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05/27/87

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: SCOTT-WEAVER COPPER

ALTERNATE NAMES:

LA PAZ COUNTY MILS NUMBER: 430

LOCATION: TOWNSHIP 4 N RANGE 20 W SECTION 31 QUARTER E2
LATITUDE: N 33DEG 45MIN SEC LONGITUDE: W 114DEG 15MIN SEC
TOPO MAP NAME: MIDDLE CAMP MTN - 7.5 MIN

CURRENT STATUS: UNKNOWN

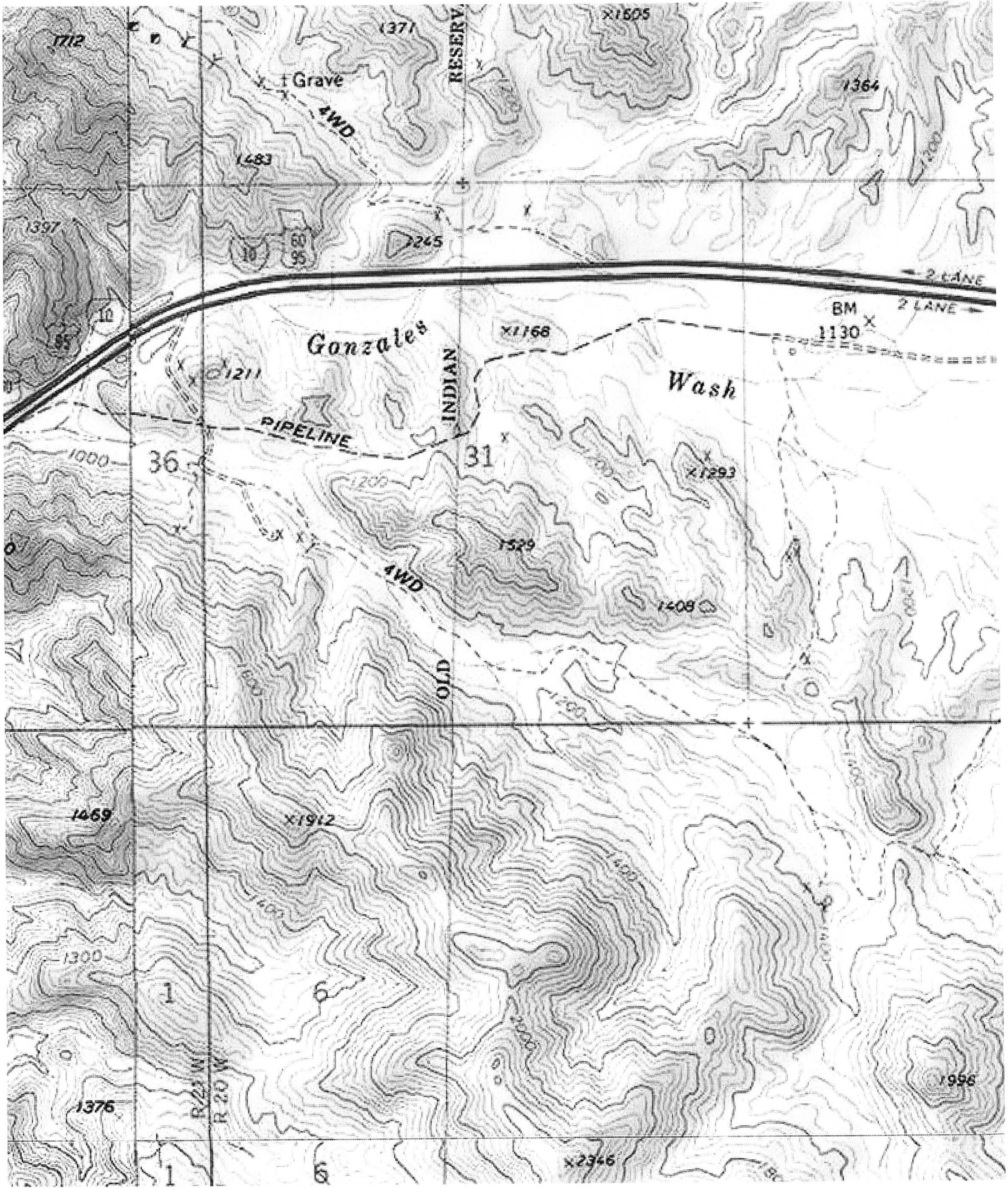
COMMODITY:
COPPER OXIDE

BIBLIOGRAPHY:
ADMMR SCOTT-WEAVER COPPER FILE

La-Paz - Quartzsite Dist, Yuma Co.
Immediately south of Hwy. 60-70 in the
Dome Rock Mtns.

10-27-58
LAS

T4N R20W Sec 31



Only E half of 31 is
in project area.

Scott Weaver copper (f)

March 1984

HEINRICHS GEOEXPLORATION COMPANY

P. O. BOX 5964, TUCSON, ARIZONA 85703, 806 WEST GRANT ROAD, PHONE: (602) 623-0578

SE Property Summary Sheet

The SE property is in the Middle Camp-Oro Fino Mining District in the Dome Rock Mountains in La Paz County, Arizona. The property is on Interstate 10, about eight miles west of Quartzsite, Arizona and about thirteen miles east of Blythe, California. The property consists of 78 lode claims, located in sections 31, 32 and 33, T. 4 N., R. 20 W.,sections 5 and 6,T.4 N., R. 20 W, and section 36 T. 4 N., R. 21 W., totalling about 1,330 acres.

This area is shown on the Middle Camp Mountain USGS 7 1/2 minute topographic map. The claims bear US BLM Serial Numbers AMC105414 through AMC 105471 and AMC 186704 through 186723. They were staked in 1980 and 1982.

Ownership rests with four Arizona residents, each with a one quarter undivided interest. They are Walter E. Heinrichs, Jr., William C. Hirt, James D. Loghry of Tucson and Richard J. Lundin of Prescott, AZ.

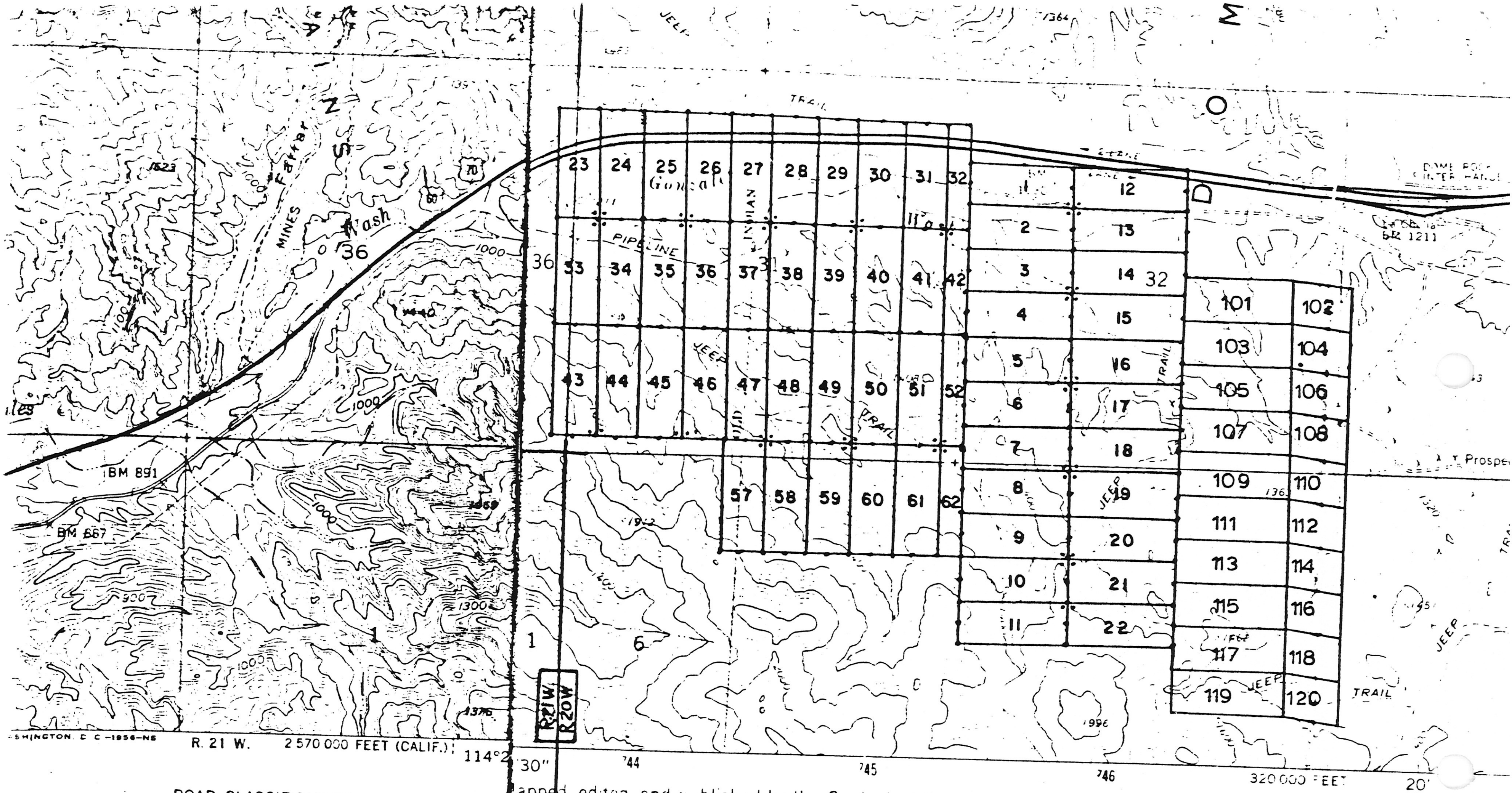
The initial interest in the immediate claim area during recent times was for its porphyry copper-molybdenum potential. In this connection, during the period 1962 - 1975, mapping, sampling and rotary and diamond exploration drilling totalling approximately 18,500 feet was done by several concerns, one of them a major oil and mining company. More recently, the SE group has been re-evaluated in light of geochemical and geological data as a gold target, and the minerals division of a major oil company leased the property in 1983. This company drilled one hole required for annual labor purposes but, unfortunately, due to a sudden unexpected corporate-wide budget cut,they had to turn it back to the owners in January 1984. Results of some of the work done to date on the property are available to interested parties. We feel that the mineralization disclosed thus far warrants further investigation.

Further information may be obtained at the above address.

for map, see orig.

MINERAL ENGINEERING CONSULTANTS AND CONTRACTORS. GEOPHYSICAL, GEOLOGICAL AND ECONOMIC APPRAISALS

RH



ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ═══

Medium-duty ═══ Unimproved dirt ======

U. S. Route ○ State Route

LA PAZ MTN., ARIZ.—CALIF

NW/4 DOME ROCK MTS 15' QUADRANGLE

N3337.5—W11422.5/7.5

1955

apped, edited and published by the Geological Survey

ontrol by USGS and USC&GS

pography by photogrammetric methods from aerial otographs taken 1970. Field checked 1971

ojection and 10,000-foot grid ticks: Arizona coordinate stem, west zone (transverse Mercator)

000-meter Universal Transverse Mercator grid ticks, ne 11, shown in blue. 1927 North American datum

here omitted land lines have not been established

0 500 1000' 2000' 3000' 3500'

GN MN

1°29' 26 MILS

14° 249 MILS

UTM GRID AND 1971 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

MIDDLE CAMP MTN. QUADRANGLE

SE CLAIM GROUP
YUMA COUNTY ARIZONA
1980

FOR SA

HEINRICHS GEOEXPLORATION COMPANY

P. O. BOX 5964. TUCSON, ARIZONA 85703. 806 WEST GRANT ROAD. PHONE: (602) 623-0578

February 9, 1982

SE Property Geological Synopsis

The SE property is in the Middle Camp - Oro Fino Mining District in Yuma County, Arizona. Past production from the district includes over 12,000 ounces of gold with 1500 ounces of contained silver from placer operations and minor production of lead, zinc, copper, gold and silver from several small lode mines.

The dominant rocks exposed within the district in the Dome Rock Mountains are Precambrian schist and granite. In the SE property area, these rocks have been intruded by a stock of probable Laramide age. Extrusion of a Tertiary quartz porphyry flow followed; outcrops of this rock are found capping Sugarloaf Peak and scattered north of I-10. Late Tertiary gravels and Quaternary alluvium lap up onto the mountains.

Porphyry copper-type alteration is well developed within the property; alteration types include propylitic, pyritic, phyllic, and potassic. The original geometric relations between the various alteration zones have been obscured by structural dislocations along faults.

Surface geochemical sampling has disclosed anomalous lead, zinc, molybdenum, bismuth, and tin values.

Primary copper mineralization (disseminated chalcopyrite now partially oxidized to various copper oxide minerals) is found on the surface in the Hancock Wash area (Hancock Wash is the large wash in the south half of section 31 T4N R20W). This mineralization is associated with a block of exposed potassic alteration.

A minimum of 18,500 feet of recorded rotary and core drilling has been carried out in the Sugarloaf Peak area by various companies; data from some of this drilling is available in addition to other reports and maps and is included in the larger body of text which is available on request. The reader's attention is drawn to DDH Q-1 through Q-6. These holes were drilled in the Hancock Wash area intercepting schist and quartz monzonite (a phase of the

See over

MINERAL ENGINEERING CONSULTANTS AND CONTRACTORS. GEOPHYSICAL, GEOLOGICAL AND ECONOMIC APPRAISALS

Laramide (?) intrusive). DDH Q-1, which was drilled mostly in schist, had intercepts of 200 feet of about 0.6% copper from the surface to a depth of about 200 feet; the copper is in the form of brochantite, chrysocolla, and malachite, partly disseminated and partly on fractures, and also disseminated and veinlet chalcopyrite. There is a further 30 feet of approximately 0.6% copper (disseminated chalcopyrite - bornite) at 400 - 430 feet. The mineralization in Q-1 is associated with sericite and biotite alteration.

DDH Q-3 intercepted 203 feet of 0.43% copper mineralization, mostly in quartz monzonite, from about 190 feet to about 400 feet of depth. The mineralization is in the form of chalcopyrite associated with phyllic alteration (quartz-sericite-pyrite).

Significant amounts of molybdenum are associated with copper mineralization intercepted in DDH Q-1 and Q-3, and probably elsewhere as well.

In DH Q-6 was found 50 feet of 0.2% copper in a faulted block of quartz monzonite. The mineralization is chalcopyrite associated with quartz-sericite-pyrite alteration and some tourmaline.

Tourmaline was noted in all of the Q holes, but most strongly in holes Q-2, Q-4, and Q-6, both disseminated and in veinlets.

Many of the earmarks of economic porphyry copper deposits found elsewhere in the Southwest are present in the Sugarloaf Peak area. These include the Pb-Zn-Mo geochemical anomalies, the well developed and widespread alteration zoning, presence of abundant alunite and tourmaline, and outcrops of disseminated copper mineralization in a potassic alteration zone. All these favorable geological characteristics indicate that more work is warranted to test for the presence of economic quantities of disseminated copper - molybdenum mineralization in the Sugarloaf Peak area.

Recent geochemical sampling and mapping (Jan.-Feb. 1982) have revealed the presence of anomalous gold values in host rocks favorable for lode gold mineralization. These results suggest the possibility of a stockwork gold deposit and/or Goldfield, Nevada - type mineralization which could have acted as a source for the placer gold mined in the early days of the district. More work is needed to define the areas of gold anomalism, favorable host rocks and to determine if potential economic targets for gold mineralization exist.

William C. Hirt
Geological Engineer
and Metallurgist

March 1984

SE Property Data and Reports

(in approximate chronological order)

1. McPhar Geophysics IP and Resistivity Survey Location Map (Fig.3), undated but probably between 1962 and 1971.

2. Congden and Carey report on "Geology of the Sugarloaf Prospect, Yuma County, Arizona" with Plates II, III and IV, March 1964.

3. Report titled "Base Metal Distribution at Sugarloaf Peak, Quartzite Mining District, Yuma County, Arizona" dated August 1971, text 4 pp., with drill hole data including core logs, drill chip logs and metal ratio graphs for drill holes DDH S-1, DDH S-2, DDH S-3, DDH SL-4, DDH-SL-5, DDH SL-6, RH SL-7, RH S-8, RH S-10, RH SL-13 and DDH SL-15 (these are partly rotary and partly core holes), accompanied by map titled "Generalized Alteration - Sugarloaf Peak Area", dated August 1971 (two copies, one with outline of claim block), and also by another map (undated) entitled "Dome Rock Mtns Quad" which shows the location of the S and SL holes.

4. Assay logs for RH V-1 through RH V-15 (all rotary drill holes except for three feet of NX core on hole RH V-15), drilled in 1972.

5. Report titled "Exploration Potential of the Sugarloaf Peak Area, Quartzsite Mining District, Yuma County, Arizona" dated May 25, 1973, 12 pp., with 3 pp. cover letter, accompanied by maps:

   a. "Alteration Map-Sugarloaf Peak Prospect", May 25, 1973.
   b. Molybdenum Geochemical Values, Lead Geochemical Values, and Mo/Pb Ratio Maps, all of the Sugarloaf Peak Prospect, dated May 1973.
   c. Cross Section through Sugarloaf Peak, dated May 1973.
   d. Magnetometer Survey Profiles, dated May 1973.

6. Assay and Core Logs for DDH Q-1 through Q-6 (NX core holes drilled in 1974-75).

7. Map titled "Quartzsite Geology and Alteration" dated February 1975 showing location of Q holes.

8. Map titled "Quartzsite Project, Yuma County, Arizona" dated May 30, 1975 showing location of Q holes.

9. Undated Map showing drill hole locations and claim block outline.

10. Geologic Map of the Central Dome Rock Mountains by W. J. Crowl, 1975 (University of Arizona thesis).

11. SE Property Map 1982.

520 0124 for Jerry

[illegible] SE Claims

Lease-option Terms and Conditions

Purchase price: $10,000,000 or $5,000,000 plus perpetual NSR or equivalent royalty commencing on initial date of production in the amount of 4% on Federal lands and 2% on State lands. All payments, including production royalties, apply towards the purchase price. Payments, toward the purchase price must be structured as capital gains, not advance royalties or rentals. If either of the above alternative purchase prices are acceptable to the optionees, the owners require no term to the agreement; if not acceptable and the optionees offer a reduced price, the owners insist on a 5 year term to the agreement.

Payment Schedule

(Minimum advance royalties)

Year	Amount
1	$6,000 in advance for the first 6 months.
	$7,500 in advance for the second 6 months.
2	$18,000 in advance.
3	$21,000 in advance.
4 and beyond	$24,000 in advance.

Annual labor must be performed by optionee if the claims are held beyond Feb. 1 of any year. Labor must be physical labor (dozing, drilling, mining, etc.) on the federal claims, and must be at least $7,800 per year.

Sixty days notice is required before dropping the lease or option.

Area of interest: There will be an area of interest extending one mile from the exterior boundary of the claim/prospecting permit block. Any claims staked by either party or prospecting permits acquired shall be subject to the terms of the agreement.

Data: All factual data acquired and developed by the optionees shall be released to the owners when and if the lease is dropped. Information or reports shall be made available to the owners periodically during the term of the lease. The owners will hold these data confidential.

SCOTT-WEAVER COPPER MINE YUMA COUNTY

Burton C. Handcock, 1799 Hamilton, San Jose, holds the Scott-Weaver Group, west of Quartzsite and Graves wants to see if they will leach. Said to have 70-90' deep of 2% copper. LAS WR 10-8-65

Conference with Arthur J. Graves of Congdon and Carey

Mr. Graves stated that the Scott-Weaver claims in the Dome Rock Mountains south of Hwy. 60-70 are owned by Burton C. Handcock, 1799 Hamilton Ave., San Jose, California. The present holding is 13 claims and there were several test holes drilled in 1959-1960 that showed 75-90 feet of 2% oxidized copper ore (underlain by sulphides of less grade)
Memo LAS 10-13-65

Went on to Quartzsite where Ben Scott said Getty Oil Company hadn't contacted him with regard to the Scott-Weaver copper prospect about 5 miles west of Quartzsite. Ben also said he didn't think Mrs. Walker had sold the Gold Nugget mine. GW WR 9/14/72

4

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Scott-Weaver Mine **Date** Sept. 11, 1959

District La Paz (Dome Rock Mtns.) Yuma County **Engineer** Lewis A. Smith

Subject: Reported by Scott and brief mine visit

FILED
OCT 23 1959

Property: 9 unpatented claims

Location: T. 4 N., R. 20 W., S 31 (7 miles west of Quartzsite and immediately south of Highway 60-70).

Original Owners: B. G. Scott, ~~Halsey-Williams~~, et al
B. G. Scott, Box 69, Quartzsite

Property now on option to Hy Jolly Mining Co. of Tucson for a reported price of $3,000,000. Scott stated that his share of the down payment was $20,000.

Work: 5 holes were drilled to depths of 169 to 290 feet, 3 of which were largely in ore. These holes are:

(1)	200 feet	(averaged 1% Cu)
(2)	200 "	(200 feet north of No. 1) no ore
(3)	169 "	(200 feet south of No. 1) 1½ to 1-3/4% Cu)
(4)	170 "	(400 feet west of No. 1) partly ore @ 1%+
(5)	289 "	(churn drill) (200' south of No. 3) 1 % ore from 60' below the surface

The ore was mainly oxide to 60' below the surface, on the average, then it was composed of chalcopyrite and pyrite. No appreciable enrichment was noted. The pyrite was in much greater prevalence than the chalcopyrite. This condition was plainly indicated in the limonite capping. Generally, as near as could be seen in a brief visit, the capping and oxide copper (mainly chrysocolla) was fairly evenly distributed in the schist lamenae and between them, indicating a dessiminated mineralization. 1/

Geology: The mineralized belt is in schist, mainly hornblende or augitic, which varies greatly in trend and dip. The overall trend of the Dome Mountains schist appears to be approximately NE-SW with a variable dip ~~of~~ to the N E in several places. The dips are disrupted somewhat by major NW-SE (Basin and Range Type) fractures which have disrupted the Range in an eschelon fashion. Many minor transverse fractures and shears are evident. Two types of schist were observed, the first being either an augite or hornblende type while the second is a quartz-mica schist. Biotite favors the dark schists while muscovite favors the quartz-mica or lighter colored schists. The schists are cut by fairly prevalent dikes consisting of quartz-feldspar pegmatites, minette, diabase "quartz" porphyry and diorite. The schists appear to have been sediments which possibly were derived from dioritic and granitic rocks. Granite forms the east base of the mountains and also outcrops to the west near Daniel's Metate claims. Local narrow aplitic dikes cut the granite and schists near the granite contact. Local pegmatitic areas along the east border, south of Quartzsite, contain pyrophyllite, dumortierite and kyanite. Another such area north of Highway 60 and on the west side, contains a sizeable deposit of quartz, kyanite and rutile. Pegmatites appear to be most prevalent in a NW-SE band passing through the Dome Rock Mountains from 4 miles south of Quartzsite to 2 miles north of 60-70 along the west side. This is a basic description of the type of rocks which host various Dome Rock mineralized areas.

Scott Weaver Mine

1/ Time did not permit the determination of the concentration of the iron minerals or chrysocolla. Too, iron oxides such as those seen here may be derived from the oxidation of horndblende, augite or biotite and therefore could easily be confused with iron oxides from sulphides. This cannot be determined by a brief examination such as was made here. This is why "gossan" was used here.

Arizona Daily Star 7-16-60

DEPARTMENT OF MINERAL RESOURCES

Supplementary

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine La Chacha and Scott-Weaver

Date January 7, 1960

District Dome Rock Mtns., LaPaz or Quartzsite District - Yuma County

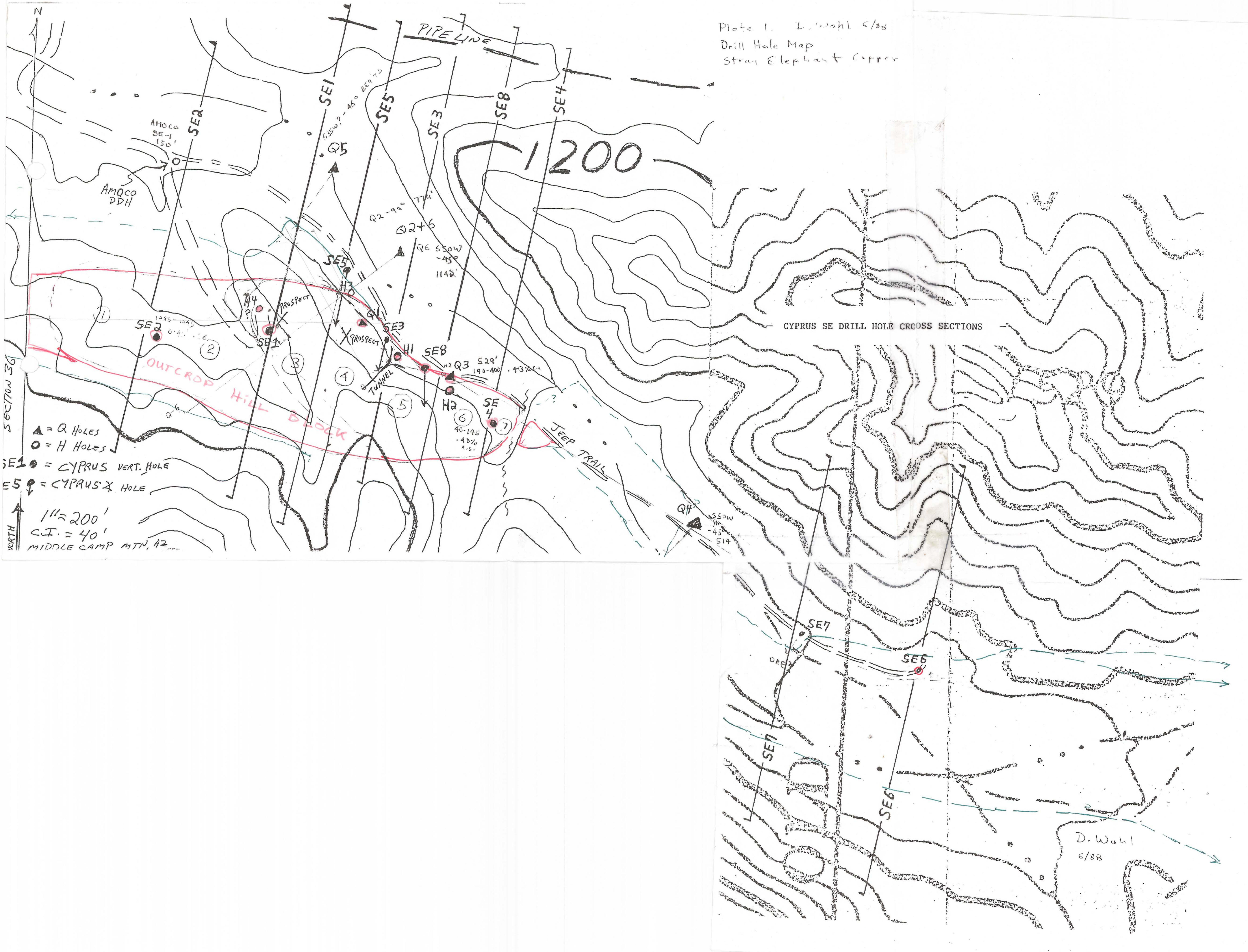
Engineer Lewis A. Smith

Subject: Interview with Ben Scott

optioned K.

Ben Scott reported that he had been doing the assessment work on a large number of La Chacha claims. Hi Jolly Company of Tucson, who recently purchased the Scott-Weaver Group, has examined the La Chacha Group but thus far has not submitted a report to the Scotts. Ben Scott stated that he is marking time until he gets the report.

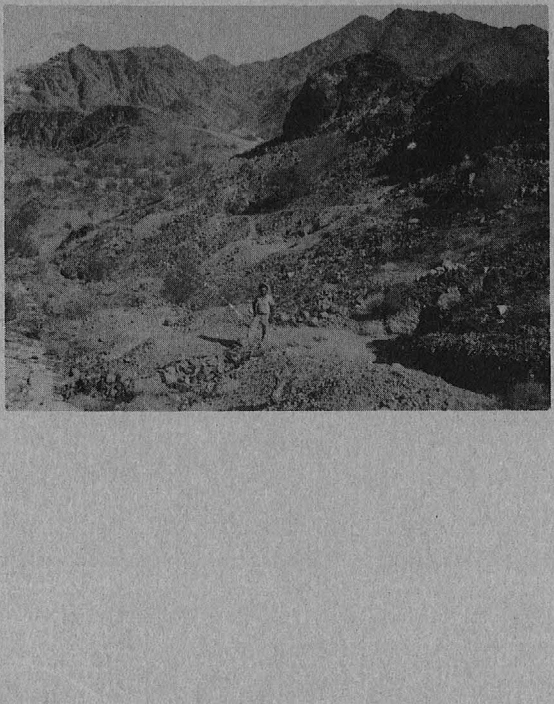
Plate 1. D. Wahl 6/88
Drill Hole Map
Stray Elephant Copper



Report On Scott-Weaver Copper Mine

By
E Ross Housholder E.M.
Reg. Prof. Engineer #23
Kingman, Arizona
1956

2357
DEC. 31, 1956



HISTORY

The placer deposits near the Rock Dome Mountains were among the earliest mining discoveries in central western Arizona, and they have been worked with more or less success in an intermittent fashion ever since 1862. Captain Pauline Weaver and others then discovered what was then named and is still called "El Arroyo de la Tenaja" which is about 2 miles north from El Campo Ferra, and about 7 miles east of the fabulous La Paz. The area, including the Scott-Weaver copper mine, is about 5 to 6 miles southeasterly from this original mineral discovery. The Dome Rock Mountains were among the first to be earnestly prospected for lodes because of the early discovery of gold placer on their western slope.

Lode claims which include what is now known as the Scott-Weaver Copper Mine (being the mine estate of the Royal Investment Corp.), was originally located about 1906 by Miguel Apodoea. The names of the claims at that time were not determined. Sometime after the death of Apodoes, about 1920, a Mr. Beggs and J. D. McIntyre located them and the mine was then designated as the Weaver Mine. McIntyre for many years was postmaster at Blythe, California, and it was his financing of the shallow surface work, including the tunnel and tunnel-winz work to the present level, was prosecuted, largely in carrying on prospecting and annual assessment work. During thie period their endeavors were largely directed in a search for gold and silver. Although the ores all apparently contain some of the precious metals, no ore was found to warrant exploitation. The presence of copper was known, but due to the lower prices of copper and the absence of haulage highways such as exist today, little if any attention was paid to the copper content. No ore was ever shipped during the Begg-McIntyre limited activity. About 1926 a Roe B.→ Mr. Kincannon, of Wickenburg, Arizona, made an examination of the property, but, due to lack of transportation, the low price of copper, and the low gold and silver content, no further interest was shown by Kincannon or his associates.

After the death of Beggs, little if any work was done until Ben Scott, a member of a pioneer family in Quartizite, Arizona, and associates located the property and, largely due to the insistence of Scott, more attention was paid to the copper showing, although it was during his search for radio-active minerals that he became impressed with what seemed to him a universal copper content, expecially of the dyke-vein, better described in the following report.

These holdings were obtained in 1956 by your Royal Investment Corp., 1132 South Fifth, Las Vegas, Nevada, who since then and are now actively engaged in exploring the deposit by trenching, shipping carload lots of the ore to the Hayden, Arizona, smelter, and just recently starting a diamond drilling campaign to open up what appears to be an interesting copper deposit disclosing geological conditions and a copper content indicating that the future exploitation would make a commercial venture. (See section in this report entitled "FAVORABLE FACTORS").

[illegible] [illegible] Reports
E. ROSS HOUSHOLDER,
Registered Professional Engineer
CONSULTING ENGINEER
OFFICE: [illegible] GREEN ST
[illegible] SQUARE WEST OF COURT [illegible]
[illegible]

E Ross Housholder

1 of 39

TERMINOLOGY: Standard terms used in this report follow definitions of those relating to the metal mining industry obtained from "A Glossary of the Mining and Mineral Industry by Albert H. Fay, published 1920, by the U. S. Bureau of Mines.

"Ore" Page 475 Bull. 95, Bur. of Mines, Dept. Int.

A natural mineral compound, of the elements of which one at least is a metal. The term is applied more loosely to all metalliferous rock, though it contain the metal in a free state, and occasionally to the compounds of non-metallic substances, as sulphur ore. (Raymond).

Also, material mined and worked for nonmetals, as pyrite is an ore of sulphur (Webster).

A mineral of sufficient value as to quality and quantity which may be mined with profit. Ihlseng).

A mineral, or mineral aggregate, containing precious or useful metals or metalloids, and which occurs in such quantity, grade, and chemical combination as to make extraction commercially profitable. (Robert Peele, Min. & Met. Soc. of America, Bull. 64, p. 257)

A metalliferous mineral, or an aggregate of metalliferous minerals, more or less mixed with gangue, which from the standpoint of the miner, can be won at a profit, or from the standpoint of a metallurgist can be treated at a profit. The test of yielding a metal or metals at a profit seems to me, in the last analysis, to be the only feasible one to employ. (J. F. Kemp, Trans., Canadian Min. Inst., 1909, p. 367).

"Ore blocked out" - P. 476

Ore exposed on three sides within a reasonable distance of each other. (H. C. Hoover, p. 17)

"Ore developing" - P. 476

Ore exposed on two sides. See Probable ore. (H. C. Hoover, p. 17). First class, blocks with one side hidden; second class, blocks with two sides hidden; third class, blocks with three sides hidden. (Philip Afgall, Min. and Met. Soc. of Am., Bull.64, p. 260)

"Probable ore" P. 540

Any blocked ore not certain enough to be "in sight" and all ore that is exposed for sampling, but of which the limits and continuity have not been proved by blocking. Also, it includes any undiscovered ore of which there is a strong probability of existence. Ore that is exposed on either two or three sides. Whether two or three sides be taken as a basis will depend on the character of the deposit. (Min. and Met. Soc. of Am., Bull. 64, pp. 258 and 262).

"Ore developed" P. 476

Ore exposed on four sides in blocks variously prescribed.

E. Ross Householder

2 of 38

"Positive ore" P. 530 Bull. 95

Ore exposed on four sides in blocks of a size variously prescribed. See "Ore developed," also "Proved ore." (B. C. Hoover, p.17)

Ore which is exposed and properly sampled on four sides, in blocks of reasonable size, having in view the nature of the deposit as regards uniformity of value per ton and of the third dimension, or thickness. (Min. and Met. Soc. of Am., Bull. 64, p. 262)

"Proved ore". p. 541

Ore where there is practically no risk of failure of continuity (H. C. Hoover, p. 19). See also Positive ore.

"Possible ore" p. 531

Ore which may exist below the lowest workings, or beyond the range of actual vision. (Min. and Met. Soc. of Am., Bull. 64, p. 262).

"Ore expectant" p. 476

The whole or any part of the ore below the lowest level or beyond the range of vision. See Possible ore, also Prospective ore. (H. C. Hoover, p. 17). The prospective value of a mine beyond or below the last visible ore, based on the fullest possible data from the mine being examined, and from the characteristics of the mining district. (Phillip Argall, Min. and Met. Soc. of Am., Bull. 64, p. 260)

"Prospective ore" p. 540

Ore that cannot be included as proved or probably, nor definitely known or stated in terms of tonnage. See Possible ore, also Ore expectant. (H. C. Hoover, p. 19)

"Low grade" p. 409

A term applied to ores relatively poor in the metal for which they are mined; lean ore.

"Ore faces" p. 476

Those ore bodies that are exposed on one side, or show only one face, and of which the values can be determined only in a prospective manner, as deduced from the general condition of the mine or prospect. (Min. and Met. Soc. of Am., Bull. 64, p. 255)

"Ore partly blocked" p. 477

Those ore bodies that are only partly developed, and the values of which can be only approximately determined. (see Probable ore)

"Ore in sight" p. 477, Bull. 95

A term frequently used to indicate two separate factors in an estimate, namely

(a) Ore blocked out, that is, ore exposed on at least three sides within reasonable distance of each other;

(b) Ore which may be reasonably assumed to exist, though not actually blocked out;

these two factors should in all casesbe kept distinct, because

(a) is governed by fixed rules, while

(b) is dependent upon individual judgment and local experience.

The expression "ore in sight" as commonly used in the past appears to possess so indefinite a meaning as to discredit its use completely. The terms Positive ore, Probable ore, and Possible ore are suggested. (Min. and Met. Soc. of Am., Bull. 64, pp. 258 and 261)

E Ross Housholder

"Deposit" p. 211
The term mineral deposit or ore deposit, is arbitrarily used to designate a natural occurrence of a useful mineral ore in sufficient extent and degree of concentration to invite exploitation. (Raymond)

"Exploitation" p. 255
The extraction and utilization of ore. Often confused with "exploration." (Richard)

"Exploration" p. 255
The work involved in looking for ore. Often confused with "exploitation". (Richard)

"Exploring mine" p. 255
(Scot.) A working place driven ahead of the others to explore the field. (Barrowman) Prospect.

"Prospect" p. 540
To examine land for the possible occurrence of coal or valuable minerals by drilling holes, ditching, or other work. (Steel)

"Prospect hole" p. 540
Any shaft, pit, drift, or drill hole made for the purpose of prospecting the mineral-bearing ground.

"Prospecting" p. 540
Searching for new deposits; also, preliminary exploration to test the value of lodes or placers already known to exist.

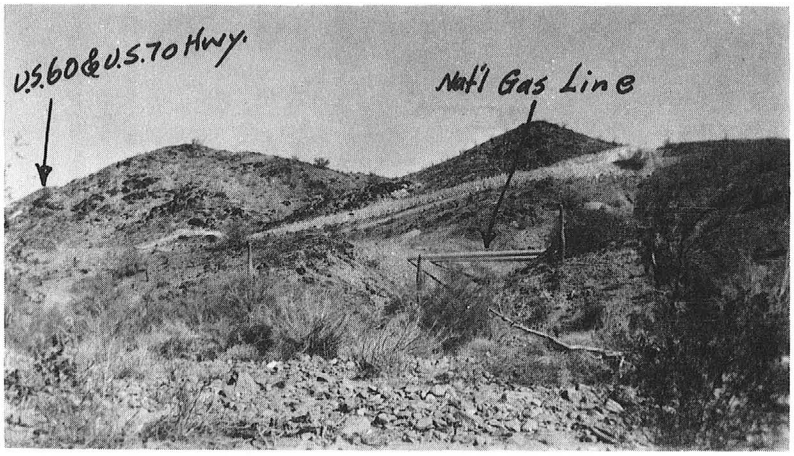
"Development" p. 214
Work done in a mine to open up ore bodies, as sinking shafts and driving levels, etc. (Skinner).

and

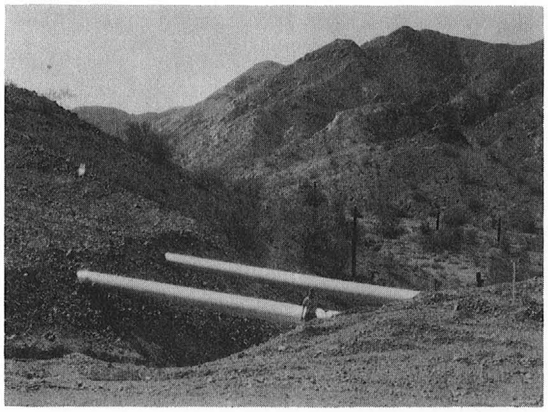
"Resources"
(Re. S. G. Lasky, (with U.S. Geol.Surv.) p. 15, Vol. 23, No. 8, Aug. 1955, Western Mining)
"Resources include" all material in the ground, discovered or undiscovered, usable at present, or not, rich or lean, considered within the context of all factors -- that may influence its conversion into a reserve."

"Reserves" (Re. A. P. Butler, Jr. (with U.S.Geol.Surv), p. 15, Vol. 23, No. 8, Aug. 1955 Western Mining.
Apply to known deposits that have aspects of usability within a specified set of economic and technological conditions.

E Ross Housholder



This "7" photograph shows the El Paso Natural gas double transcontinental transportation pipeline. This may provide a source of power for any future operations. The R/W of this gas line adjoins the northerly portion of old 60 & 70 No. 1 lode claim (see map). U. S. 60 & U. S. 70 oil cake paved Arizona State highway is only 1/2 mile from the gas line, just back of the hill shown in the left part of the picture. This picture was taken off the NW'ly tip of the hill outcrop of the dyke-vein, and about 300 feet northerly from photograph "5". All these photographs show the desert type of vegetation common to this arid region.



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LOCATION

The Dome Rock Mountains are in northern Yuma County, Arizona, and about 10 miles east of the Colorado River. Quartzite, Arizona, the only town in the immediate vicinity, is situated on the detrital slopes flanking the east side of the range. Quartzite is approximately 25 miles by highway from Bouse, and 35 miles from Vicksburg, two stations on the Parker Branch of the Atchison, Topeka and Santa Fe Railroad. The Scott-Weaver copper deposit is in the heart of the range about 9 miles by road and about 7 miles airline westerly from Quartzite, Arizona. The Scott-Weaver Copper mine may be reached by traveling westward over the Arizona State oil cake paved U. S. 60 & U. S. 70 highway 9 miles to where the mine road turns off in a southerly direction about one-half mile to where you enter the mine property. The mine truck road is in good passable shape, especially for trucking ore out or supplies into the workings. From the paved highway turnoff mentioned above it is a little over 12 miles farther west to the Blythe Bridge crossing of the Colorado River.

CLIMATE AND VEGETATION

The belt of country on both sides of the Colorado River from Topock, Arizona, southward to Yuma, Arizona, is arid. From June to August, inclusive, the summer months are intensely hot. As the summer rains usually begin shortly after the first of July, the intense heat is temporarily moderated. The winter months, however, are mild, and the occasional light snowfall is confined to the higher mountains. The average mean rainfall at Parker, to the north of this mountain range, is somewhat less than 5 inches. Most of the rain falls during the summer, when thunder showers prevail, but some precipitation occurs during the winter, especially in the month of February.

The vegetation in this region, and on the Scott-Weaver mine estate, is highly characteristic of the desert, and consists chiefly of thorn varieties of shrubs or trees. Many different varieties of cacti may be found here, and cholla and prickly pear are most abundant, but the sahuaro, or giant cactus, with its massive, branching arms, forms the most imposing feature of this region. (See photos). Ocotillo, which in the late spring is covered with most brilliant red flowers, and creosote bush (sometimes locally referred to as greasewood) are two common shrubs. Along the washes, such as the Copper Wash traversing the mine estate, may be found small trees such as palo verde, mesquite and ironwood; they do not, however, grow large enough for mine timbers and are valuable only for fuel. Some nearby washes have a few cottonwoods, which indicate a nearby water source.

TOPOGRAPHY

The Royal Investment Company's Scott-Weaver mine eatate, in the Dome Rock Mountains, an isolated range with a north-south trend, and the crest is approximately 12 miles east of the Colorado River. On the west of these mountains is the valley occupied by the Colorado River, and on the east at a somewhat higher elevation is the valley in which the town of Quartsite, Arizona, is situated. From the center of these valleys the surface slopes up, with increasing grade, to the foot of the mountains; although the general direction of the mountain-mass is north-south, the spurs usually trend northwest-

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southeast, parallel to the schistosity. These spurs are highly serrated by deep canyons, a feature characteristic of the pre-Cambrian schist terrain of southwestern Arizona. No living streams occur on the mine property or in these mountains, and, with the exception of the Colorado River, none occur in the valleys. The precipitation, chiefly as torrential showers during the summer months, is carried off by the otherwise dry washes. During times of flood these streams are overloaded with debris, which is deposited at the mouths of the canyons as well developed fans (see contour map).

ELEVATION

At Quartzite the elevation is approximately 1,000 feet above sea level, and the highest point in the Dome Rock range of mountains, Farrar Peak, is slightly over 2,900 feet. At the Scott-Weaver copper deposit the elevation is about 1,200 feet above sea level at the portal of the tunnel (see map & photos).

GEOLOGY

The main mass of the mountain, especially in the vicinity of this Scott-Weaver copper deposit, consists of schist, other metamorphic rocks, monzonite, porphyry, some Tertiary flow, some granitic intrusions; but the southern end of the mountain range is composed of coarse-grained granite. Between the granite and schist is a series of rhyolite flows and tuffs. The relation of these different formations to each other is shown on accompanying geological map of the central portion of Dome Rock Mountains prepared by Carl Lausen, geologist for the Arizona Bureau of Mines, and used on page 26 of the Bureau's bulletin No. 122 (Mineral Technology series No. 29) published in June, 1927, by the University of Arizona; also the Fig. 42 sketch on pate 221 by N. H. Darton, geologist, United States Geological Survey (Arizona Bureau of Mines Bulletin No. 119) 1925; and the map (Fig. 4) on page 25 of Arizona Bureau if Mines Bulletin Vol. IV, No. 6, by Dr. Eldred D. Wilson, geologist with Arizona Bureau of Mines (see accompanying reproduction of these geological maps).

Some rocks in this locality are arenaceous shales, presumably pre-Cambrian age, which have been metamorphosed into quartz-mica schists. To the unaided eye most of the rocks on the Scott-Weaver copper mine estate appear to be fine grained, with a satiny sheen, ranging in color from light silver white through gray, brown and red to a dark, almost black tone. The colors are due in general to the kind of mica and the amount of chlorite and epidote present, and in part to the degree of oxidation of the contained iron. Mica is prominent, and although the crystals are not large, they are conspicuous enough to be recognized without the use of a strong lens, and because of their abundance the rocks are fairly soft, feel greasy, and are readily scratched with a knife blade. Upon microscopic examination of thin sections it is found that the general composition of the schists is the same, all of them containing much quartz, orthoclase and some andesine feldspar, and mica, part of

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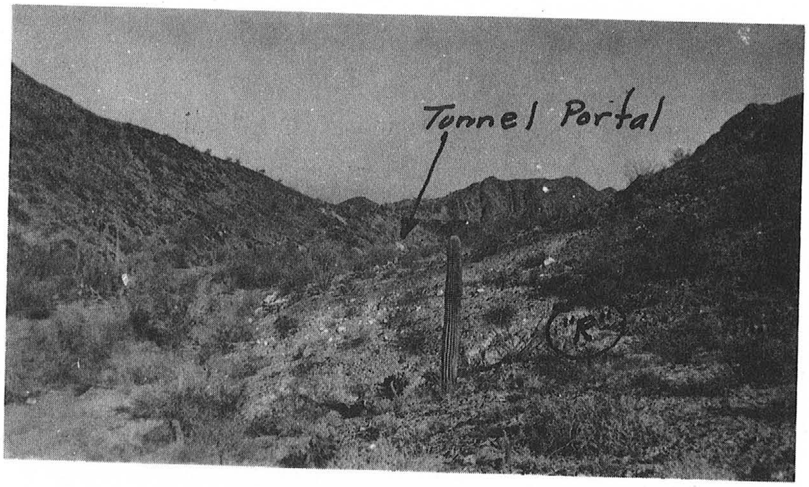
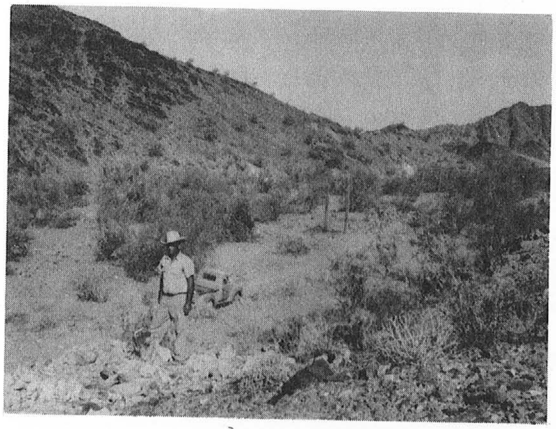


Starting at the S.E. end of Old 60 & 70 No. 2 lode claim (see "1" on accompanying claim map) the above photograph was taken looking in a west-northwest direction toward the tunnel portal on the Surprise No. 1 claim. The grab sample "R" of sericized surface altered schist rock was taken as indicated. This sample showed very small spotted oxidized spots probably alteration of magetite or original iron sulphides. This sample gave assay returns of 0.77 Copper. Sample "O" of a siliceous fibery country rock, particularly light colored, was taken about 300 feet southeast of where "R" was taken (i.e., directly to our backs). This sample gave assay results of 0.09% Copper. It was not vein material.



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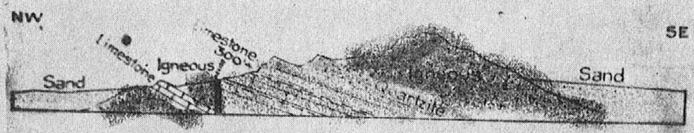

Fig. 42.—Section across outlying ridge of La Paz Mountain, 5 miles northwest of Quartzsite.

Scott-Weaver Copper Mine

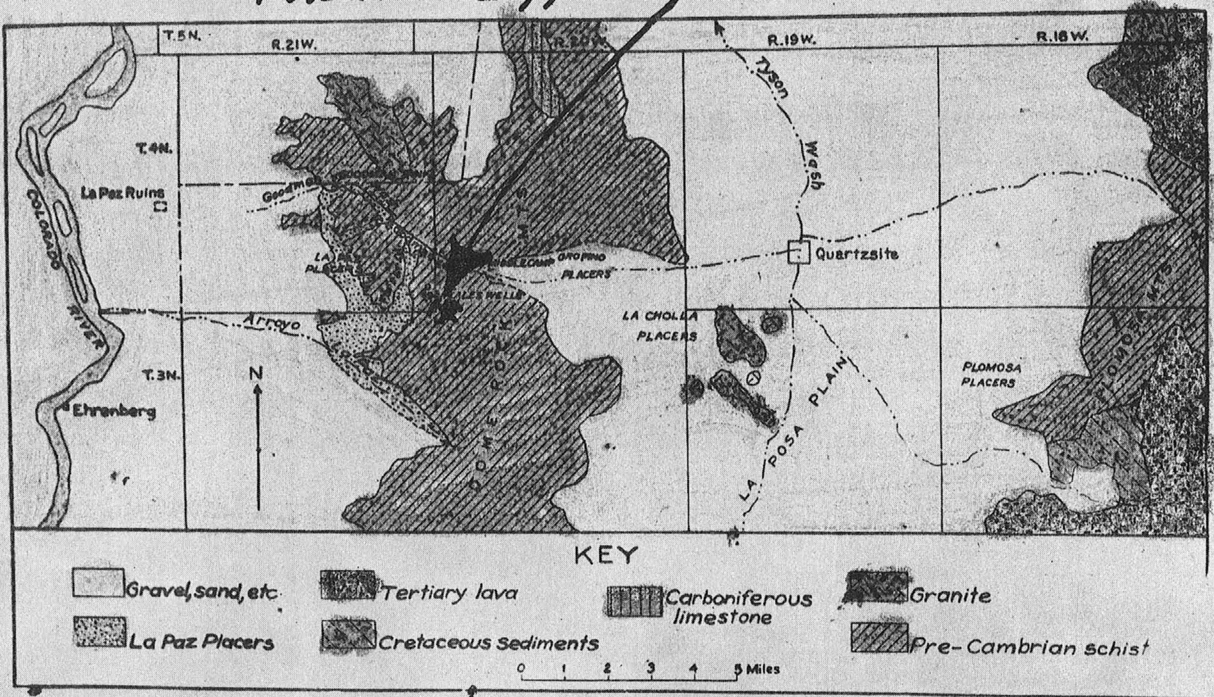

Figure 4. Preliminary geologic reconnaissance map of part of the Dome Rock and Plomosa mountains, showing gener location of La Paz, Plomosa, La Cholla, Oro Fino, and Middle Camp placers.

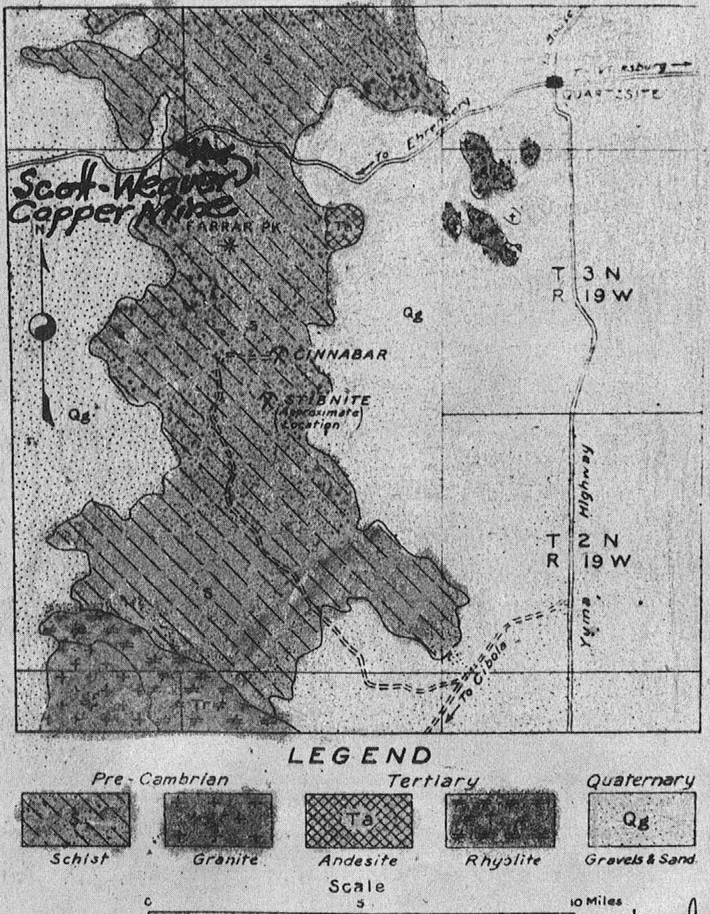

Fig. 2.—Geologic map of the central portion of the Dome Rock Mountains.

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latter probably resulting from the decomposition of the feldspar; Epidote is present in almost all of the schists, some of which are highly chloritized. Near the Scott-Weaver vein the wall rocks show some calcite and epidote, with some zoisite.

A light-colored, medium-grained quartz monzonite porphyry has intruded the series of schists, and judging from the exposures, has stopped near the base of the sediments, especially northerly from the Scott-Weaver copper mine , about one mile distant. This plutonic igneous rock contains a pinkish orthoclose and some greenish (and in places white) plagioclose feldspar.

The occurrence of conglomerates and quartzites in the sericite schists, together with evidence of bedding in the Phyllites, points definitely to a sedimentary origin of the materials from which the schists have been derived.

DOME ROCK MOUNTAINS
BASAL COMPLEX AND INTRUSIVES

Dome Rock Mountains consist almost exclusively of rock of the basal complex, but felsitic intrusive rocks of Tertiary age and some lavas occur in the La Paz section of these mountains. The portion of La Paz Mountain in the Colorado Indian Reservation was examined by E. L. Jones, Jr. (Ref. Bull. 620, pages 47-48, 55-57), who found much greenish-gray to black schistose prophyry rock, probably a metamorphosed quartz. Monzonite, a quartz porphyry, and amphibolite and biotite schist probably derived from deabase and diorite. A light-colored granitic rock was also noted intruding the schists.

METAMORPHIC ROCKS

The metamorphic rocks in the Dome Rock Mountains consist of sericitic, quartzitic, and conglomeratic schists of sedimentary origin, and chloritic schists probably derived from basic igneous rocks. The prevailing direction of the schistosity is northwest-southeast with dips at steep angles. In the immediate vicinity of the Scott-Weaver copper mine the strike is N. 50° W. and the planes of schistosity dip 38° to 40° to the northeast.

Here the quartz-sericite schists are the most common variety, and show considerable variation, both in texture and composition. Usually these schists are of a light gray color, but where chlorite or green biotite becomes abundant, the rock shows a decided greenish color. Some bands consist of dark brown slate. The parting planes of these schists are generally well developed, and the satiny sheen is due to the abundance of sericite. However, some varieties do not cleave readily, and consist almost entirely of quartz grains. They may be classed as quartzites, but, as they part more readily in one direction under a blow of the hammer than in others, and as these parting faces show that some mica has been developed along them, they are here classed as quartzitic schists. They are not abundant, and form but a few beds in the metamorphic sedimentary series.

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A microscopic examination of these schists, according to Carl Larsen, Geologist, shows that they are composed largely of quartz and sericite in varying amounts. One slide, however, contained in addition some grains of acid plagioclase, orthoclase, and zircon, and showed small needles of opalite in the quartz grains.

One phase of the schist has a strikingly mottled appearance, and close inspection shows it to contain numerous minute octahedra of magnetite. A grab sample of this surface altered schist showing oxidized specks of magnetite gave assay returns of 0.77% copper.

SCHISTS ARE PRE-CAMBRIAN

Throughout southern and southwestern Arizona are isolated exposures of metamorphic rocks, chiefly schists and gneiss, invaded by batholithic masses of granite. At places these metamorphic rock are unconformably overlain by fossiliferous Cambrian formation; but in these Dome Rock Mountains all the Paleozoic formations have been removed by erosion. Definite evidence of the age of these schists is therefore not available, and they have been, and are here also, tentatively assigned to the pre-Cambrian.

IGNEOUS ROCKS

Probably a granitic magma invaded the schists at considerable depth and permeated favorable portions of these with hot, pegmatic emanations that were high in silica and alumina but contained also some boron, iron and titanium. It might well be that the granite several miles to the south of the Scott-Weaver mine could have so invaded the local schists. The distribution of the resultant minerals, which appear to have replaced metasomatically the schist, indicates these emanations to have been very fluid and possibly under great pressure.

INTRUSIVE GRANITE

The southern end of the Dome Rock Mountains consists of a coarse-grained granite of uniform texture. This rock is composed chiefly of quartz, potash feldspar, and biotite. It invades and is therefore younger than the schist. About a mile south of Quartzire are a few low hills of disintegrated granite that resembles the granite in the southern end of the range (see map). Pegmatic dikes and quartz-tourmaline veins in the schists are probably offshoots from the granitic mass. Like the schist, this granite is believed to be of pre-Cambrian age, and in the absence of evidence to the contrary is assigned to that division of geologic time.

DEPOSIT OF HYPOGENE ORIGIN

Ransome proposed the term hypogene for minerals deposited by ascending hot solutions, and supergene for minerals deposited by downward-moving cold solutions. Hypogene enrichment, therefore, is enrichment brought about by ascending solutions, and the term has been broadened to cover all such enrichments no matter whether they were deposited from hot or cold solutions. Although

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in the ores of this La Paz-Weaver district the copper, and some Silver and gold, was deposited in the latter part of the dyke or vein formation, it appears to be of hypogene origin.

DISCUSSION OF ORE ZONES

Where several different metals are present in a solution rising through the earth, the deposition of all will not begin at the same point, but, on the contrary, ores of a certain metal will be precipitated at the greatest depth, ores of another metal may be formed above this point, and ores of a third metal may possibly be deposited still higher. In the light of our present knowledge it is possible to divide deposits of primary ore minerals according to the depth or temperature at which they were formed into a number of more or less distinct zones. It is the intent here to discuss this subject in order that the reader of this report may have a clearer understanding of what has most likely happened when the copper deposit of the Scott-Weaver Copper Mine was originally formed. The most important and widely recognized zones, according to Spurr, with the uppermost at the top of the list, are as follows:

The Silver zone.
The Lead (galena) zone.
The Zinc (low-iron sphalerite or blende) zone.
The Arsenic (arsenopyrite) zone.
The Copper (chalcopyrite) zone.
The Iron (pyrite) and gold zone.
The rare earth metals or pegmatite zone.

Cooling magma usually has an upper surface that is roughly dome-shaped; at one point it approaches the surface much closer than elsewhere.

Each zone is apt to be deposited approximately the same distance from the source of the mineralizing solutions. The different ore zones may form a series of shells which are only approximately parallel to the roughly dome-shaped upper surface of the deeply buried mass of igneous rock from which the mineralizing solutions were expelled as the magma cooled.

COPPER ZONE ONLY AT SCOTT-WEAVER MINE

Quite often one or more of the above zones are missing, due to the original nature of the cooling magma and even other causes, but the order of deposition is, within limits, consistent as outlined above. It so happens that the exposures at the Scott-Weaver Copper mine indicate the copper zone and to some extent the iron-gold zone. So far no lead or zinc minerals have been uncovered. It is my opinion that minerals of the zones above the copper zone are, for all practical purposes, non-existent at this Scott-Weaver Copper mine. If found, I feel sure, they will be at some distance from the present mine exposures.

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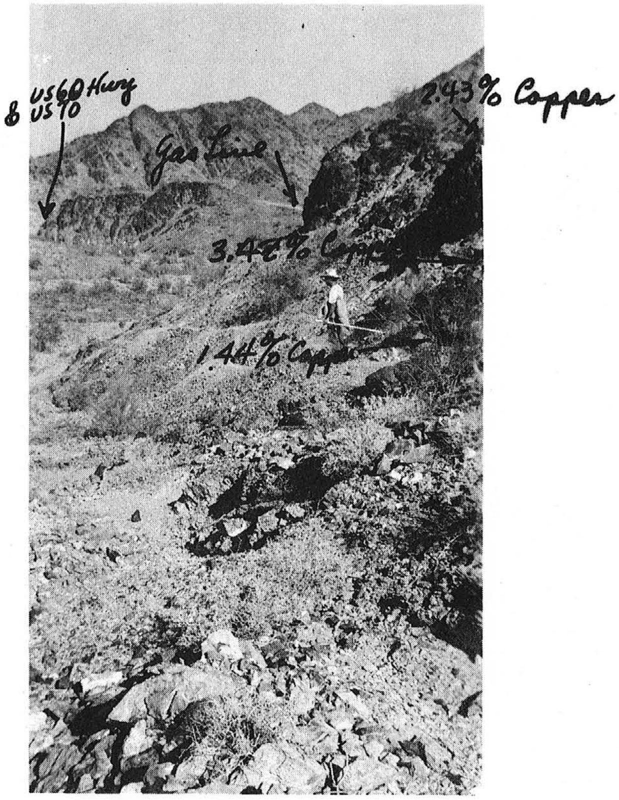
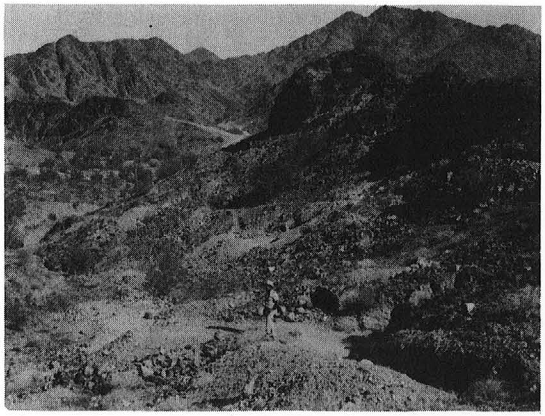
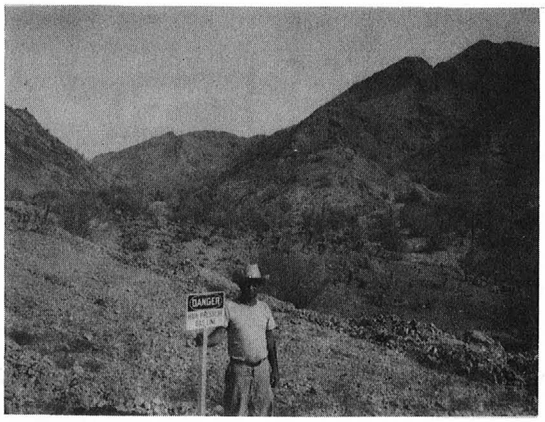


Photograph "5" is looking N.W. on the opposite (westerly) side of the dyle-vein outcrop showing some of the openings from which samples were taken giving assay returns from the surface workings between 0.45% to 3.42% copper. Again this shows Ben Scott, the locator, in the picture. Much of this ore showed crysocola.





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ARID REGION

The Scott-Weaver Copper deposit is in a very arid region, with very little rainfall, and therefore little surface percolating waters. So far I have not observed any evidence to believe that it has been otherwise. Deposits of easily soluble minerals may remain comparatively unleached in such arid regions.

DISCUSSION OF COPPER DEPOSIT

When copper is deposited above the ground-water level, it occurs as green or blue hydrous silicate (chrysocolla), red or black oxide (cuprite and tenorite), or native metal, while where precitated below water, it is often present as secondary sulphides, such as chalcocite (copper sulphide glance) and covellite (copper sulphide), associated with the primary ore minerals and gangues.

COPPER DEPOSIT ASSOCIATED WITH SCHIST

It has been observed that copper ores are found associated with igneous rock that is neither extremely acid or basic, or in igneous rocks such as monzonite or allied species. Another frequent associate, especially in Arizona, is schist. The Scott-Weaver copper deposit is definitely associated with the schist.

MINERALS IN SCOTT-WEAVER COPPER DYKE

The Scott-Weaver "so-called" dyke is made up largely of schist and in places has a porphyritic structure. Only occasionally is evidence of copper ore actually exposed. But this is due largely to the definite surface leaching. Because of the arid conditions existing here, the surface leaching has not penetrated far below the surface, in fact, only a comparatively few feet. The presence of magnetite was noted, together with reddish and orange yellow iron stains, very likely an alteration product of the magnetite. Some siderite was noted, especially where quartz was in evidence. Although by no means rich in gold, such rock did on fine crushing and subsequent panning produce fine particles of gold in uncommercial quantities. Where exposed by trenching the rock shows carbonates of copper, malacite and more often azurite. This dyke zone is over 100 feet wide and has been opened up over 1000 feet in length. At least one-half the shallow trenches and cuts show chrysocolla, and in several places, including the exploration trench (see photo) southeast of the tunnel portal, the ore often contains besides thin to as thick as 1/2 inch uneven layers of chrysocolla, coatings and at times thin bands of azurite, cuprite, and occasionally native copper metal, and several places chalcopyrite occasionally with bornite stain was observed. In most places these minerals occur as very thin, but usually comparatively numerous, seams in the rock, with so far undetermined pattern of deposition. Alteration iron products usually are associated with the copper minerals, although in small amounts. The rocks have a high silica and alumina content (see assays) Most of the copper-bearing rock is fairly light colored, except those immediately at the surface. There is no question but that this dyke and surrounding schists have been metamorphosed, probably produced by the intrusion of the granite in this general

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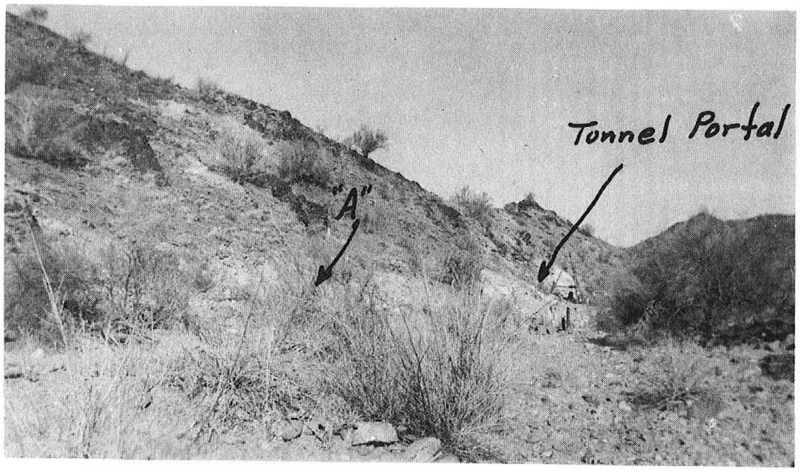
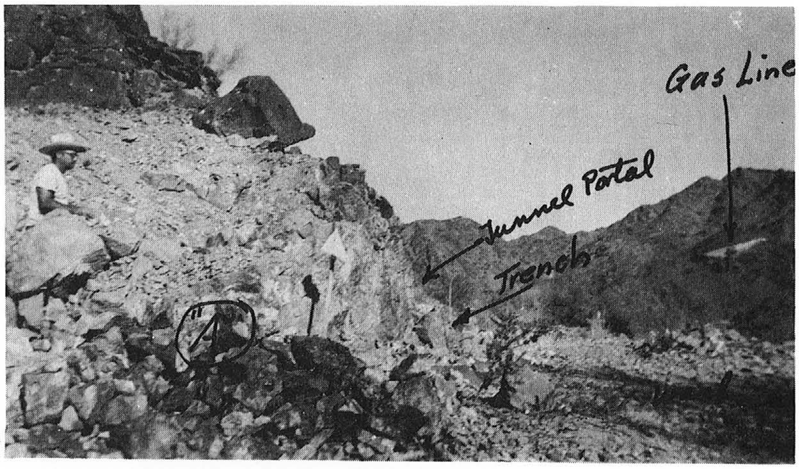


Proceeding west-northwest about 1,000 feet from the main wash, this second photograph "2" was taken looking west-northwest. The tripod in front of the tunnel portal can be seen clearly. The skyline to the left center is the surface out-crop of the dyke-vein mentioned in this report.



This shows Ben Scott, one of the locators of this group at S.E. end of trenching about 240 feet S.E. of tunnel portal. The darker dump in the foreground contained much blue crysocola and some azurite was where sample "A" was taken, which gave assay results of 3.16% Copper. About 120 feet S.W. of this place was where a sample of sericized schist country rock was obtained which gave assay results of 0.05% Copper. Apparently the country rock adjacent to the dyke-vein does contain a minute amount of copper. (This is Photograph "3").

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vicinity. The occurrence of oxidized copper minerals in the ore suggests that sulphide, either bornite or chalcopyrite, may be found below the oxidized zone.

A little amphibolite, epidote, and some chlorite were noted as associated with the deposit, especially where the dyke extends southeastwardly and outcrops on the opposite side of the wash about 900 feet southeast of the tunnel portal. Specularite, probably of secondary origin, is noted in some of the trench and cut exposures. Secondary specularite was noted on several specimens found on the tunnel dump.

SOME SUPERGENE DEPOSITION

Undoubtedly the relatively shallow leaching of the copper near the surface has been redeposited within comparatively shallow depths below the surface. Such surface leaching and where the limited surface waters carried the copper to be redeposited below the surface is termed supergene, while the original copper minerals were deposited from ascending solutions or gases and are termed hypogene.

COPPER SULPHIDES IN TUNNEL WINZ

The tunnel (see photo) was driven southwestwardly into the dyke from the northeasterly side about 75 feet, then a perpendicular winz was sunk about 23 feet; then at about 43° to the north-northeast it was sunk another 45 feet. About 12 feet of drifting was prosecuted NW and SE from the bottom of this winz. Sulphides of iron and copper (chalcopyrite) was encountered at the 22-foot level in the winz below the tunnel level. These sulphides continued and are in the bottom winz workings. Occasionally there are places in these sulphides where there is some oxidized copper minerals, but at the bottom of the winz only the sulphide was in evidence. Several samples of this sulphide ore have been assayed (see certificates). The results are confined to a limit of 1.5% to 1.58% copper content, according to the assay results.

ASSAY RESULTS

The assays of the surface ores range up to over 3% copper, most however are in the neighborhood of 2% copper. Twelve check samples, taken at the time of my examination from surface exposures (A, B, C, D, G, H, J, K, L. N, P, Q) gave an average assay value of 1.80% copper. A sample of the sulphide ore from the winz gave an assay return of 1.58% copper. Two samples, outside but adjacent to the dyke area, of country rock schist gave returns of minus 0.05 copper. To me this simply indicated that the adjoining country rock contained also a minute amount of copper. One sample "O" was taken about 1,800 feet southeast of the tunnel portal on the opposite side of the wash was siliceous country rock and particularly light colored. The assay returns showed 0.09% copper.

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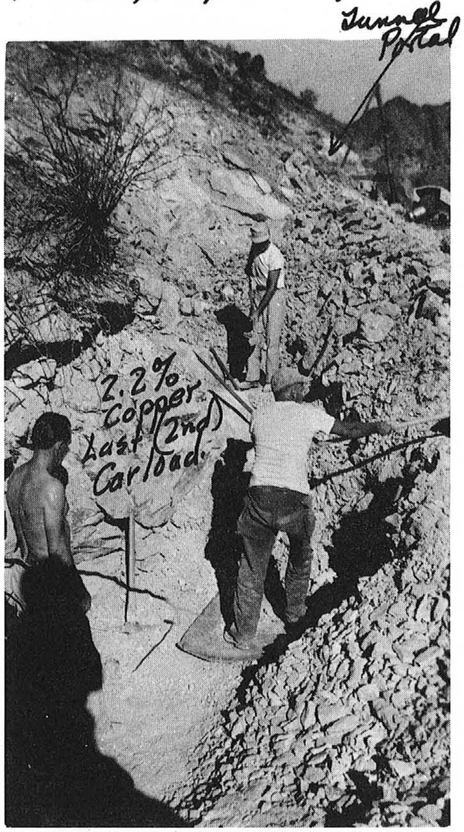
Photograph #4



This is the surface exploration trench from which two carloads of ore have been shipped to better sample the deposit. The first carload included rock from the surface and contained 1.1% copper (see smelter returns). The rock being extracted in the above photograph "4" made up the second carload. The smelter paid for 2.1% copper in this latter carload, according to the settlement sheet from the Hayden (Arizona) smelter. Again this carload was shipped to better sample the exposures. Note also the tripod at the tunnel portal directly in the background. The ore from this trench about 125' long at the time of my examination (now extended), contained, Crysocola, Azurite, some Malachite, small amount of native copper, Bornite stained bits of chalcopyrite, iron oxides, all in the same pieces. This, of course, is in the oxide and carbonate zone.

E. Ross Householder

[illegible]
E. ROSS HOUSHOLDER,
Registered Professional Engineer
CONSULTING ENGINEER
OFFICE: [illegible]
[illegible] COURT HOUSE
KINGMAN, ARIZONA

FORM [illegible] McGREW PRINTERY

AMERICAN SMELTING AND REFINING COMPANY
HAYDEN PLANT

Shipper: Royal Investments, Inc.
Hayden, Arizona, August 27, 1956
Address: 1132 South 5th Street Las Vegas, Nevada
Smelter Lot: 530
Shipping Point: Blythe, California
Class: Crude
Shipper's Lot: 1

CAR		WEIGHT IN POUNDS				
Number	Initial	Gross	Tare	Net	H_2O	Dry Weight
65363	AT	166220	66400	99820	0.8	99021
		Tons		49.9100		49.5105

N. Y. QUOTATIONS

Settlement Date	8/14/56
Bill Lading Date	8/9/56
Silver	
Less	
Net	
Copper	.39555
Less	.032
Net	.36355

Elements	Assay Per Ton of 2000 Lbs.	
Gold		Oz.
Silver	.13	Oz.
Copper	1.10	%
		%

BASE CHARGE: F.O.B. Hayden
.................% of $.........
Bul

Analysis			
Insoluble	90.5		%
Silica	71.6		%
Alumina	12.2		%
Zinc			%
Sulphur			%
Iron	2.0		%
Lime	.6		%
			%

Magma Copper Company
ASSAY CERTIFICATE "A"

Date 4-25-56

Ben J Scott
Box 69
Quartzite, Ariz

No.	LOCATION & REMARKS	CU %	AG OZ	AU OZ	SiO_2	Al_2O_3
	Sample #1	0.80	0.10	0.01		
	" #2	1.45	0.10	0.01	71.2	9.4
	" #3	2.45				

M. B. [illegible]
CHIEF CHEMIST

MEMBER
AMERICAN SOCIETY FOR
TESTING METALS

TESTING LABORATORY
300 W. BOSTON AVENUE
LAS VEGAS, NEVADA

DATE July 19, 1956

DETERMINATION

...s per ton . . . . .40 oz. Silver
@ $0.905 per oz. . . . . $.36
. . . . 4.77% Copper

Respectfully submitted,
NEVADA TESTING LABORATORY
By O. J. Scherer, P.E.

84

Custom Assay Office
ASSAY CERTIFICATE
J. W. (Jack) Sharpe, E.M.
Assayer

A.H. Ellett .... Wickenburg, Arizona ...... 8/28/56 .... 19....

	OWNER'S MARK ON SAMPLE	GOLD		SILVER		PER CENT OF			TOTAL VALUE PER TON
		OZ. TON	VAL. TON	OZ. TON	VAL. TON	Cu			
1						1.7			

...t $......... per oz.

Charges $ 1.50 Paid

J W Sharpe .... Assayer

SAMPLES NOT KEPT OVER 30 DAYS EXCEPT BY REQUEST

SAMPLES SENT BY MAIL WILL RECEIVE PROMPT ATTENTION

CERTIFICATE OF ASSAY FROM LABORATORY OF
ESPERANZA CORP.
ASSAYERS, CHEMISTS, METALLURGISTS
ANDY DEVINE AVE.
KINGMAN, ARIZONA

A. H. Ellett
Aug. 21, 1956 195__

OFFICE NUMBER	OWNER'S MARK	GOLD, PER TON		SILVER, PER TON		TOTAL VALUE GOLD & SILVER	COPPER PER CENT	LEAD PER CENT	ZINC PER CENT	PER CENT
		OUNCES	VALUE	OUNCES	VALUE					
216	Gold-Silver-Copper--#1 access road	.02		1. 2			3.41			

LINCOLN KERN
DEC 31, 19
ARIZONA, U.S.A.

GOLD $35 PER OUNCE
SILVER 90 CENTS PER OUNCE

Wm L Kern
REGISTERED ASSAYER

MOHAVE MINER PRINT

E. Ross Housholder

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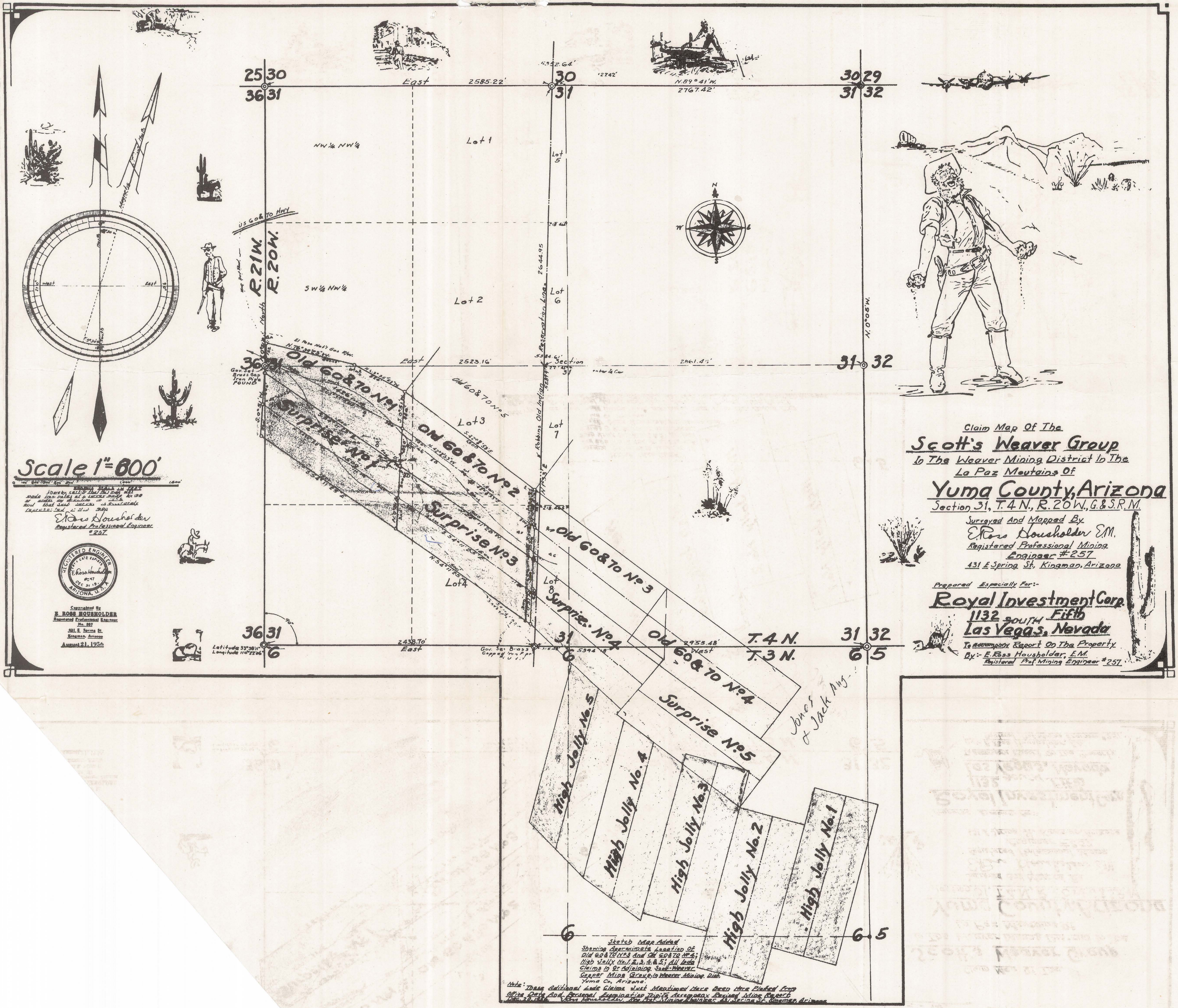

Claim Map Of The
Scott's Weaver Group
In The Weaver Mining District In The
La Paz Moutains Of
Yuma County, Arizona
Section 31, T. 4 N., R. 20 W., G. & S. R. M.

Surveyed And Mapped By
E. Ross Housholder E.M.
Registered Professional Mining
Engineer #257
431 E. Spring St., Kingman, Arizona

Prepared Especially For:-
Royal Investment Corp.
1132 SOUTH Fifth
Las Vegas, Nevada

To accompany Report On The Property
By:- E. Ross Housholder, E.M.
Registered Prof. Mining Engineer #257

Scale 1" = 800'

I hereby certify that this map was made from notes of a survey made by me or under my direction in 1956 and that such survey is accurately represented on this map

E. Ross Housholder
Registered Professional Engineer
#257

E. Ross Housholder
#257
DEC 31 19

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E. ROSS HOUSHOLDER
Registered Professional Engineer
No. 257
431 E. Spring St.
Kingman, Arizona
August 21, 1956

Sketch Map Added
Showing Approximate Location Of
Old 60 & 70 No 3 And Old 60 & 70 No 4;
High Jolly No. 1, 2, 3, 4, & 5; All lode
Claims In Or Adjoining Scott-Weaver
Copper Mine Group, In Weaver Mining Dist.
Yuma Co., Arizona.

Note: These Additional Lode Claims Just Mentioned Have Been Here Plotted From Office Data And Personal Examination Trip, To Accompany Revised Mine Report. Dec. 20, 1956. E. Ross Housholder, Reg. Prof. Mining Engineer, 431 Spring St., Kingman, Arizona

Samples Not Kept Over 30 Days Except By Request

Samples Sent By Mail Will Receive Prompt Attention

CERTIFICATE OF ASSAY FROM LABORATORY OF

ESPERANZA CORP.

ASSAYERS, CHEMISTS, METALLURGISTS
ANDY DEVINE AVE.
KINGMAN, ARIZONA

FLOTATION TESTS
CYANIDE TESTS

PHONE BLUE 493

Mr. E. Ross Householder, E.m.,
Reg. Prof. Engr., 257
431 E. Spring St.,
Kingman, Arizona.

September 15, 1956. 195

OFFICE NUMBER	OWNER'S MARK	GOLD, PER TON		SILVER, PER TON		TOTAL VALUE GOLD & SILVER	COPPER PER CENT	LEAD PER CENT	ZINC PER CENT	PER CENT
		OUNCES	VALUE	OUNCES	VALUE					
	A						3.16			
	B						2.43			
	C						0.99			
	D						2.61			
	E						0.50			
	F						0.18			
	G						0.45			
	H						1.80			
	J						2.34			
	K						0.90			

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Gold $35 Per Ounce
Silver 90 Cents Per Ounce

REGISTERED ASSAYER
CERTIFICATE EXPIRES
WILLIAM LINCOLN KERN
DEC. 31, 1956
ARIZONA, U.S.A.

Wm L. Kern

REGISTERED ASSAYER

MOHAVE MINER PRINT

SAMPLES NOT KEPT OVER 30
DAYS EXCEPT BY REQUEST

SAMPLES SENT BY MAIL WILL
RECEIVE PROMPT ATTENTION

CERTIFICATE OF ASSAY FROM LABORATORY OF

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September 15, 1956. 195

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		OUNCES	VALUE	OUNCES	VALUE					
	L						0.81			
	M						1.58			
	N						3.42			
	P						1.26			
	Q						1.44			
	R						0.77			

WILLIAM LINCOLN KERN
DEC. 31, 1956

GOLD $35 PER OUNCE
SILVER 90 CENTS PER OUNCE

MOHAVE MINER PRINT

Wm L. Kern REGISTERED ASSAYER

E Ross Householder

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SAMPLES NOT KEPT OVER 30 DAYS EXCEPT BY REQUEST

SAMPLES SENT BY MAIL WILL RECEIVE PROMPT ATTENTION

CERTIFICATE OF ASSAY FROM LABORATORY OF

ESPERANZA CORP.

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FLOTATION TESTS
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~~Kingman, Arizona.~~

September 15, 1956 195

OFFICE NUMBER	OWNER'S MARK	GOLD, PER TON		SILVER, PER TON		TOTAL VALUE GOLD & SILVER	COPPER PER CENT	LEAD PER CENT	ZINC PER CENT	PER CENT
		OUNCES	VALUE	OUNCES	VALUE					
	Country Rock						minus 0.05			
	Schist						minus 0.05			
	"O"						0.09			

WILLIAM LINCOLN KERN
DEC. 31, 1956

GOLD $35 PER OUNCE
SILVER 90 CENTS PER OUNCE

MOHAVE MINER PRINT

Wm L. Kern
REGISTERED ASSAYER

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21 SAMPLES, AVERAGE 1.85% COPPER

	Copper	
Sample #1	0.80%	Sample by Ben Scott
" #2	1.45%	Ditto
" #3	2.15%	"
8/28/56-1	1.70%	Sample by A. H. Ellett (composite)
#216	3.41%	Ditto (select)
7/19/56	4.77%	" (selected blue ore chrysocola)
A	3.16%	SE portion Vein Ore Exposure
B	2.43%	22 ft. trench SW side High Ridge above tunnel.
C	0.99%	Down NW Side Hill 50' below Bard Cut
D	2.61%	Blue Cut (composite) just below ridge above tunnel NW
E	0.50%	50' NW and 60' below surface rock
F	Lost	This sample was lost
G	0.45%	200' NW of Tun. along trail.Surf.rock
H	1.80%	NE side High Ridge 150 ft. from Tun.
J	2.34%	50 ft. above & NW of H
K	0.90%	SE end of NE Side next wash
L	0.81%	Surface float above tunnel
M	1.58%	Sulphide Ore from Tunnel Winz
N	3.42%	Blue Ore - 60 ft. below J; abt. 700' NW of Tunnel
P	1.26%	About 200 ft. NW of "A" - SE end line
Q	1.44%	
R	0.77%	This sample Surf. Rock; sericized; near SE Endline, showing very small spotted black oxidized spots (probably originally iron sulphides).

The above 21 **assay** returns (38.75 ÷ 21 = 1.85) indicate an average of 1.85% copper. Time and facilities did not permit weighted samples. This is slightly higher than the "Composite" Sample dated 8/26/56 taken by A. H. Ellett as recorded in your company files. This "average" gives us the best data on the copper content of the Scott-Weaver Copper Mine deposit at this time.

GREEN AND BLUE SAMPLES

Two other samples are recorded in your company records, that the EISENHAUER LABORATORIES gave assay results as follows (dated July 26/1956):

Sample Mark	oz. Gold	Oz. Silver	% Copper
Ariz. Copper Blue	0.02	0.70	14.1%
Ariz. Copper Green	0.01	0.35	2.7R

Your company records show that these two samples were selected, to determine the difference in copper content of the two differently colored samples, and are recorded here to complete the record.

Tunnel Winz (1.50% Copper) Sulphide Ores gave concentrates of 60.01% Copper per laboratory test

E. Ross Householder

According to your company records, a sample of the sulphide ores extracted from the Tunnel Winz was deposited by J. Greenwood for you with the Eisenhauer Laboratories, 316-122 South San Pedro Street, Los Angeles, California, from which they made a laboratory mill run. A copy of the assay results was mailed to me, at your request, by THE EISENHAURER LABORATORIES, for my information, under date of Sept. 18, 1956. The assay results shown on the certificate included the following:

Sample Designation	oz. Silver Per Ton	Percentage Copper
HEADS	0.80	1.50%
Pulp Tails	0.72	0.08%
#19 Sol. Heads	0.04	0.41%
Sol. Tails	trace	0.04%
Concentrate	0.16	60.01%

"Weight of Concentrates 1½ lbs.)
(Re: Test on Sample containing oxides and carbonate are below: Per your record)

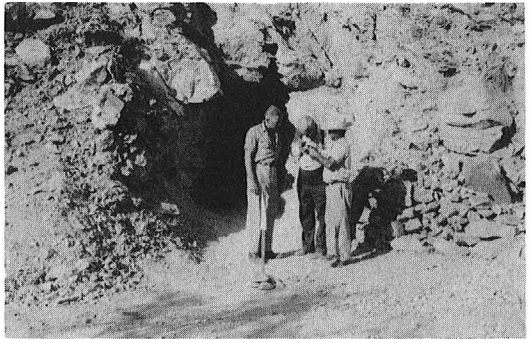
#16 Conc.	65.01%
#16 Sol. tails	0.05%
#16 Pulp Tails	0.07%
#16 Sol. Heads	0.57%
#16 Head Sample of Solution	trace
#16 Head sample	2.25%

TUNNEL WINZ SULPHIDE SAMPLES CHECKED

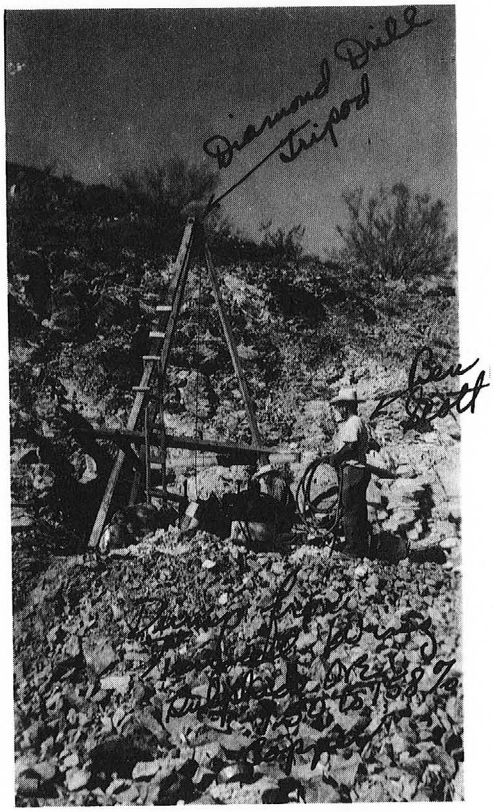
The 1.50% copper assay of the "Heads" sample of these copper-iron sulphide ores corresponds to the sulphide sample that I took from the ores mined in the Tunnel Win z. I got 1.58% assay returns on my sample. The 60.01% copper content for the concentrates produced in the laboratory is equivalent to 1200.2 lbs. of copper per ton.

LABORATORY TEST OF OXIDES AND CARBONATE ORES

The "Head" sample of the oxide and carbonate ore was 2.25% Copper. According to the EISENHAURER certificate, the concentrate produced in the laboratory from this sample was 65.01% Copper, equivalent to 1300.2 lbs. per ton of concentrate.



E. Ross Housholder



This "5" photograph, looking westerly from the main wash shows a part of the dump from the tunnel and tunnel winz referred to in this report. The portal of the tunnel is shown back of the tripod. Ben Scott, locator of this group, is the figure on the dump in the foreground with the water hose in his hand. Other workmen on the diamond drilling rig are also shown. On either side of the portal samples gave assay returns of 1.45% and 2.15% copper. Sulphide ores from this dump obtained originally from the winz off the tunnel level (see report proper) were laboratory tested for concentration. The heads contained 1.50% to 1.58% copper.

Note: Since the examination of the property was made this diamond drilling was started. At 172 feet depth the sulphide ores were encountered. Some native copper showed up in the core samples prior to that depth. Because of the drilling results thus obtained and the results of the second carload shipment, for which the Hayden (Arizona) smelter paid off on a basis of 2.1% copper (taken from trench shown in photograph "4") I revised by tonnage estimate, shown in this report.

E. Ross Housholder

TONNAGE ESTIMATES

You will notice on the following chart the Terminology use. In making estimate of the possible ore or even expectant ore, geological conditions, the persistence of ore in this type of deposit and other data are taken into consideration.

Type of Ore	TONS
	SCOTT-WEAVER COPPER MINE DEPOSIT
Positive Ore	70,000
Additional Ore Developing	85,000
Total Probable Ore	155,000
Additional Possible Ore	270,000
TOTAL Possible Ore	425,000
	Based on the knowledge of copper deposits in this type of deposit and the existing characteristics in evidence at this copper mine, I estimate and expect your future development of this deposit will reasonably uncover an additional tonnage, hereby tabulated.
Additional ORE EXPECTANT	750,000
Total for all Expectant Ore	1,275,000

(Note: As your exploration program proceeds I feel that these figures may then be revised upward for the terminology used.)

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MINERALIZATION ALONG FAULT

Judged by the surface exposures the mineralization seems to have taken place along a northeasterly dipping fault (35° to 40°) that has an approximate S. 60° E. strike, and which is filled mainly with brecciated schistose country rock variously cemented by siliceous material. The vein-dyke does not follow the planes of schistosity, but cuts across them. One specimen of ore shows a breccia of siliceous fragments cemented by altered hematite, with a little chrysocolla, malachite and azurite, the copper apparently having been later than the others.

It is possible that the waters accompanying the intrusion of the granite, exposed several miles south and several miles east of this Scott-Weaver Copper Mine, are responsible for the quartz lenzes found in this part of the La Paz section of the Dome Rock range.

The plausible supposition is that the copper deposit was formed by hypogene solutions, which have since been leached and very near the surface and the dissolved copper redeposited within the first 100 feet of the surface. This supergene enrichment apparently does not account for over 20% of the copper values of these comparatively surface ores, and the oxidized zone is transitional into the sulphide zone, which is indicated by the sulphide ore opened in the winz of the tunnel at about 75 feet below the surface. Due to the extreme arid condition and slight rainfall over an extensive surrounding area, I believe that the sulphide zone will extend from this depth without any particular enrichment, but very likely with copper values near those indicated and already sampled from this sulphide zone (see assay certificates).

DIAMOND DRILLING RECOMMENDED

To better determine the economic worth of the expected ores, I have suggested to the operators that the deposit be explored by diamond drilling to better determine the quality and extent of the deposit. The first diamond drill holes have been started, and a note will be included in this report if time permits.

CARLOAD SAMPLING SUGGESTED

Also I suggested that trenches be prosecuted in various parts of the copper-bearing dyke to expose the ore at least below the leached surface crust, and if convenient to make carload shipments of ores thus encountered as a means of sampling the deposit.

DISCUSSION OF POSSIBILITIES

It is questionable if the ores in the Scott-Weaver Copper Mine underground workings could be mined by individuals depending upon the efforts of themselves and a few helpers at a profit, with the lack of needed facilities at their disposal, under the physical conditions existing at the mine, now, and therefore, so far as we are concerned, ore would not exist. **PROFIT** is an essential ingrediant in the definition of ore.

/ E. Ross Housholder

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There is very little ore exposed on three sides within a reasonable distance of each other on this Scott-Weaver mine, and, therefore, it could not be designated as Ore Blocked Out or Blocked Out Ore. Certainly there is no ore in your estate that could be classed as being exposed on four sides, and so, with but one exception, only 70,000 tons could be designated as Ore Developed, or Positive Ore. The one exception is the area including the winz workings below the tunnel level and the surface trenching shown in accompanying photograph. The winz is between 75 and 80 feet below the surface and includes sulphide copper-iron ore discussed elsewhere in this report. At least, this would involve about 70,000 tons of ore, with a copper content ranging between 3% and 1.5%, with an indicated average of 1.85% Copper, according to sampling shown by your mine records.

ERH

Such ores as may exist below the bottom of the present winz, and beyond its sides would be now called Possible Ore, and Ores Expectant. It is my belief that there is good possibilities for a very large tonnage that probably should be entered under these two classes at this time. The efforts to examine this large dyke-vein deposit of the Scott-Weaver mine for possible occurrence of copper would be called Prospecting. It was done to explore the field of the deposit.

FAVORABLE FACTORS

There are, however, several favorable factors to be considered. Since the original owners took an active part in development work it brought to light the fact that this wide dyke-vein has been penetrated by the tunnel and winz, trenched, cross-cutted, and pierced by cuts, shallow shafts, to such an extent that its expectant wealth of ore, and possible continued indicated copper content at farther depth, judging from the production history of similar mines in the state, is demonstrated. The indicated value of the ores, shown by your assay records, and the copies of laboratory milling tests, and shipping records, (made for the purpose of sampling this property), supplemented with past production experience in similar deposits, it would seem there was a reasonable opportunity of combining several situations in such a manner as to make these possible and expectant ores into a commercial product.

From the present knowledge of the assay value, width, and apparent depth and length of the dyke-vein ore zone, together with the similarity to other proven ore deposits mined at a profit, occurring under reasonable sililar geological conditions and expectancy, by following out the suggested development program, expect many tons of possible ore. It becomes apparent that with the suggested development, following the outlined diamond-drilling exploration program, this would be a chance of combining the several situations mentioned in this report in such a manner that subsequent exploitation would make a commercial venture.

At the present time there are several portions of your property from which a limited tonnage of sortable ore can be taken which could be shipped, while thereare unexplored portions of the dyke-vein in which there is a tonnage of prospective ore which can be developed. With various openings on this dyke-vein there are opportunities for the

E. Ross Housholder

further blocking of ore, especially by diamond drilling. Even with the showings already made on your property, only a very small portion of this territory has been opened. This situation offers an opportunity for making history in this area of the La Paz-Weaver section of the Dome Rock Mountains in Yuma County, Arizona, as well as a profit. However, you are urged to stick to approved and mining methods of exploration and subsequent ore extraction and future treatment of such ores.

Considering the observed conditions, it is suggested that the trenching program you have started be continued from about 250 feet southeast of the tunnel portal northwest at least 1000 feet and over the 100 feet width of the Dyke-Vein (see map). These trenches need not be over 6 to 10 feet deep. Such trenches will penetrate the shallow leached shell and should enter the oxide and carbonate zone, which may show some oxide enrichment from the leaching of the shallow surface shell. While this is progressing it is suggested that you ship several carloads of ore to a suitable copper smelter, as there is no better way to actually sample your surface ore. The present indications, including the sampling results already obtained and the existing geological conditions, warrants the prosecution of a diamond drilling exploration program. It is suggested that the drilling pattern I have discussed with you be followed. Briefly, it seems that it would be well to start with a hole at the portal of the tunnel, then put another hole down 200 feet southeast and a third 200 feet northwest, both not far from the edge of the wash. If you have success in recovering a sampling core that can be properly sampled, a minimum depth of 150 feet is suggested. To begin with, I do not believe you would be justified in drilling over about 250 feet even if still in ore. My reason is that it is more important to penetrate the deposit far enough at more locations, to better determine the ore pattern, than to put down several deep holes. If this drilling proves what I believe to be a wide and long ore zone, then, of course, it would be well to decide, from the evidence thus presented by the previous drilling results, the location of several spots for deep-hole exploration.

Exploration of this kind, providing equipment that can provide you with a core for proper sampling is used, will afford more economical means of exploration than sinking deep expensive shafts. Then too, the information thus obtained will provide you with such information as should permit a most intelligent decision as to the proper location for an exploration and exploitation shaft. There is always the possibility that the drilling alone will provide enough information to warrant the exploitation of the deposit, using earth-moving equipment for open-pit operation. This latter would be based upon the possibility of treating such ores in a large tonnage reduction plant. Such problems as are here suggested should be solved in the future.

* * * * * * * *

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APPENDIX

A condensed description of ROCKS is here included, gleaned from pages 94 and 95 in Arizona Bureau of Miles Bulletin Vol. VI, No. 6 (1935, by Dr. G. Montague Butler. In so far as any of these terms are used in this report, the definitions of such terms are intended to conform to the following data.

E Ross Housholder
E. ROSS HOUSHOLDER, E.M.
Registered Professional Engineer #257

ROCKS

Five classesof rocks are generally recognized, namely: igneous, clastic, chemical precipitates, organic, and metamorphic. Each class may be briefly defined and described as follows:

IGNEOUS ROCKS

Igneous rocks are formed by the solidification of once molten earth material--magma. Three subdivisions of igneous rocks may be recognized, namely: plutonic, minor intrusive, and extrusive. Most igneous rocks are very hard when fresh.

PLUTONIC ROCKS: Such igneous rocks have usually cooled slowly far below the surface where the pressure is very high. They ordinarily occur in masses of great size, although relatively narrow dikes of some plutonic species, such as pegmatite, are common in some localities. Plutonic rocks are compact, composed of interlocked grains large enough to be seen with the unaided eyes, which consist of two or more ingrediants, each of which may be readily recognized by a mineralogist, and, with very rare exceptions, the more plentiful ingredients do occur in well-formed crystals.

MINOR INTRUSIVE ROCKS: Such igneous rocks are formed from magma that has risen toward the surface of the earth through cracks (forming dikes) or has spread between layers of earth material (forming sills, etc.) Part, at least, of the ingredients are forced to crystallize with relative rapidity when the magma comes in contact with cool earth material (resulting in fineness of grain), and, although the pressure on the solidifying magma averages less than on plutonic magmas, it is still relatively great, so the resulting rock is compact. All of the ingredients of some of the minor intrusive rocks are so small that none of them may be identified or even seen with the unaided eyes, but, typically, these rocks show well-formed crystals of one or two minerals embedded in a finer groundmass.

EXTRUSIVE ROCKS: Such igneous rocks have solidified on or relatively close to the surface of the earth and occur typically in surface flows, volcanic necks, and dikes. Otherwise, but the latter are frequently porous, are more commonly composed of lava glass (obsidian), and they are sometimes banded (show flow texture).

/ E. Ross Housholder

CLASTIC ROCKS

Clastic rocks are composed of fragments of other rocks, produced by weathering or mechanical disintegration. The fragments may be several inches or feet in diameter (conglomerates and breccias), much smaller, but visible to the unaided eyes (arkose, grit, and sandstone), or microsoopic (shale, clay, and some limestone). The fragments may be transported by wind and water and are usually stratified (laid down in distinct layers), especially if finally deposited in water, when they are called sediments or sedimentary rocks. The fragments are often eventually cemented together more or less firmly, but all degrees of hardness are found in clastic rocks. Such rocks contain shells or other remains of organisms (fossils).

CHEMICAL PRECIPITATE ROCKS

Chemical precipitate rocks are composed of material deposited by precipitation from water solutions, usually as the result of evaporation. The precipitate rocks are commonly interbedded with sediments that were washed into the evaporating body of water. Rock salt and gypsum are illustrations of this type of rock.

ORGANIC ROCKS

Organic rocks are composed of

(1) Material secreted or deposited by animals or plants, or

(2) Made up of animal or plant remains.

Illustrations are some limestone and coal.

METAMORPHIC ROCKS

Metamorphic rocks are made up of other rocks that have been changed in appearance or composition, or both, by pressure, heat, or solutions that have percolated through them. Two types are recognized, namely: regional or dynamometamorphic rocks and contact or thermometamorphic rocks.

REGIONAL OR DYNAMOMETAMORPHIC ROCKS: Such rocks are composed of earth material that has been deeply buried and, therefore, subjected to enormous pressure and some heat. Such rocks are often banded, hard, and composed of interlocked grains visible to the unaided eyes. They cometimes contain well-formed crystals. Illustrations are mica schist, gneiss, slate, quartzite, and some marble.

CONTACT OR THERMOMETAMORPHIC ROCKS: Such rocks are composed of material that has been changed and often baked by the heat of intrusions of molten magma and by the chemically active solutions expelled by such magma as they cool. Illustrations are garnet and epidote rocks.

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DESCRIPTION OF ROCK SPECIES MENTIONED IN THIS REPORT

ALASKITE: A granular plutonic igneous rock composed almost entirely of the relatively light colored minerals, quartz and feldspar. Like granite (which see), but lacking dark colored constituents.

ANDESITE: An extrusive igneous rock that usually contains glassy, light colored, plagioclase feldspar crystals in a darker colored, fine-grained groundmass. Does not contain visible quartz, but may contain black hornblende or black augite pyroxene crystals. The groundmass may be porous and the rock then has a very rough texture.

BASALT (MALPAIS): An extrusive igneous rock that often contains small, black crystals of pyroxene or dark green or brown crystals of olivine in a somewhat lighter colored groundmass in which may be imbedded, however, numerous small, very slender, glassy plagioclase feldspar crystals. Usually very dark colored and relatively heavy and frequently decidedly porous.

BRECCIA: A clastic rock that is composed of angular broken fragments of other rock, more or less fiemly cemented together. The fragments are often large, and must exceed 1/8 inch in diameter.

CONGLOMERATE: A clastic rock that is composed of large, rounded fragments of other rock more or less firmly cemented together; otherwise like a breccia (which see).

DIABASE: A minor intrusive igneous rock that shows numerous slender, dull or stony lustered, usually white plagioclase feldspar crystals, pointing in all directions, imbedded in a dark colored (often black on fresh surfaces) groundmass that is composed of pyroxene.

DIORITE: A plutonic igneous rock like granite (which see) in texture, but it contains no visible quartz and is usually predominantly composed of white plagioclase feldspar and black hornblende.

GABBRO: A plutonic igneous rock like granite (which see) in texture, but it contains no quartz and is usually predominantly composed of dark colored pyroxene and lesser amounts of white or light green plagioclase feldspar.

GNEISS: A regional metamorphic rock usually associated with other schists and much like granite (which see) in composition. In fact small specimens cannot always be distinguished from granite, but the rock is plainly banded when seen in the field, and white mica (muscovite) is a very common constituent.

GRANITE: A plutonic igneous rock that consists essentially of pinkish to white orthoclase feldspar and quartz, but mica, expecially black mica (biotite), is a common constituent and other and other minerals may be present in subordinate amounts.

E. Ross Householder

LIMESTONE: A rock composed essentially of carbonate of lime which dissolves with the emission of bubbles when a drop of dilute or concentrated muriatic acid is placed upon it. Depending upon its origin it may be either a clastic or an organic rock or a chemical precipitate. Most limestones are finely granular and light colored. They are often flint-like in appearance when freshly broken. They may contain fossils which are usually composed of quartz.

MARBLE: A regional or contact metamorphic rock that is formed from limestone and has the same composition as limestone, but it is rather coarsely granular so that the individual grains, which are usually glassy, and have the perfect cleavage of calcite (which see), are visible to the unaided eyes.

MONZONITE: A plutonic igneour rock like diorite (which see), but it contains both orthoclase (often pinkish in color) and plagioclase (often white or greenish in color) feldspar.

PEGMATITE: A plutonic igneous rock that occurs in dikes and is much like granite (which see) in texture and composition, but the individual grains or crystals are very large (often several inches long, or larger), and white mica (muscovite) is a much commoner constituent than black mica (biotite). May contain beryl, topaz, tourmaline, and even rarer minerals.

PERIDOTITE: A basic plutonic rock that is usually dark colored and relatively heavy. It contains no feldspar or quartz. Dark brown or green pyroxene (hypersthene, enstatite, or diallage) and olivine are the most plentiful ingredients, but it may also contain magnetite, chronite, and pyrrhotite.

PHONOLITE: An extrusive igneous rock, sometimes has a somewhat greasy luster, occurs in various tints of dull green, gray, and brown, and shows few easily identifiable minerals other than small, scanty crystals of glassy feldspar and, sometimes, numerous very thin, slender black crystals of aegerite pyroxene. One peculiarity of these rocks is that thin slabs, when suspended or held in proper way and struck with a hammer or pick, ring like a bell, hence the name, from two Greek words meaning "sound" or "tone" and "stone." Usually formed when the phonolite breaks as a molten lava up through crater fillings, and quickly solidifies in the form of dikes. Phonolite can rarely be recognized with certainty by other means than a microscopic examination of a thin section. Its presence does not necessarily indicate the near presence of any particular metal or mineral.

PORPHYRY: A minor intrusive igneous rock that, typically, shows well-formed crystals of light colored, stony lustered orthoclase feldspar, and, more rarely, quartz in a dense, fine-grained groundmass.

QUARTZITE: A regional metamorphic rock formed from sandstone. The openings between the grains in the sandstone have been filled with quartz and the resulting rock is very dense.

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SANDSTONE: A clastic rock that is composed of grains of other substances, usually largely or almost entirely quartz, which are more or less firmly cemented by silica, calcium carbonate, iron oxide, or some other substance. The individual grains are visible to unaided eyes and are of the size of coarse granulated sugar, or smaller.

SCHIST: A regional metamorphic rock that has, typically, a banded (schistose) texture and often breaks readily along the bands. There are many varieties, such as mica schist, tremolite schist, etc., each being usually named by prefixing the name of the most prominent mineral or minerals.

SERPENTINE: A rock formed by the alteration of very basic igneous rocks like peridotite (which see). It is usually soft enough to be easily scratched with a knife, has a somewhat waxy or greasy luster, feels smooth, breaks with a smoothly curving fracture, is most often some shade of green (commonly dark) in color, and light may frequently be seen through thin edges.

SHALE: A clastic rock made of layers (often as thin as cardboard, or thinner) or particles, too small to be visible to unaided eyes, of various hydrous aluminum silicates (of which kaolinite is one), quartz and other impurities. It is usually soft, smells like clay, especially when moistened, and breaks along the layers. The color is usually brown or gray.

SLATE: A regional metamorphic rock like shale in composition but much harder. It breaks into strong, thin sheets perpendicular to the pressure that produced it and the color is most frequently black.

SYENITE: A plutonic igneous rock like granite (which see), but it contains no visible quartz and black hornblende is more often present than is black mica.

RHYOLITE: An extrusive igneous rock that is usually light colored and relatively light in weight. It often contains glassy, colorless or white orthoclase feldspar crystals and, less frequently, quartz crystals imbedded in a fine grained groundmass that often feels rough. It sometimes shows flow texture (is banded) and may be glassy (obsidian). When it is very finely porpus and contains no grains of minerals visible to unaided eyes, it is called pumice.

TRACHYTE: Exactly like rhyolite (which see), but no quartz, or practically none, is visible even in thin sections under the compound microscope. It cannot usually be distinguished from rhyolite in the field.

TUFF: Composed mostly of the fine material (particles of volcanic glass) called volcanic ash that is thrown into the air during volcanic eruptions. It is usually white or light tinted, porous, light in weight, and soft. It feels rough and commonly contains angular fragments of extrusive rocks.

VOLCANIC BRECCIA: A breccia (which see) that contains numerous angular fragments of extrusive rocks.

E. Ross Housholder 34 of 38

APPENDIX TO THIS REPORT

REFERENCES TO PUBLICATIONS

The following list of publications and sources of information is here included for the information of those who may be interested.

Arizona Gold Placering Revised (Fourth Edition) by Dr. Eldred D. Wilson, et al, 1933; Ariz. Bur. Mines Bull. 135

Arizona Lode Gold Mines and Mining, by Dr. E. D. Wilson, J. B. Cunningham and Dr. A. M. Butler, 1934; Ariz. Bur. of Mines Bull. 137.

Resume of Geology of Arizona, by N. H. Darton, 1925, Ariz. Bur. Mines Bull. 119.

Geologic Reconnaissance of Western Arizona, with notes on igneous rocks. 1908; U. S. Geol. Surv. Bull. 352.

Ore Deposits in Northern Yuma County, Arizona, 1911; by Howland Bancroft; U. S. Geol. Surv. Bull. 451.

Geologic Reconnaissance of a Part of Western Arizona, by Willis T. Lee (with notes on the Igneous Rocks of Western Arizona, 1908; U. S. Geol. Surv. Bull. 352.

A Reconnaissance of parts of Northwestern New Mexico and Northern Arizona, by N. H. Darton, 1910; U. S. Geol. Surv. Bull. 435.

Resources of Arizona, by Carl Lausen, Geologist Ariz. Bur. of Mines and E. D. Gardner, 1927; Univ. of Ariz. (Bur. of Mines) Bull. No. 122.

Mineral Industries of Arizona, by J. B. Tenney, 1923, Ariz. Bur. of Mines Bull. No. 125.

Some Facts About Ore Deposits, by Dr. G. Montague Butler, 1935; Ariz. Bur. of Mines Bull. 139.

Theory of Ore Deposition, by J. E. Spurr, Economic Geology, Aug. 1912, pp. 485-492.

Primary Downward Changes in Ore Deposits, Trans. A.I.M.E., 1924, pp. 964-997.

Leached Outcrops as Guides to Copper Ore, by Augustus Locke, 1926. (The Williams and Wilkins Co., Baltimore, Md.)

Types of Ore Deposits, by R. A. F. Penrose, Jr., p. 325, 1911.

Mineral Deposits, by W. Lindgren, pp. 186-7, 1919.

Analysis of Rocks, by F. W. Clarke, 1900; U.S. Geol. Surv. Bull. 163, p. 15.

Relation of Geology to Geophysics on Gulf Coast, p. 249, Bull. Geol. Soc. of America, 1932.

Resources of states and territories west of Rocky Mountains, by J. Ross Browne, 1868.

Climate of Arizona, Univ. of Ariz. College of Agric. Bull. 130, by H. V. Smith; 1930.

Location Mining Districts in Yuma Co., by county clerk, Yuma Co., Arizona, 1911; from U.S. Geol. Surv. Bull. 451.

Pre-Cambrian Geology of North America, by C. R. Van Hise and C. K. Leith, 1909; pp. 771-779.

Enrichment of Sulphide Ores, by W. H. Emmons, 1917.

Surface Water Supply of Colorado River Drainage above Yuma, 1906, by R. I. Meeker and H. S. Reed, district hydrographers, 1908.

The Climate of Arizona, B. V. Smith, Bulletin 130, University of Arizona Agric. Exp. Station, 1930.

The Data of Geochemistry; F. W. Clarke; Bulletin 770, U.S. Geol. Surv., 1924.

The superficial alteration of ore deposits; R. A. F. Fenrose, Jr; Jour. Geology, Vol. 2, pages 314-316, 1894.

Mineral Deposits, W. Lingren, 3rd Ed., 1928.

Rocks and Rock Minerals, L. V. Perrson and Adolph Knopf (John Wiley and Sons, N.Y.C.)

Mining Geology; Geology Applied to Mining, J. E. Spurr (McGraw-Hill Book Co.)

Mineral Deposits, Waldemar Lindgren (McGraw-Hill Book Co.)

Principles of Economic Geology, W. H. Emmons (McGraw-Hill Book Co.)

Leached Outcrips as Guides to Copper Ore, Augustus Locke (Williams and Wilkins Co., Baltimore, Md.)

~~30~~

Maps Prints Reports
E. Ross HOUSHOLDER,
Registered Professional Engineer
CONSULTING ENGINEER
OFFICE: PHONE [illegible]
[illegible] OF COURT HOUSE
KINGMAN, ARIZONA

E Ross Householder

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Examinations, Surveys,
Assays, Appraisals
Confidential Reports

E. ROSS HOUSHOLDER

Registered Professional Engineer No. 257, Arizona
Licensed Land Surveyor No. 2641, California
and Mohave County Engineer

KINGMAN, ARIZONA

Residence - Office
431 E. Spring Street
Telephone Green 87

Sept. 29, 1956.

Refer: Report on Scott-Weaver
Copper Mine in Yuma
Co., Arizona.

Royal Investment Corp.,
1132 South Fifth,
Las Vegas, Nevada.

Attention: Mr. A. H. Ellett, Manager.

Dear Mr. Ellett:

At your request I have made a preliminary examination of your corporation's Scott-Weaver Copper Mine estate, especially the four lode claims, Old 60 & 70 No. 1; Old 60 & 70 No. 2; Surprise No. 1; and Surprise No. 3, which contains the copper bearing dyke-vein where your first exploratory efforts have penetrated the deposit. This part of your estate is located in Section 31, T. 4 N., R. 20 W., Gila & Salt River Meridian, La Paz-Weaver Mining District, Dome Rock Mountains, Yuma County, Arizona; and I herewith submit my preliminary report, which consists of a total of the following 38 pages (including photographs, maps, kodaprints, sketches, etc.), all of which have been individually signed, and are to be used collectively and in their entirety only.

As you suggested, I have included considerable detail data concerning the property, including geological conditions, both of the mine and area in general, in an endeavor to make the entire subject as clear to you as possible, and aid you in getting a good general idea of the entire situation.

Liberal use has been made of photographs and reference found in your mine files to complete the record, together with information obtained in reviewing literature, especially by government and state bulletins, maps and other publications. Particular attention is called also to the information contained in the appendix and bibliography lists, all of which are definitely a part of this report.

Respectfully submitted,

E. Ross Housholder

E. ROSS HOUSHOLDER
REGISTERED PROFESSIONAL MINING ENGINEER #257
Kingman, Arizona.

#257
DEC. 31, 1956

MAPS - BLUE PRINTS - BLACK AND WHITE PRINTS - MINE, RANCH & COUNTY MAPS

Examinations, Surveys,
Assays, Appraisals
Confidential Reports

E. ROSS HOUSHOLDER

Registered Professional Engineer No. 257, Arizona
Licensed Land Surveyor No. 2641, California
and Mohave County Engineer

KINGMAN, ARIZONA

Residence - Office
431 E. Spring Street
Telephone Green 87

December 19, 1956.

Refer: Supplimentary Revised Report to accompany Sept. 29, 1956 original report

Royal Investment Co.,
1132 North Fifth,
Las Vegas, Nevada.

Attention: Mr. A. H. Ellett, Manager,

Dear Mr. Ellett:

At your request I have made another examination of your corporation's Scott-Weaver Copper Mine estate and carefully reviewed the assay log certificates resulting from the 4 diamond drill holes, as well as the two carload shipment settlement sheets from the smelters. Copies of the Assay cerfificates and settlement sheets are included as part of this report. I also inspected the surface trenches and cuts you have recently made extending over a horizontal distance of 3900 feet, in which additional copper ore was exposed.

All this work you did following my suggestion to further explore your Scott-Weaver Copper Mine deposit. Photographs here included were taken at the time of my last inspection, Saturday, December 15, 1956.

Included in this additional record of your property is a revised map showing the approximate relative location of other mining claims you control in the Scott-Weaver Copper Mine Group.

The results obtained by the additional exploration work you have accomplished since my Sept. 29, 1956, original preliminary report was made, in my opinion warrants the revision of the TONNAGE ESTIMATES contained in my original reports. So, a Revised Tonnage Chart was made, in accordance with the results you have obtained, and is included as a part of this report.

It is understood that this revised report is to be added to the copy of the original report and used only in that way, i.e., as addition to the original report. This report contains, with this letter of transmittal, a total of 15 pages, including photographs, maps, kodaprints, sketches, charts, terminology, definitions, etc., all of which have been individually signed, and are to be used collectively and in their entirety, and together with the Sept. 29, 1956, original report, only.

Respectfully submitted,

E. Ross Housholder

E. ROSS HOUSHOLDER, E.M.
Registered Professional Engineer No. 257
431 Spring Street, Kingman, Arizona.

MAPS - BLUE PRINTS - BLACK AND WHITE PRINTS - MINE, RANCH & COUNTY MAPS

TERMINOLOGY: Standard terms used in this report follow definitions of those relating to the metal mining industry obtained from "A Glossary of the Mining and Mineral Industry by Albert H. Fay, published 1920, by the U. S. Bureau of Mines.

"Ore" Page 475 Bull. 95, Bur. of Mines, Dept. Int.

A natural mineral compound, of the elements of which one at least is a metal. The term is applied more loosely to all metalliferous rock, though it contain the metal in a free state, and occasionally to the compounds of non-metallic substances, as sulphur ore. (Raymond).

Also, material mined and worked for nonmetals, as pyrite is an ore of sulphur (Webster).

A mineral of sufficient value as to quality and quantity which may be mined with profit. Ihlseng).

A mineral, or mineral aggregate, containing precious or useful metals or metalloids, and which occurs in such quantity, grade, and chemical combination as to make extraction commercially profitable. (Robert Peele, Min. & Met. Soc. of America, Bull. 64, p. 257)

A metalliferous mineral, or an aggregate of metalliferous minerals, more or less mixed with gangue, which from the standpoint of the miner, can be won at a profit, or from the standpoint of a metallurgist can be treated at a profit. The test of yielding a metal or metals at a profit seems to me, in the last analysis, to be the only feasible one to employ. (J. F. Kemp, Trans., Canadian Min. Inst., 1909, p. 367).

"Ore blocked out" - P. 476

Ore exposed on three sides within a reasonable distance of each other. (H. C. Hoover, p. 17)

"Ore developing" - P. 476

Ore exposed on two sides. See Probable ore. (H. C. Hoover, p. 17). First class, blocks with one side hidden; second class, blocks with two sides hidden; third class, blocks with three sides hidden. (Philip Afgall, Min. and Met. Soc. of Am., Bull.64, p. 260)

"Probable ore" P. 540

Any blocked ore not certain enough to be "in sight" and all ore that is exposed for sampling, but of which the limits and continuity have not been proved by blocking. Also, it includes any undiscovered ore of which there is a strong probability of existence. Ore that is exposed on either two or three sides. Whether two or three sides be taken as a basis will depend on the character of the deposit. (Min. and Met. Soc. of Am., Bull. 64, pp. 258 and 262).

"Ore developed" P. 476

Ore exposed on four sides in blocks variously prescribed.

E. Ross Householder

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"Positive ore" P. 530 Bull. 95

Ore exposed on four sides in blocks of a size variously prescribed. See "Ore developed," also "Proved ore." (B. C. Hoover, p.17) Ore which is exposed and properly sampled on four sides, in blocks of reasonable size, having in view the nature of the deposit as regards uniformity of value per ton and of the third dimension, or thickness. (Min. and Met. Soc. of Am., Bull. 64, p. 262)

"Proved ore". p. 541

Ore where there is practically no risk of failure of continuity (H. C. Hoover, p. 19). See also Positive ore.

"Possible ore" p. 531

Ore which may exist below the lowest workings, or beyond the range of actual vision. (Min. and Met. Soc. of Am., Bull. 64, p. 262).

"Ore expectant" p. 476

The whole or any part of the ore below the lowest level or beyond the range of vision. See Possible ore, also Prospective ore. (H. C. Hoover, p. 17). The prospective value of a mine beyond or below the last visible ore, based on the fullest possible data from the mine being examined, and from the characteristics of the mining district. (Phillip Argall, Min. and Met. Soc. of Am., Bull. 64, p. 260)

"Prospective ore" p. 540

Ore that cannot be included as proved or probably, nor definitely known or stated in terms of tonnage. See Possible ore, also Ore expectant. (H. C. Hoover, p. 19)

"Low grade" p. 409

A term applied to ores relatively poor in the metal for which they are mined; lean ore.

"Ore faces" p. 476

Those ore bodies that are exposed on one side, or show only one face, and of which the values can be determined only in a prospective manner, as deduced from the general condition of the mine or prospect. (Min. and Met. Soc. of Am., Bull. 64, p. 255)

"Ore partly blocked" p. 477

Those ore bodies that are only partly developed, and the values of which can be only approximately determined. (see Probable ore)

"Ore in sight" p. 477, Bull. 95

A term frequently used to indicate two separate factors in an estimate, namely

(a) Ore blocked out, that is, ore exposed on at least three sides within reasonable distance of each other;

(b) Ore which may be reasonably assumed to exist, though not actually blocked out;

these two factors should in all casesbe kept distinct, because

(a) is governed by fixed rules, while

(b) is dependent upon individual judgment and local experience.

The expression "ore in sight" as commonly used in the past appears to possess so indefinite a meaning as to discredit its use completely. The terms Positive ore, Probable ore, and Possible ore are suggested. (Min. and Met. Soc. of Am., Bull. 64, pp. 258 and 261)

E. Ross Householder

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"Deposit"   p. 211
The term mineral deposit or ore deposit, is arbitrarily used to designate a natural occurrence of a useful mineral ore in sufficient extent and degree of concentration to invite exploitation. (Raymond)

"Exploitation"   p. 255
The ~~extraction~~ and utilization of ore. Often confused with "exploration." (Richard)

"Exploration"   p. 255
The work involved in locking for ore. Often confused with "exploitation". (Richard)

"Exploring mine"   p. 255
(Scot.) A working place driven ahead of the others to explore the field. (Barrowman) Prospect.

"Prospect"   p. 540
To examine land for the possible occurrence of coal or valuable minerals by drilling holes, ditching, or other work. (Steel)

"Prospect hole"   p. 540
Any shaft, pit, drift, or drill hole made for the purpose of prospecting the mineral-bearing ground.

"Prospecting"   p. 540
Searching for new deposits; also, preliminary exploration to test the value of lodes or placers already known to exist.

"Development"   p. 214
Work done in a mine to open up ore bodies, as sinking shafts and driving levels, etc. (Skinner).

and

"Resources"
(Re. S. G. Lasky, (with U.S. Geol.Surv.) p. 15, Vol. 23, No. 8, Aug. 1955, Western Mining)
"Resources include" all material in the ground, discovered or undiscovered, usable at present, or not, rich or lean, considered within the context of all factors -- that may influence its conversion into a reserve."

"Reserves" (Re. A. P. Butler, Jr. (with U.S.Geol.Surv), p. 15, Vol. 23, No. 8, Aug. 1955 Western Mining.
Apply to known deposits that have aspects of usability within a specified set of economic and technological conditions.

E Ross Householder

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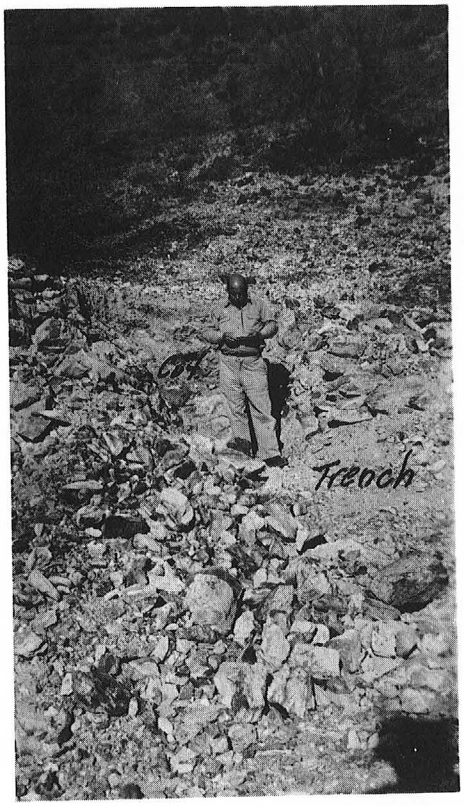
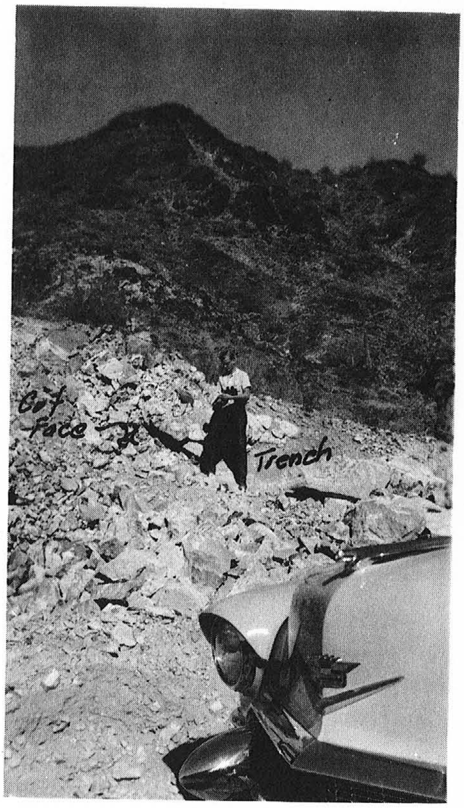
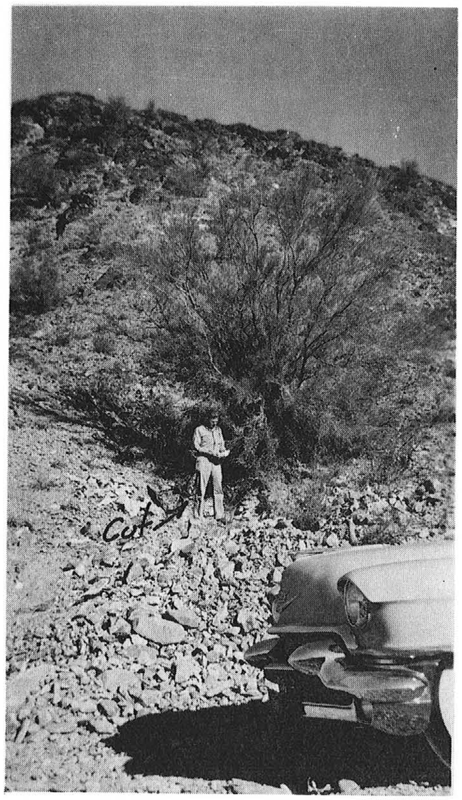


This shows surface "A" work on Old 60 & 70 No. 3 about 1600 feet Southeasterly from where No. 2 drill hole was sunk. Another cut about 470 feet Southeasterly from Northwesterly endline of Old 60 & 70 No. 4 (1700' Southeasterly from this working has been made. (see map). Both workings uncovered 2% copper ore.

"B" Another surface trench alongside mine road 350 feet Northwesterly from "A". Samples from this work gave assay returns of 1.68% copper according to mine records.





"C" Another cut above same mine road 500 feet Northwesterly from "A" and 750 feet from (SE) Drill Hole 2 (see map). Although copper in this ore is prominent, records did not show any assays at the time of examination.

E. Ross Housholder

. . AR ATL A TESTI
A DIVISION OF CLAUDE E.
PHONE AL 3-6272
Chemists . . . Engin

For: Royal Investment Corporatic
℅ Herman Radner
1132 South 5th Street
Las Vegas, Nevada

Sample: cores

M

Received: -

Submitted by: Mr. A. H. Fllett

Report of

Identification	Silver Oz/ton	Silver Value $	Copp (Cu
129405 0-6	Nil	----	Nil
129406 15-16	0.20	0.18	0.60
129407 16-15	Nil	----	Nil
129408 16-25	Nil	----	Nil
129409 25-30	0.40	0.36	1.60
129410 30-36.5	0.20	0.18	0.95
129411 36.5-46	0.20	0.18	0.85
129412 46-51	0.20	0.18	0.50
129413 51-56.5	0.20	0.18	0.60
129414 56.5-59.5	0.40	0.36	2.40
129415 59.5-64	0.20	0.18	0.40
129416 64-65.5	0.40	0.36	3.40
129417 65.5-69.5	0.20	0.18	0.60
129418 69.5-73.5	0.20	0.18	0.50
129419 73½-81	0.40	0.36	1.80
129420 81-85	0.20	0.18	1.00
129421 85-91	0.20	0.18	0.90
129422 91-101	0.20	0.18	0.50

cc: Mr. A. H. Ellott

(0.5% to 3.40%)
(24' lost)
(101-24 = 77')
weighted average of 77' is 1.0% Cu down to 101' level
EAH

CHARGES $ 105.00
c/MAIL

CLAUDE E. McLEAN
DEC. 31, 1956

Custom Assay Office
ASSAY CERTIFICATE
J. W. (Jack) Sharpe, E.M.
Assayer

No. 1 Wickenburg, Arizona 12/4/56

Royal Investment Co

Scott Weaver Mine

OWNER'S MARK ON SAMPLE	GOLD OZ. TON	GOLD VAL. TON	SILVER OZ. TON	SILVER VAL. TON	PER CENT OF Cu		
#2 0-6'					0.3		
#2 6-11'					0.5		
#2 11-15½'					1.1		
#2 15½-20'					0.9		
#2 20½-29'					0.7		
#2 29½-33'					0.6		
#2 33-38'					0.6		
#2 38-49½'					0.1		

$.......... per oz. Charges $..........

Jack Sharpe

ASSAY CERTIFICATE
W. (Jack) Sharpe, E.M.
Assayer

Certificate No. 2 Wickenburg, Arizona 12/4/56 19...

Royal Investment Co

Scott Weaver Mine

SAMPLE NO.	OWNER'S MARK ON SAMPLE	GOLD OZ. TON	GOLD VAL. TON	SILVER OZ. TON	SILVER VAL. TON	PER CENT OF Cu			TOTAL VALUE PER TON
	#2 49½-55'					0.4			
	#2 55-64½'					2.1			
	#2 64½-67'					1.0			
	#3 67½-72'					1.7			
	#2 72-77'					0.2			
	#2 77-86½'					0.1			
	#2 86½-95½'					0.2			
	#2 95½-105½'					0.3			

(0.10% to 2.1%)
Weighted average of 8 Cert.
0.6% of Cu
1.7% Cu Composite sample
1.15% Cu Overall
EAH

Gold at .... per oz. Charges $..........

Jack Sharpe ....Assayer

E Ross Householder

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Custom Assay Office
ASSAY CERTIFICATE
J. W. (Jack) Sharpe, E.M.
Assayer

rtificate No. 3 Wickenburg, Arizona 12/4/56 19....

Royal Investment Co

Scott Weaver Mine

NO.	OWNER'S MARK ON SAMPLE	GOLD OZ. TON	GOLD VAL. TON	SILVER OZ. TON	SILVER VAL. TON	PER CENT OF Cu			TOTAL VALUE PER TON
	#2 105½-116					0.8			
	#2 116-125'					0.2			
	#2 125-130½					1.7			
	#3 1-49'					0.2			
	#3 49-82'					0.1			
	#3 82-102'					Tr			

at $.......... per oz. Charges $..........

Jack Sharpe ....Assayer

Custom Assay Office

ASSAY CERTIFICATE

J. W. (Jack) Sharpe, E. M.
Assayer

Certificate No. ....
Wickenburg, Arizona .... 10/19/56.

Royal Investments

SAMPLE NO.	OWNER'S MARK ON SAMPLE	GOLD		SILVER		PER CENT OF		
		OZ. TON	VAL. TON	OZ. TON	VAL. TON	Cu		
	#2 Cores (Composite #2 Hole as check)					1.7		

Gold at $.......... per oz. Charges $ 1.50 Pd

Custom Assay Office

ASSAY CERTIFICATE

J. W. (Jack) Sharpe, E. M.
Assayer

Certificate No. 4
Wickenburg, Arizona 12/4/56 19....

Royal Investment Co
Scott Weaver mine

SAMPLE NO.	OWNER'S MARK ON SAMPLE	GOLD		SILVER		PER CENT OF			TOTAL VALUE PER TON
		OZ. TON	VAL. TON	OZ. TON	VAL. TON	Cu			
	#4 0-9½'					1.5			
	$4 9½-19'					0.7			
	#4 19-33½'					0.4			
	#4 33-40'					1.4			
	#5 40-45'					2.3			
	#4 55-63'					2.9			
	#4 63-76'					2.1			
	#4 76-86'					0.9			
	#4 86-100'					0.8			
	#4 100-111'					1.2			
	#4 111-116'					1.3			
	#4 126-141'					1.6			
	#4 141-156'					3.7			
	(0.4% to 2.90% Cu)								

1.15 x 130 = 149.50
1.40 x 156 = 218.40
286 367.90
367.9 ÷ 286 = 1.29+% Cu

ERH
E. Ross Householder

Footage x Assay Totaled = 218 ÷ 156 (Total footage) = 1.4% for #4 Hole ERH

Gold at $.......... per oz. Charges $..........

.... Assayer

8 of 15

FORM 1A—[illegible] PRINTERY

AMERICAN SMELTING AND REFINING COMPANY
HAYDEN PLANT

Shipper Royal Investments, Inc. **Hayden, Arizona,** August 27, **19**56
Address 1132 South 5th Street Las Vegas, Nevada **Smelter Lot** 530
Shipping Point Blythe, California **Class** Crude **Shipper's Lot** 1

CAR		WEIGHT IN POUNDS				
Number	Initial	Gross	Tare	Net	H_2O	Dry Weight
65363	AT	166220	66400	99820	0.8	99021
			Tons	49.9100		49.5105

N. Y. QUOTATIONS

Settlement Date	8/14/56
Bill Lading Date	8/9/56
Silver	
Less	
Net	
Copper	.39555
Less	.032
Net	.36355

PAYMENT FOR METALS / **VALUE**

Elements	Assay Per Ton of 2000 Lbs.		Deducted	Net Assay	Equiv. in Lbs.	% Paid For	Net Paid For		Rate	Amount per Ton	Total Amount
Gold		Oz.						Oz.			
Silver	.13	Oz.					no pay	Oz.			
Copper	1.10	%	.4	.70	14.0	95	13.30	Lbs.	.36355	4.84	
		%						Lbs.			
						Total Payment of Metals					4.84

CHARGES AND CREDITS	Debits	Credits
BASE CHARGE: F.O.B. Hayden for Metal Payments, not exceeding $ 10.00 per ton	1.50	
% of $ excess over $ per ton - - - - -		
Bullion transportation tax .00039	.01	

Analysis			Deduction	Net				Debits
Insoluble	90.5	%			%	@	cts.	
Silica	71.6	%			%	@	cts.	
Alumina	12.2	%	7.16	5.04	%	@ 25	cts.	1.26
Zinc		%			%	@	cts.	
Sulphur		%			%	@	cts.	
Iron	2.0	%			%	@		
Lime	.6	%			%	@		
		%			%			

	Debits	Credits
Total Deductions		2.77
Net Value Per Ton		2.07

PAID
2[illegible]
AMERICAN SMELTING & REFINING CO.
HAYDEN, ARIZONA
PER

value per wet ton none

			Debits	Credits
Total Value on 49.5105	Dry Tons @ 2.07	Per Ton		102.49
Less Freight on 49.9100	Wet Tons @ 7.18	Per Ton Prepaid $358.35		
" " tax		10.75		
" lightweight weighing			1.31	
" " tax			.04	
Any royalty due to be paid by shipper				
		Balance Due Shipper	101.14	

Made by DG **Checked** 1g **Correct** **Approved** BNR

1st Carload from #2 trench = 49.51 tons at 1.10% Cu
This sample shipment was from surface (see photo).
2nd Carload sample just below this one had 2.10% Cu.
according to mine records. EAH
Per Carload Sampling
Note: Weighted Sample (Tonnage × % for each car added) ÷ Total Tonnage = 1.62% Cu
9 of 15 E. Ross Householder

MAGMA COPPER COMPANY

SUPERIOR, ARIZONA

Preliminary

Settlement No. 56

Smelter Lot 313

DATE September 24, 1956

Shipper Lot M-56

BOUGHT OF Royal Investmments Corporation

Classification Crude Ore

ADDRESS 1132 South Fifth Street, Las Vegas, Nevada

BOWES CO., PHOENIX

CAR		WET WEIGHT			Moisture	DRY WEIGHT
Initial	Number	Gross	Tare	Net	%	
ATSF	65944	176300	65700	110600	1.0	109494
				55.30		54.747

N. Y. QUOTATIONS

Date September 11, 1956

Copper (per lb.) .39644

Less .0275

Silver (per oz.)

Gold (per oz.)

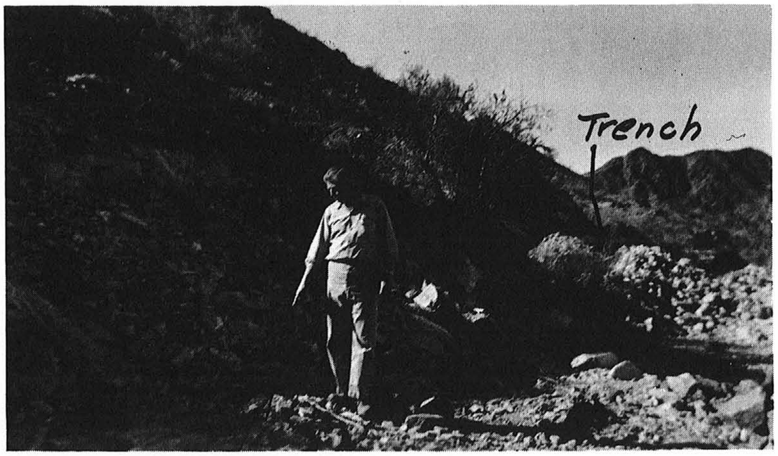
ASSAY and ANALYSIS		PAYMENTS PER TON	DEBITS	CREDITS
Copper	2.10 Pct.	42 lbs. per ton, less 8#=34 lbs. at .36894 Per lb.		12.5440
Silver	0.43 Oz.	oz. per ton, less oz. at Per oz.		
Gold	0.002 Oz.	oz. per ton, oz. at Per oz.		
Iron	3.6 Pct.	units at Per Unit.		
Lime	1.3 "	units at Per Unit.		
Alumina	12.8 "	3 units at .25 Per Unit. Debit	.75	
Silica	71.0 "	units at Per Unit.		
Sulphur	0.8 "	units at Per Unit.		
Manganese	"	units at Per Unit.		
Arsenic	"	units at Per Unit.		
Antimony	"	units at Per Unit.		
Bismuth	"	units at Per Unit.		
Insoluble	"	units at Per Unit.		
		Treatment Charge	5.00	
		TOTALS	5.75	12.5440
		Net Value Per Ton		6.7940

	DEBITS	CREDITS
Total Value of 54.747 Dry Tons at $ 6.7940		371.95
Less Freight 55.30 Tons at $ 3.30 From Parker, Arizona	182.49	
Average Value $6.726	5.47	
Less Switching		
Less 25% of copper withheld: 54.747 x 12.5440 x 25%	171.69	
Less Additional Treatment Charge		
TOTALS	359.55	371.95
Amount Due Shipper—Voucher No. 84498		12.40

Made by rsm Checked Approved

2nd Carload from #2 trench = 54.74 Tons at 2.10% Cu
This has almost twice the copper content as first
carload sample from top of trench, according to
mine records. ERH

E. Ross Householder
10/8/15



Drill Hole 2 at S. E. of trench from which 2.10% copper carload was shipped. This hole is 200 feet from mouth of mine tunnel.
(See photos in original report).

Drill Hole 3, which is 200 feet Northwesterly of Tunnel Portal where Drill Hole 1 was sunk.

E. Ross Housholder

4 DIAMOND DRILL HOLES

Following the recommendations in my original report, four diamond core drill holes were sunk up to 156 feet deep at the places indicated on the map shown herewith.

TWO CARLOADS SHIPPED TO SAMPLE DEPOSIT

Results of carload sampling as herewith given in the form of shipping settlement sheets from the respective smelters.

LOG-ASSAYS CERTIFICSTES INCLUDED

Also the log-assay certificates are produced for this supplemental report and shown herewith.

ESTIMATED COPPER CONTENT WEIGHTED

The estimated copper content has been weighted by core drill footage or shipment tonnage in the accepted manner.

ESTIMATED AVERAGE COPPER PERCENTAGE

Weighted Carload Sampling (104.25 Tons) - 1.62% Copper

Weighted Core Drill Samples No.2 & No.4 holes (Total 286 Feet) - 1.29% Copper

Average 21 Samples mentioned in Original Report - 1.85% Copper

Average Sulphide ore samples (see orig. Report) - 1.54% Copper

Each of the above averages have been obtained by conservative methods. The total of the above four averages is 6.30 ÷ 4 (No. of above items) = 1.575% Copper.

Experience indicates that actual production of such ores as found in the Scott-Weaver mine will exceed an average so conservatively estimated. My opinion is that the average of the ores when under production will be about 20% to 25% greater. (This would indicate that production ores will give returns of 1.90% to 2.01% copper.) This is due to the fact that even in open pit mining a certain amount of selective mining is possible. Rock not high enough in copper to be classified as ore would be eliminated. The heads to the mill might be kept up to 2% by careful selective mining.

E. Ross Householder

OTHER PROSPECT WORK UNCOVERS COPPER ORE

The drill holes penetrating this deposit up to 156 feet below the surface and being roughly 800 feet in horizontal length, together with the additional cuts, trenching, and other surface exploratory work, has opened this deposit up for about 1400 feet in length and 130 feet in width on the northeasterly side of Surprise No. 1, and northerly corner of Surprise No. 2. Then, too, cuts and trenches recently made on Old 60 & 70 No. 2, Old 60 & 70 No. 3, and about 470 southwesterly from the northwesterly endline of Old 60 & 70 No. 4 have traced this copper deposit for over 3900 feet in length. This latter prospect work if followed by diamond core drilling as a possibility of even doubling the estimate given in the Revised Tonnage Estimates here included.

WARRANTS BIG TIME INTEREST AND ACTION

It is my belief that your deposit has been sufficiently explored with positive results to show the existence of a definite copper deposit. At this stage I feel that the results already obtained should interest mining concerns capable of exploring and mining a deposit as large as this deposit indicates. To put this property on definite production will take the efforts of a large organization. Surely the tangible results you have obtained in your exploration work warrant the activated interest of any copper mining organization capable of and wanting to obtain a copper deposit of this magnitude with a view to exploration, development and production, for a profit.

E. Ross Householder

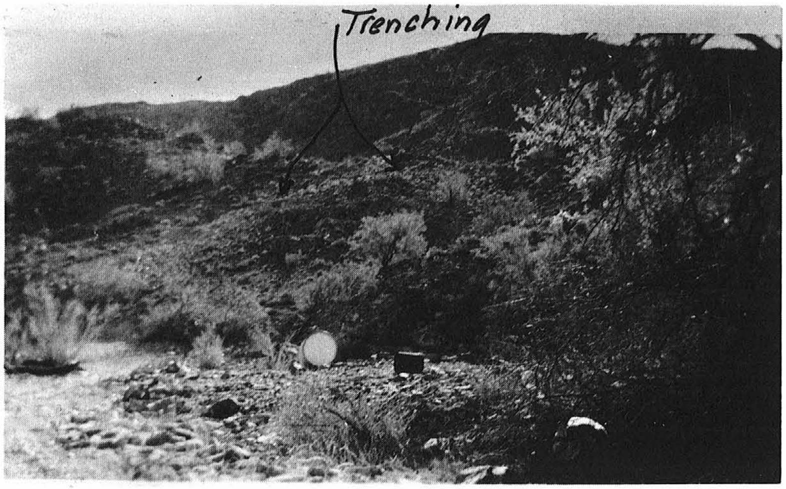
REVISED TONNAGE ESTIMATES

Again you will notice on the following chart the TERMINOLOGY used. In making an estimate of the possible ore or even the expectant ore, geological conditions (see original report), the persistence of the ore in this type of deposit and the other data are taken into consideration. THE RESULTS OF THE DIAMOND CORE DRILLING AND OTHER EXPLORATION THAT HAS BEEN DONE FOLLOWING RECOMMENDATIONS IN MY ORIGINAL (Sept. 29, 1956) REPORT WARRANTS THIS REVISED TONNAGE ESTIMATION.

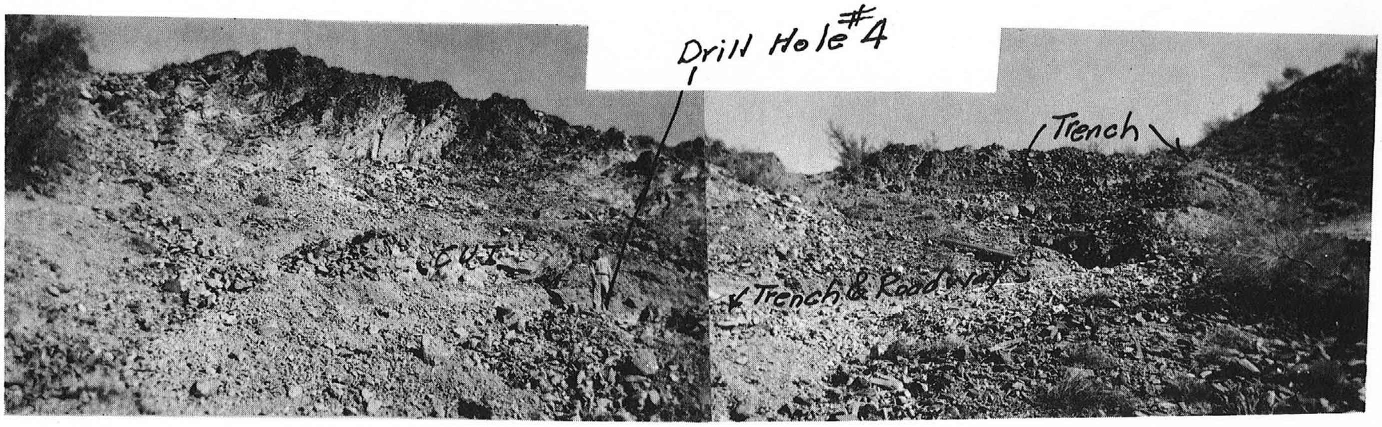
Type of Ore	Tons
	Scott-Weaver Copper Mine Deposit
Positive Ore	145,000
Additional Ore developing	230,000
Total Probable Ore	375,000
Additional Possible Ore	720,000
Total Possible Ore	1,095,000 Based on the knowledge of copper deposits in this type of deposit and the existing characteristics in evidence at this copper mine, I estimate and expect your future development of this deposit will reasonable uncover an additional tonnage, hereby tabulated.
Additional ORE EXPECTANT	2,500,000
Total for all Expectant Ore	3,595,000

(Note: As your exploration program proceeds, (especially southerly from original tunnel) I feel that these figures may then be revised upward for the terminology used.)

E. Ross Housholder



Showing some of the surface trenching above tunnel portal on easterly side of Outcrop Hill.



This shows trenching and cut work as well as road recently graded on westerly side of Outcrop Hill. Figure in picture shows location of Drill Hole 4. See assay logs of drill holes and accompanying map.

E. Ross Housholder