entire vein for any extent, and I conclude that the logical move before sinking would be to disclose this vein for a linear distance of not less than seventy-five (75) feet as above mentioned.

I further suggest that the vein be cross-cutted at several localities on the four hundred foot level. These localities to be as follows: Twenty-five (25) feet from the shaft in a north-easterly direction. On the southwest side of the shaft I suggest the extension of the drift for a distance of about fifty to one hundred feet.

After the above work has been accomplished it will be possible to judge the merits of sinking the shaft. The work which has been advocated above can be accomplished with the equipment now on the property, but could be expedited by the installation of a larger hoist. Air pipe and rails for the drifts will be needed. Should the development at the four hundred and sixty-five (465) foot level result favorably it would be worthy to consider the immediate installation of a large hoist, capable of reaching a depth which would be obtained by the proposed adit level, and which depth will be indicated from the present survey being made upon the property.

It is strongly advocated that future extensive development work be carried ahead through the driving of the proposed adit tunnel, and that the process of blocking out the ore be carried forth from this tunnel. The advantages of this tunnel are immediately apparent when consideration is given to the huge tonnages which can be opened up above it.

The development work which is advocated will cost in the neighborhood of Thirty Thousand Dollars (\$30,000).

INITIAL EQUIPMENT.

It will be necessary for any development work to consider an outlay to cover the repairs of the road, estimated at about One Thousand Six Hundred (\$1,600), and the erection of several tents or accommodations for the miners, and for such camp equipment and material that is not at present on the property. Some provision will have to be made for water supply. A service car should be provided. I believe that there is a sufficient amount of old rails on the property to meet the demand for the tracks which will be necessary on the four hundred and sixty-five foot level.

The work on the four hundred foot level will be a secondary consideration after the development work advocated on the four hundred and sixty-five foot level. A provision for air pipe into the mine and blower will have to be made. I recommend a flexible air pipe which will not be attacked by the acid waters.

For the adit tunnel a compressor and blower, and pipes, rails, drills, etc. will be required.

For the shaft a hoist, compressor, blower, and drills, pipes, and tools, etc. will be required.

This examination was made on December 11th and 12th, and this report was written on December 19th, 1918.

(SIGNED) THEO.H.M. CRAMPTON, E.M.

RECORD OF SAMPLES.

Sample.

- No. 1. Was taken on the four hundred and sixty five foot level on the cross-cut in the foot wall. Taken for four feet perpendicular to the floor of the cross-cut along the face of the ore. The vein at this point is exposed for four feet perpendicular to the dip. There is some Chalcopyrite in the vein at this point. The character of the ore is primary, but shows some tendency towards superficial oxidation. The face of the cross-cut where this sample was taken is about eighteen feet from the shaft. Assays 1.6% Copper.
- No. 2. This was taken at practically the same point at which sample #1 was taken but was taken for three and one half feet perpendicular to the dip of the vein. The average of the face at this point may be considered as the average of both sample #1 and #2. Assays 2.9% Copper.
- No. 3. A high grade streak within the ore body on the four hundred and sixty-five foot level. The sample was taken on the left hand wall of the cross-cut. Assays 4.1% Copper.
- No. 4. This was taken about eighteen feet above the four hundred and sixty-five foot level on the right hand side of the shaft as you go down. It was sampled for two feet of the vein. This small opening on the right hand side of the shaft exposes the vein for a depth of two feet and the sample naturally is of the first two feet on the hanging wall of the vein. The thickness of the vein at this point we do not know.
- Assays 5% Copper.
- No. 6. This was the drillings taken from a hole in the face of the four hundred and sixty five foot cross-cut for the first six inches below the sample #2. Sample #2 we will recall was for 3 1/2 feet across the vein from the hanging wall to the floor of the drift. Sample #6 would be the next six inches below the 3 1/3 feet. Assays 4.7% Copper.
- No. 7. Is the second six inches and is the continuation of the hole from which sample #6 was taken. Assays 6% Copper.
- No. 8. Is the next six inches of the vein perpendicular to this dip and from the continuation of the hole from which #6 and #7 were taken. This assayed 3.1% Copper. From the above we see that the ore on the four hundred and sixty five foot level in this cross-cut was exposed for a thickness of five feet. Too much weight should not be laid upon these samples, because of the irregular and disseminated occurrence of the ore in the lode.
- No. 9. Type taken half way between the four hundred and the four hundred and sixty foot level. Not assayed.

Sample.

- #10. This was taken at the four hundred foot level on the right hand side of the shaft. The sample was cut across the ore body and some very good ore and low grade material was seen at this point. Four feet of ore was exposed. This sample assayed 2.3% Copper.
- #11. This was taken fifteen feet above the four hundred foot level. Thus the grade of ore which occurs in the main ore body. This assayed 6.2% Copper.
- #12. This sample was taken on the four hundred foot level in the northeast drift and covered a face eighteen inches in ~~length~~ width. This assayed 2.1% Copper.
- #13. Northeast face of the four hundred foot level. Eighteen inches of ore from a chloriding stopp. Sample taken by Philip Hickey, Jr. This assayed 3.6% Copper.
- #14. This sample was taken in the southwest drift, twenty feet from the shaft on the four hundred foot level where four feet of sulphide ore, partially leached, is exposed. Assays 2.7% Copper.
- #15. This sample was taken in the first stope on the four hundred foot level in the southwest drift. This was taken across a face three hundred feet in width and assayed 1.8% Copper.
- #16. This was taken in the face of the southwest drift on the four hundred foot level, where the ore was not as rich as it is exposed further back in the drift, and where it has a width of only eighteen inches. This assayed 1.9% Copper.
- #17. This was taken on the foot wall of the main ledge in the stope which is nearest the present face of the southwest drift on the four hundred foot level. This material is apparently very much lower in grade than that which existed as the main rich seam, which laid directly upon it. This assayed 2% Copper. This has been somewhat leached at this point.
- #18. This sample was taken across the ore for a width of about thirty inches and comprised that part of the ore body which laid upon the foot wall in the stope nearest the face of the southwest drift, on the four hundred foot level. It is the part of the vein which laid directly upon that part sampled in #17. This assayed 3.2% Copper.

DATE	WET WEIGHT	DRY WEIGHT	TONS	PERCENT COPPER	Percent Insol.	Percent IRON	Percent Sulphur	COPPER AT	Value Per Ton	Net Re- Ceipts	Gold Oz.	Silver Oz.
11/16/05--	11121--	11010--	5.505--	17.25--	21.2--	27.8--	31.7--	\$16.25--	\$37.14--	204.23--		
4/14/06--	5870--	5678--	2.839--	16.2--	22.5--	28.2--	31.9--	18.25--	39.91--	113.30--		
4/21/06--	10160--	10040--	5.020--	9.05--	38.2--	20.2--	22.6--	18.25--	18.23--	91.51--		
5/ 7/06--	6130--	6068--	3.034--	9.60--	36.2--	22.3--	24.7--	18.25--	20.07--	60.89--		
5/30/06--		8140--	4.070--	10.50--	34.7--	22.5--	26.3--	18.375--	22.93--	93.32--		
6 /28/06--	3050--	2995--	1.497--	12.85--	28.8--	25.5--	26.5--	18.457--	30.40--	45.53--		
6/21/06--	2610--	2571--	1.286--	5.8--	19.1--	33.6--	38.9--	18.375--	12.16--	15.63--		
7/12/06--	6610--	6543--	3.272--	4.7--	52.7--	19.7--	19.3--	18.442--	4.97--	16.26--		
8/10/06--	7250--	7148--	3.573--	8.6--	75.6--	6.3--	6.9--	18.19--	12.23--	44.06--		
9/ 4/06--	8730--	8643--	4.322--	6.54--	42.0--	22.4--	24.5--	18.25--	11.09--	47.93--		
6/11/13--	39900--	39700--	19.85--	7.47--	37.2--	24.7--	23.3--	15.436--	13.74--	265.24--	.045--	2.82
4/19/16--	18710--	18523--	9.2615--	7.92--	31.6--	23.4--	--	27.50--	32.53--	301.28--	.045--	3.30
4/19/16--	40110--	39709--	19.854--	7.91--	40.4--	21.0--	--	27.50--	30.71--	604.73--	.032--	2.18
5/ 9/16--	29970--	29670--	14.835--	8.66--	40.8--	17.1--	--	28.50--	36.02--	529.36--	.04--	2.24
5/ 5/17--	10100--	9818--	4.909--	8.18--	38.4--	20.7--	21.4--	27.93--	27.06--	132.84--		-1.0
5/5/17--	4500--	4450--	2.225--	9.17--	35.3--	23.3--	25.5--	27.93--	31.66--	70.44--		-1.25
5/ 5/17--	33600--	32256--	16.128--	6.39--	48.1--	19.1--	19.8--	27.93--	19.10--	308.04--		-1.3
5/ 8/17--	2915--	2850--	1.425--	16.92--	29.0--	23.9--	28.6--	27.93--	64.29--	91.61--		-1.9
7/18/17--	13100--	12970--	6.485--	14.90--	19.0--	28.8--	32.4--	29.96--	61.58--	399.35--		-2.35