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Present Copy

THREE R MINE DATA OUTLINE

LOCATION

Palmetto-Harshaw Mining District, T 22 & 23 S, R 15 & 16 E, Santa Cruz County, Arizona.

PROPERTY

21 patented and 11 unpatented claims in a solid, contiguous block. Approx. 4800' to 6000' elevation in rugged terrain.

OWNERSHIP

Owned by two family groups, one represented by Thomas L. Hall of Tucson and the other by Jack C. Pierce of Prescott.

HISTORY See USGS Bulletin 582 by Frank C. Schrader (1915). Updates in Pierce memos attached.

GEOLOGY AND PRODUCTION

USGS Bulletin 582	1915
ABM Bulletin No. 140	1936
ABM Bulletin No. 191	1975

EXPLORATION

Magma Copper Company 1920 10 holes--data available.

Consolidated Coppermines 1951-53 5 holes no data in hand

Anaconda-Asarco drilling 1963-81 Brief data attached. Additional data available.

IN-PLACE LEACHING

Proposal summary 1979 Mention in Pierce memos.

THREE R MINE

LOCATION

[Also referred to as Palmetto-Harshaw Mining Dist.

This copper property is located in the Harshaw Mining District, Santa Cruz County, Arizona about 4½ miles south of Patagonia and 14 miles northeast of Nogales. It consists of 21 patented claims and 14 unpatented claims, all contiguous, on the upper west slope of the Patagonia Mountains between elevations of approximately 5,000 and 5,800 feet. It is reached by some 3½ miles of ungraded rodd from the paved highway connecting Patagonia with Nogales. The nearest railhead is at Patagonia, about 7½ road miles away on a Southern Pacific branch line.

OWNERSHIP

The Three R.Mine ownership is as follows: One half interest held by Duane Bird and Thomas Hall (with their wives), Nogales attorneys; one half by heirs of C. A. Pierce who are Mrs. Mary L. Pierce (¼ interest), Sallie Van Valkenburgh (1/8 interest) and Jack C. Pierce (1/8 interest).

HISTORICAL

Discovered in 1890, the property was explored and developed in minor ventures by W. R. Green of Cananea, the Lewisohn interests and the Three R syndicate prior to 1909. During that period there was produced only a small tonnage of high-grade chalcocite ore. Between 1909 and 1912 R. R. Richardson (for whom the property derives its name) and the Calument and Arizona Mining Co. developed and shipped to the El Paso smelter considerable 5-15 percent copper ore.

In April, 1912 N. L. Amster of Boston, Mass. acquired the property for $550,000 and by August, 1914 had shipped about 30,000 tons of ore averaging 9 percent copper with gross value reported at more than $1,000,000.

In the 1920's Magma Copper Company blocked out ore by diamond drill and underground work and erected a mill which operated until a severe drop in copper price. (Details of this operation are not immediately available to the writer but are on file in the law offices of Bird and Hall in Nogales).

Early in World War II the property was acquired by Duane Bird and C. A. Pierce, who operated it profitably in a small way throughout the war. Ore was obtained by new development, pillar trimming and other scavenger operations in the principle workings of the property. The small profits were applied to unsuccessful exploration for an untapped ore ~~body~~ occurrence discovered by a Magma diamond drill hole. Operations were suspended at the close of the war and the withdrawal of Premium Price plan support. (Have detail on this operation)

In 1950 Kennecott Copper Corp., recognizing a part of the property as a potential, large, disseminated copper deposit made cursury examination and declined further interest, because the exposed deposit was not indicative of a large enough operation for Kennecott. This corporation referred the mine to Consolidated Coppermines Co. and, under a lease-option agreement, this company conducted a comprehensive surface and underground geological mapping and sampling job on the property during 1951. Five diamond drill holes placed in the granite and trachyte porphyry formation suggested as a possible commercial disseminated deposit were disappointing. The formation is copper enriched but sub-marginal except in narrow fault and fracture zones where copper values were consistently attractive though representing small volumes of ore.

Following Consolidated's abandonment of the property in Sept., 1951 two local groups have held leases on sections of the ground to exploit the near-surface enriched fractures discovered by aforementioned diamond drill exploration and to mine lower-grade segments of the old mine. Twenty two cars of ore were shipped by these operators who recently suspended operations and relinquished their interests in the property. We are told the reason for abandonment by the lessees on the new ore was internal friction among the partners in the venture. The group shipping from the old workings met with smelter resistance to the ore due to high alumina content.. The grade of all 22 cars ranged between 3 and 9 percent copper.

PRESENT STATUS

The Three R Mine is available for purchase, lease and option or bonded lease. Ample time for extensive examination will be allowed to any responsible party. Initial cash payment for an option to lease or purchase would be low. Terms for lease and purchase will be reasonable.

OWNER'S OPINION

Although there is established a limited volume of direct-shipping ore on the property, the ultimate success of an operation at the Three R depends on a milling operation. We believe that examination will disclose sufficient milling grade ore to justify a small mill, based on a copper price in excess of 30¢ per pound.

There are three geologically attractive and yet unexplored potential ore horizons on the property. We believe that Coppermines was interested primarily in the prospects of an open pit operation at the point of their drilling operations and paid little or no attention to indications of ore sources that would be exploited by underground mining methods.

In summary, it is our opinion that the Three R Mine should be attractive to experienced operators with the financial and technical ability to confirm indicated mill-ore reserves and to place a mill in operation. The unexplored, favorable ore horizons should enhance the attractiveness of the property as a potential long-lived copper mining operation.

Jack C. Pierce
September 23, 1956

See 5/30/79 Addendum attached.

THREE R PROPERTY

May 30, 1979

"HISTORICAL" ADDENDUM TO 9-23-56 REPORT

In 1959 McFarland & Hullinger of Tooele, Utah took a lease and option on the property to thoroughly study the underground mine in search of operating viability. They were unsuccessful and relinquished their rights after about a year of inspection and deliberation.

In 1962 McFarland & Hullinger again asked for a lease and purchase option with a 10-year term and the meticulous document was finally executed after almost a full year of negotiation. In February, 1963 they assigned their rights to Anaconda, for whom they secretly represented in this matter.

Anaconda explored for about 9 years over the original Three R ground (21 patented and 11 unpatented claims) and scores of claims they located and made a part of the property. Such activity caused Asarco to extend its Flux property (east of Three R) toward the Three R and in 1972 Anaconda negotiated a 5-year extension of its lease from Three R owners. Immediately upon execution of that extension, Anaconda and Asarco formed a joint venture exploration with the latter becoming the active exploration entity. In 1977 Asarco-Anaconda were granted an additional 3-year extension, now about 2 years old.

Neither Anaconda or Asarco have shown any interest in the old mine located on the Three R, Evening Star and Colossus claims, which mine is considered either "worked out" or potentially too small for their requirements. The mineable ore reserves can properly be placed at zero tons, but the leachable copper potential is likely quite significant. There is evidence of many small blocks and zones of 2% copper mineralization and major fracture zones of mineralization in the 1% Cu range. The several thousands of feet of drifts, crosscuts, stopes, raises, winzes and shafts occur on 9 levels, probably bracketing about 700 feet of fractured, vertical mineralized section.

A study of the potential for in-place leaching is certainly warrented. Seepage from the mine into the canyon bed has previously gone into small, crude cementation catchments but the practice was discouraged because such seepage occurs only following periods of unusually high precipitation in the vicinity of the mine.

Jack C. Pierce

GEOLOGY

On the east flank of the Three R Mountain is the Flux Mine -- within the upfaulted block of the Patagonia Mountain (a substantial lead producer); on the west side of the Three R Mountain is the Three R Mine (a large copper property, having produced one of the largest bodies of chalcocite mined in North America.

The Three R Mine is located within a rather large area of binary granite porphyry. A gray, monzonitic dike (surface exposures of which are limited) intrudes the granite porphyry and at certain locations contains some finely disseminated chalcocite that evidences the probability of a large, low-grade, deposit. This dike appears to be related to a deep-seated movement which was evidenced by severe faulting, shearing, and fracturing. This dike is similar to the dike which intrudes the Red Mountain rhyolite (Miocene Age) and is profusely impregnated with crystals and grains of pyrite, chalcopyrite, and chalcocite. Red Mountain is adjacent to the Three R Mountain and is therefore of geological importance as regards the Three R.

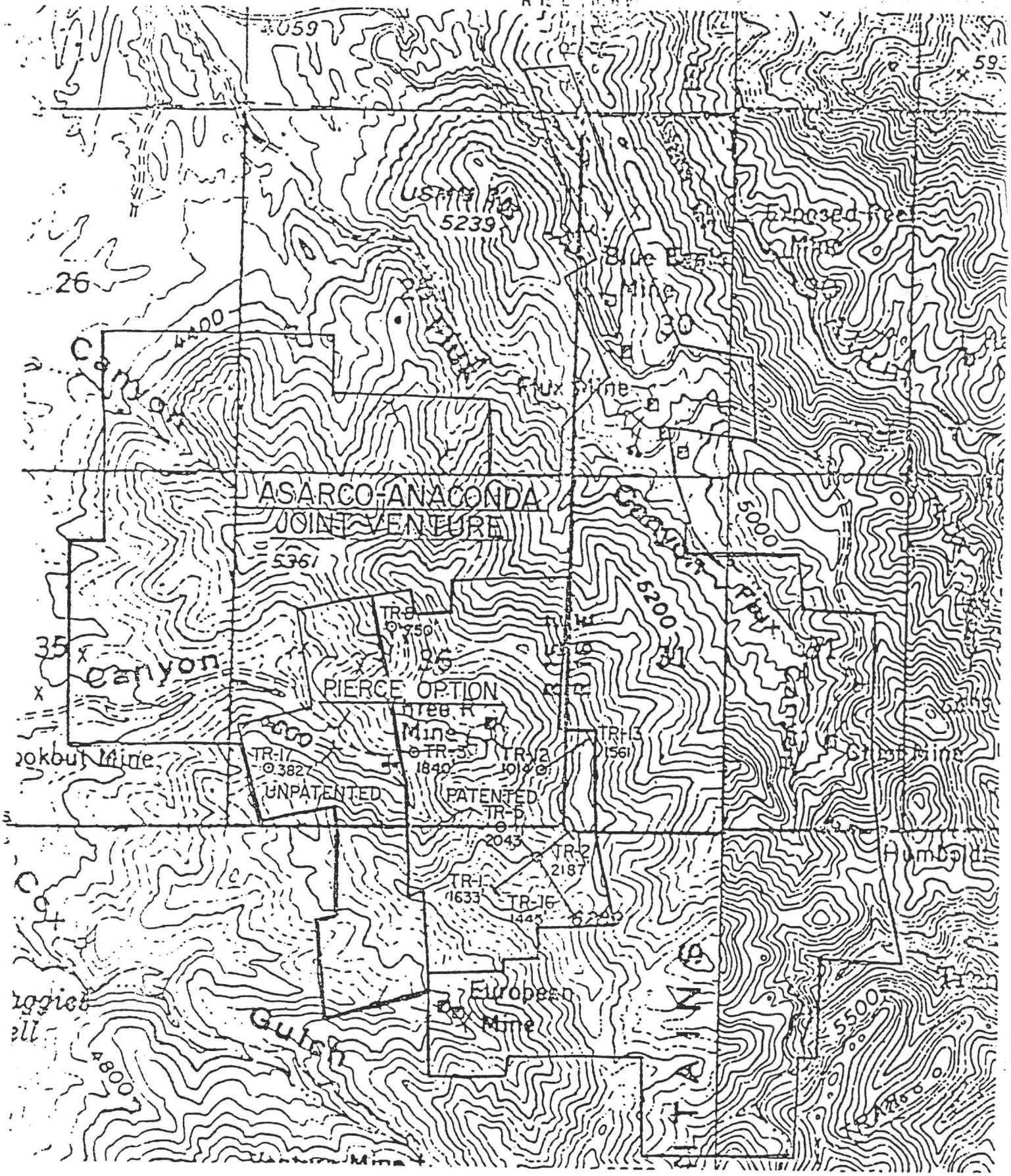
The Three R ore mined to date, is found within a system of north-south and north-75° east fractures. There is some evidence of a third system of fractures which strike north 30° west. These later fractures are obscured within the highly mineralized area of the ore bodies. They are, however, quite prominent at a location 1500 feet to the north of the Evening Star tunnel portal.

Evidence indicates that solutions accompanying or following the dike's intrusion and regional faulting, were the source of the copper mineralization; thatthis mineralization took place in at least two stages -- during and after intrusion and faulting. The rugged surface escarpment and outcrop evidence a deep-seated movement. This is especially true on the Three R and Hattie R. No. 2 mining claims.

Past exposed work is not helpful to the small operator because the shipping ores above water level and within confines of the Evening Star tunnel are exhausted. For the major companies, the work done is helpful in outlining a development program that has opportunities for the development of large, low-grade copper ores. Such horizons should include substantial tonnages of high-grade chalcocite.

To those interested in the development of a large, low-grade, copper deposit, this property should be of interest. Its development will require ample capital and capable management.

J. C. Pierce
12/49



⊙ ASARCO DRILLING

⊙ PREVIOUS DRILLING

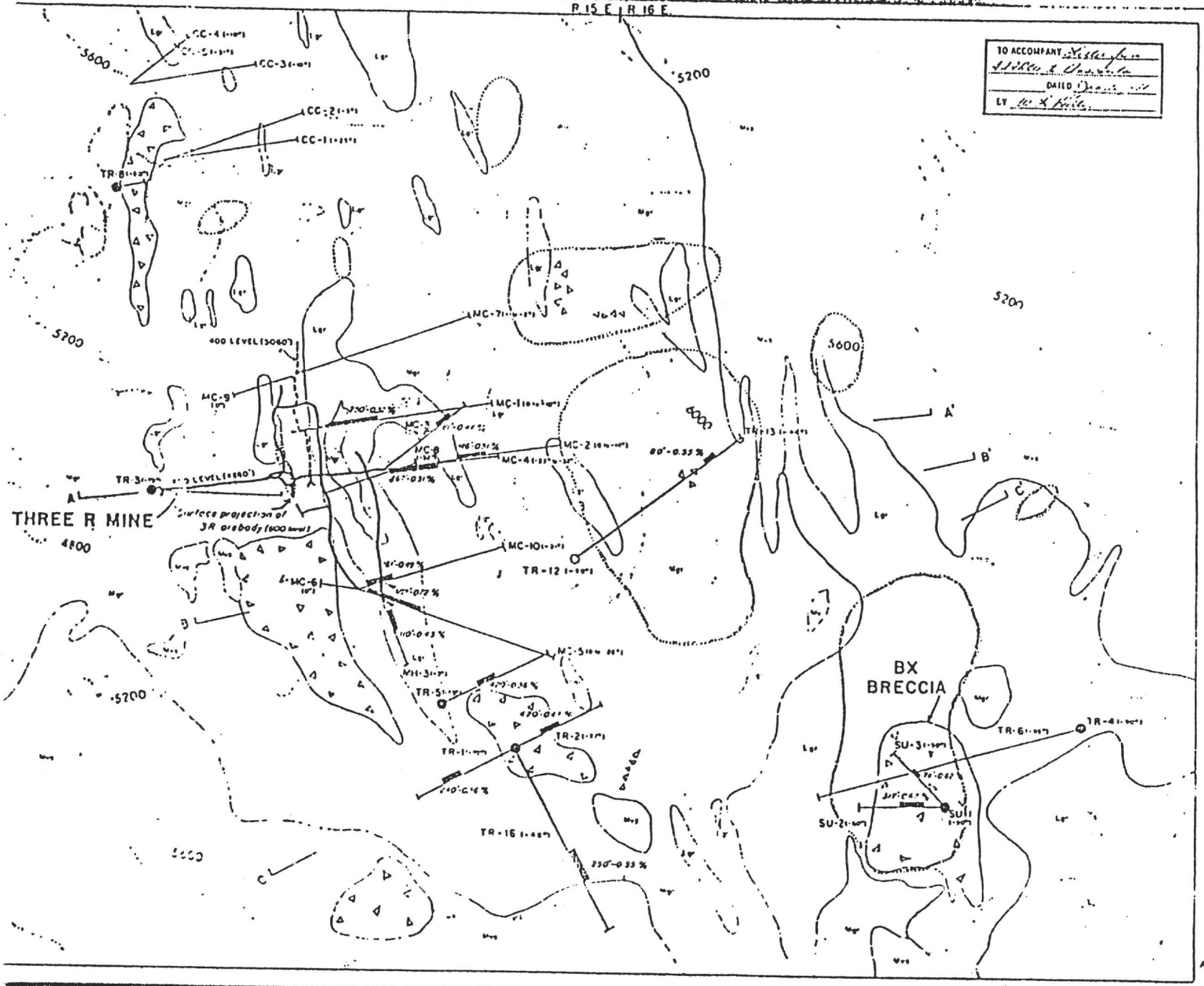
LAND & DRILL LOCATION

3R JOINT VENTURE

SANTA CRUZ CO., ARIZONA

SCALE: 1" = 2000'


MAY FLOWER
THREE R No 4
WHITE TAIL DEER
BOOT
BIG FOUR
BIG No 2
No 3
THREE R CANYON
COLOSSUS
COLOSSUS No 5
COLOSSUS No 4
COLOSSUS No 3
COLOSSUS No 2
EVENING STAR
THREE R No 5
SALT R MINE
BLUE ROCK No 9
BLUE ROCK No 8
BLUE ROCK No 7
BLUE ROCK No 6
BLUE ROCK No 4
BLUE ROCK No 3
BLUE ROCK No 2
THREE R No 1
HILLTOP No 5
HILLTOP No 6
HILLTOP No 2
HILLTOP No 3
HILLTOP No 4
ESCALADA MINE
EUROPEAN MINE
T22S
T23S
6000
5000
West Range (West claim group)



N

EXPLANATION

- Limonite after chalcocite and/or enargite
- Breccia pipes, intrusion breccias
- Lgr — Laramide quartz monzonite porphyry
- Mgr — Alaskite
- Mvs — Mesozoic volcanic & sedimentary rock

Drill hole showing inclination; intervals of 40 3 % Cu

MC-10

DRILL HOLE INFORMATION

MC = Magma Copper Co underground holes (1, 7, 9 at 400 level; 2, 8, 11 drilled at 600 level)

MH = McFarland & Hullinger drilled at 600 level

CC = Consolidated Copper mines surface holes

TR = Anaconda surface holes

SU = ASARCO surface holes

ASARCO Drill Holes (1976-1978)

Contour interval = 80'

GEOLOGIC MAP

3R MINE AREA

PATAGONIA MOUNTAINS

Santa Cruz County, Arizona

SCALE 1" = 500'

Rev F.R. Keith Jan 1981

FTS

per ton of PbO or $3.40 per ton of lead. This leaves $14.60 per ton, or 0.73c. per lb., to be taken from the New York price of lead.

Taking Case I for example, the costs on this basis would be:

Preliminary treatment	$ 1.26
Slag-forming contents, 0.87 ton at $5.31	4.67
41 units SiO_2 at $9.99	4.10
	$ 9.97
Less 3.7 units (Fe and CaO) at 6c	0.21
Net costs	$ 9.76
Metal values:	
Pb, 600 lb. at 3.27c	$19.62
Ag, 9.9 oz. at 50c	4.95
Total	$24.57
Less 2½%	0.62
Net metal values	$23.95
Charges	9.76
Net returns	$14.19

The result is the same as in the first method, but the calculation is simpler.

Smelting companies do not take the public, or rather the shippers, into their confidence. The smelter knows how much profit he is going to make on any ore, while the producer or shipper is often ignorant regarding details, is suspicious, and complains that he is charged an undue price for the treatment of his ore. The ore-buyer gives no figures to reassure the seller; indeed, he must generalize, and were he too frank, would be admonished. Smelting company reports reflect this. They give information in a guarded way. The companies would be willing to give information were it to their stockholders only, but if it were divulged the shipper and the competitor would take advantage of it. Indeed, the shippers are often shrewd, well posted men. To give them details would mean that they would see the weak points of the buyer. The buyer, by a complicated system of prices, discounts, and penalties, casts an air of mystery around the transaction, and adds to it by making contracts on different systems. In consequence, he is profoundly distrusted, so that when, as at present, the smelting company is making little or no money, its statements are not believed, though true. Bad feeling exists where it should not, brought about by a policy of concealment. It is my purpose, as an independent engineer, to try to dispel some of this unfortunate antagonism.

I believe that in this paper I have set forth a fundamentally more rational way of estimating costs and fixing prices for ores. Indeed, the question of costs, a very extensive one, should be recast upon newly acquired data owing to recent changes in smelting methods. Attention has been chiefly confined to those metals and associated minerals affecting the general problem of smelting, without undertaking to estimate the value of lesser factors, such as small amounts of copper and gold, or the effect of zinc, antimony, arsenic, bismuth, and tellurium on the furnace charge.

The Three R Mine, Patagonia District, Arizona

By F. R. PROBERT

A pioneer of Santa Cruz county, Arizona, R. R. Richardson, of Patagonia, has held for many years a group of claims on the slopes of the Patagonia mountains known as the Three R property. Few properties have suffered the condemnation of competent engineers that this has been subjected to; fewer still have been as frequently examined. The Three R was almost a joke among the engineers of Arizona, and as each passed judgment it was recorded in Mr. Richardson's files, which today make interesting reading. The opinions of upward of twenty engineers of good repute are catalogued with such comment as the owner fancied would fit the findings. 'Turned down cold,' 'No good,' 'Reported unfavorable,' and the like are penned to the name of the engineer with date of visit. My own name appears on the list, July 1908. The reason for all this is readily explained. Large 'low-grade' coppers have been the fashion of recent years, and the Three R property was studied from this viewpoint; the possibilities of high-grade ore-shoots in a lean pyritized mountain mass were not considered, and had it not been for the chance finding of enriched ore by continuing an adit, which for nearly 600 ft. was in barren hard rock, it is likely that the list of 'experts' would be considerably larger than it is and the comment of the owner more forceful. Two years ago, N. L. Amster, of Boston, took a lease and bond on the property, and after careful geological investigation proceeded systematically to explore the more attractive ground. He has shipped to date approximately 30,000 tons of ore averaging 9% copper. The claims are about nine miles south of Patagonia and nineteen miles northeast of Nogales, stations on the branch line of the Southern Pacific system south of Benson, Arizona. The nearest railroad point is Bloxton, 3.7 miles west of the mine.

The Patagonia mountains are a continuation of the Santa Ritas, south of Sonoita creek. Copper, zinc, lead, gold, and molybdenum deposits have been prospected. The Three R property is situated on the northwest slope of the Patagonia mountains, and is characterized by a particularly rugged surface. The bold escarpments and prominent ridges are due largely to the relative resisting power of different igneous rocks, or phases of the same rock, to erosion. A depression once initiated would be rapidly worn by the scouring action of rock and water during the short-lived deluge of summer rains. The steep slopes cause a rapid run-off of all waters, and the rocks being dense compact masses showing little or no cleavage or jointing, would allow of but little of the oxygenated waters to seep far below the surface, except in fairly open fissures. Only igneous rocks are represented in the immediate neighborhood of the Three R mine, but inasmuch as similar rocks

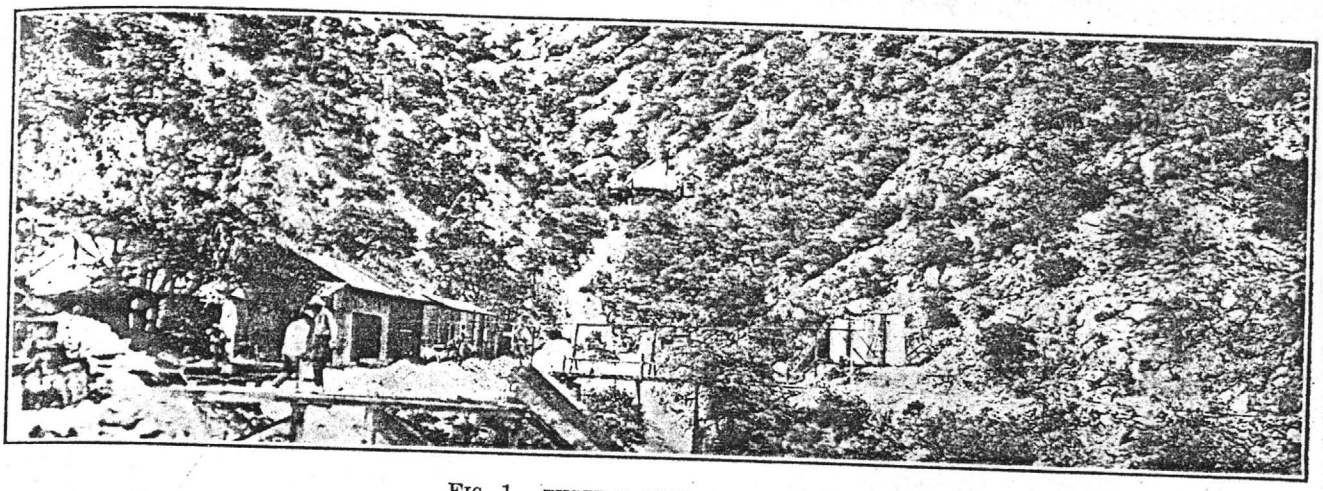


FIG. 1. THREE R MINE, LOOKING EAST.

are intruded in Paleozoic sediments at the property of the Helvetia Copper Co., I tentatively classify the rock of greatest economic importance as being post-Carboniferous, probably late Tertiary. The youngest rock, alaskite, is the most widely distributed. It forms the greater part of Three R mountain. In the fresh state, it is a coarse-grained macrocrystalline aggregate of quartz and alkali feldspar, orthoclase, with occasional biotite plates. In all exposures, whether fresh or in an advanced state of feldspathic alteration, the large blebs of quartz stand out conspicuously. Aplitic phases of the alaskite occur as silicious ribs in the parent rock, but have no economic importance. As alteration proceeds, the feldspars become earthy, and according to the amount of the original pyritization are white, brownish, or deep red, the quartz remaining unchanged. The alteration products of the feldspars are sericite, kaolinite, and alunite. This latter mineral is found not only in the vicinity of the chalcocite orebodies, but in altered pyritized areas, where the rocks have been more or less cleaved. F. C. Schrader, in *Economic Geology* (December, 1913), attributes the formation of alunite at the Three R mine to metasomatic replacement of the orthoclase by hydrothermal solutions ascending fissures following the intrusion of the mass itself or of later volcanics. Post-volcanic metamorphism is evidenced by silicification and cupriferous pyritization of the shattered rock near the main fractures, but the close relationship between chalcocitization and oxygenation of sulphides suggests a later origin of the alunite. I attribute it to the sulphurous waters of the oxidized zone. Alunite is by no means an uncommon associate of enriched copper ore. At the Ray Central mines it was found in the intrusive sheets of ore-bearing granite porphyry; and again at the Shannon and Ryerson mines of Metcalf and Morenci, I have noted it in the pyritized altered porphyry.

The alaskite is intrusive in the older trachyte and rhyolite (feldspar and quartz) porphyries, which are widely scattered. They occur as a series of isolated blocks in the alaskite without any visible connection one with the other near the Three R mine, although to the north, Red mountain and the adjoining hills are made up entirely of these older porphyries. The trachytic variety is the more common, and its dull white mottling makes it readily distinguishable both in the field and underground workings. The porphyries are strongly acidic, granular to aphanitic in texture, with distinguishing phenocrysts.

The intrusion of the alaskite caused little or no apparent alteration of the older porphyries. Chilled surfaces show as granular, even glassy phases, but a typical change is not noticeable as a direct result of the action of the younger on the older rock. The after effects of the alaskite intrusion seem to have a direct bearing on the economic importance of the property under consideration. Hot aqueous emanations from deep seated sources along lines of fracture and rock weakness initiated the mineralization, which by later processes has made ore. The sulphurous metallic contents have been deposited as cupriferous pyrite and associated minerals, along lines of weakness, and this primary mineralization has been converted locally, by metamorphic change due to oxygenated waters, into the orebodies now being mined.

While the igneous rock massif does not show any regular system of joints or cleavage planes, there are definite lines of fracture and faulting along which all ore of commercial value has so far been found. Underground, these fractures are sharply defined and readily followed, often being characterized by a clay seam several inches wide with variable amount of cupriferous pyrite and chalcocite concentrated in or near the fracture, and gradually diminishing in copper content on either side. The fractures penetrate all three of the recognized rocks. The work to date shows that the largest orebodies are found under an outcrop where the pyrite has been completely oxidized to earthy hematite and where the rock is more abundantly cleaved, the cleavage planes being filled with the rusty residuum of original sulphides.

The whole district in an area of three or four square miles is so heavily iron stained at the surface that in its broader aspects, it resembles the properties of the

so-called low-grade porphyry copper mines of Arizona. The rocks are pyritized throughout, but owing to the lack of shearing, cleavage, or jointing, the oxidation of these sulphides is very limited in depth except along the major breaks. The hematite outcrops of the stronger fractures are seldom copper stained. Oxidation is com-

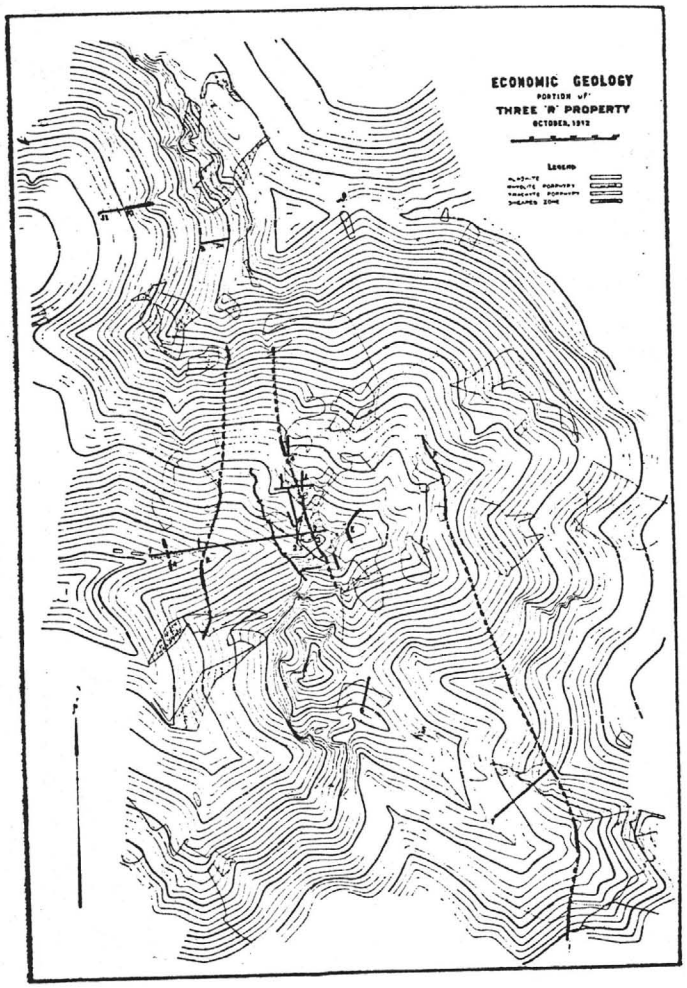


FIG. 2. THE RHYOLITE PORPHYRY AND TRACHYTE PORPHYRY FORM PATCHES AS OUTLINED IN THE ALASKITE.

plete, but lenses of locally enriched ore are found below. The outcrop of the *B*, Fig. 2, fracture shows massive black botryoidal limonite; that of the *D* shows as a bright red ochreous stain. The Three R fracture shows limonitic casts of pyrite in an extremely sericitized alaskite with occasional small masses of bornite enveloping original pyrite. At the *D* fracture oxidation of copper glance has resulted in metallic copper, while azurite and malachite are later oxidation products of the previously enriched mineral. The ore now being mined is all secondarily enriched. It consists of copper glance, both massive and disseminated, occurring in shattered area of alaskite or porphyry, on either side of one of the major breaks.

The main orebody of the *C* fracture, which has been extensively stoped, was indicated by a meagre hematite outcrop on the surface in a slightly crushed area. Approaching it underground, the alaskite is veined with secondary quartz and quickly changes from the normal pyritized rock to an altered alaskite heavily impregnated with copper glance. Masses of pure glance several feet across are found, the high-grade lens being at the main adit level (215 ft. below the surface) 37 ft. wide. The horizontal limits of the orebody are marked only by the change in value, not by any structural detail. This orebody has been followed a vertical distance of 500 ft., with high-grade ore still showing in the bottom of the winze. The stopes extend to within 40 ft. of the surface, where the glance slowly fades into the ochreous hematite. On the foot-wall side of the stopes, the chalcocite is finely disseminated around bright glistening pyrite grains in a soft sericite felt. The centre of the orebody is more completely alunitized and sectile slabs and masses of pure glance have the appearance of a conglomerate, so striking is the black and white contrast of mineral and gangue. On the hanging wall side perfect stubby octahedra of pyrite, two and three inches across, are found coated with a thick film of

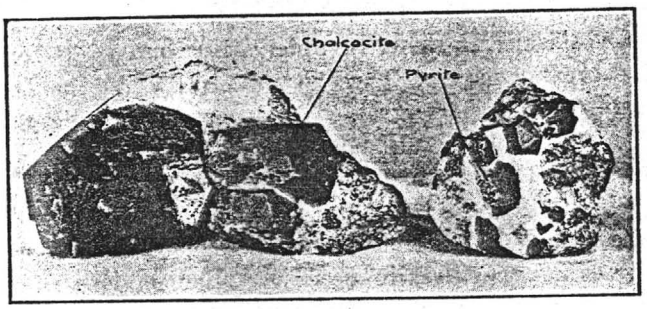


FIG. 3. PYRITE CRYSTALS COATED WITH CHALCOCITE.

chalcocite (Fig. 3). The compact masses of pyrite are but surficially altered. On the 500-ft. level, 110 ft. below the surface, stope No. 100, the pyrite was found coated with covellite of a purplish blue color, while on the Three R claim, bornite envelopes the crystal faces of pyrite. The high-grade ore is always found in close proximity to the major fractures and fades gradually into non-commercial unaltered pyrite on either side. Where the cupriferous pyrite is definitely crystalline it is but coated with chalcocite; enrichment seems to advance with distortion or crushing of crystal forms. L. C. Graton describes several slides made of Three R ore in his discussion of the 'Sulphide Ores of Copper.'* His further research along these lines will be awaited with interest, particularly as to the nature of unenriched portions of sulphide deposits in an ore horizon.

Other small lenses of high-grade ore have been exposed by drifts along the main fractures, but their distribution is very erratic between high-grade shoots. The rock on either side of the fault fissure contains disseminated chalcocite, 3 to 4% ore, which may later be mined and milled.

COAL PRODUCTION of Montana in 1913 was 3,240,973 short tons valued at $5,653,539, a record for the state. There were 3630 men employed, of whom 20 were killed, and the average coal broken per man-year was 893 tons.

*Trans. Amer. Inst. Min. Eng., May 1913.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Three R Mine

Date July 6, 1983

District Palmetto District

Engineer Clifford J. Hicks

Subject: Field Visit

In the company of Jack Pierce, Conslulting Geologist, 612 Morrell Blvd., Prescott, AZ 86301, Telephone 778-3445, visited the Three R copper mine in SE¼, Section 36, T22S R15E, Palmetto District, in the Patagonia Mountains, Santa Cruz County. Some of the 21 patented and 11 unpatented claims were viewed from very poor (not quite 4-wheel drive-but close) roads in areas of very high relief in Three R Canyon and Cox Gulch and by hiking. See Cumero Canyon 7½ min. Quadrangle. The claims are bounded on the east, north and south by ASARCO holdings. The Three R Mine ownership is as follows: One half interest held by Duane Bird and and Thomas Hall (with their wives) Nogales attorneys; one half by heirs of C. A. Pierce who are Mrs. Mary L. Pierce (¼ interest), Sallie Van Valkenburgh (1/8 interest) and Jack C. Pierce (1/8 interest). Most of our day on the property was devoted to finding old claim corners. Mr. Pierce is actively trying to sell the whole package of the congiquous patented and unpatented claims. Details concerning the mine are included in a data outline compiled and written by Mr. Pierce, A geological Review and Preliminary Precious Metal Evaluation by Mountain States Research and Development and a Master's Thesis by Paul A Handverger. Mr. Pierce kindly loanded these documents to the ADMR for copying. This has been done and copies will be mailed to the Phoenix office and one set retained in Tucson.

COMMODITY INFORMATION

DMMODITIES PRESENT C10: Cu, Pb, Ag, Au, Zn, AL.S.
RE MINERALS C30: CUPRIFEROUS PYRITE, COVELLITE, CHALCOPYRITE, CHALCOCITE, BORNITE, AZURITE,
OMMODITY SUBTYPES C41:
EN. ANALYTICAL DATA C43: ORE VALUES AVERAGED ABOUT 4% Cu WITH MINOR Au, Zn, Pb, AND Ag
OM. INFO. COMMENTS C50: ALUNITE MASSES OCCUR IN FAULT ZONE

GNIFICANCE

		PRODUCER
AJOR PRODUCTS	MAJOR	Cu, Pb, Ag, Au,
INOR PRODUCTS	MINOR	
OTENTIAL PRODUCTS	POTEN	
CCURRENCES	OCCUR	Zn, AL.S.

NON-PRODUCER

MAIN COMMODITIES PRESENT C11:
MINOR COMMODITIES PRESENT C12:
OCCURRENCES OCCUR:

*PRODUCTION

PRODUCER

RODUCTION (YES) (circle) *PRODUCTION SIZE (SML) MED LGE (circle one)

NON-PRODUCER

*PRODUCTION UND NO (circle one)

EXPLORATION OR DEVELOPMENT

STATUS

PRODUCER: STATUS AND ACTIVITY A20: H

NON-PRODUCER: STATUS AND ACTIVITY A20:

ISCOVERER L20: R.R. RICHARDSON
EAR OF DISCOVERY L10: 1897 *NATURE OF DISCOVERY L30: B *YEAR OF FIRST PRODUCTION L40: 1908 *YEAR OF LAST PRODUCTION L45: 1956
RESENT/LAST OWNER A12: C.A. PIERCE AND D. BIRD (1937-1960)
RESENT/LAST OPERATOR A13: TAYLOR AND BARCLAY (1956)
XPL./DEV.COMMENTS L110: FORMER OWNERS INCLUDE THE THREE R SYNDICATE (1909), N.L. AMSTER (1912). FORMER OPERATORS INCLUDE OLSON (1908), RICHARDSON (1911), AMSTER (1912-1913), THREE R

DESCRIPTION OF DEPOSIT

EPOSIT TYPE(S) C40: SHEAR ZONE
EPOSIT FORM/SHAPE M10: LENSES; VEINLETS; DISSEMINATED
EPTH TO TOP M20: *UNITS M21: *MAXIMUM LENGTH M40: *UNITS M41:
EPTH TO BOTTOM M30: *UNITS M31: *MAXIMUM WIDTH M50: 100 *UNITS M51: FT
EPOSIT SIZE M15 (SMALL) M15 (MEDIUM) M15 (LARGE) (circle one) *MAXIMUM THICKNESS M60: 450 *UNITS M61: FT
TRIKE M70: NNW-SSE *DIP M80: 60 S
IRECTION OF PLUNGE M100: *PLUNGE M90:
DESC. COMMENTS M110: LARGEST ORE LENS IS ABOUT 200 X 600 FT AND 10 FT IN WIDTH; MAXIMUM WIDTH OF FAULT ZONE IS 100 FT; VEINS EXTEND SEVERAL FT ALONG STRIKE

DESCRIPTION OF WORKINGS

Workings ore: SURFACE M120 UNDERGROUND M130 BOTH M140 (circle one)
DEPTH BELOW SURFACE M160: *UNITS M161: *OVERALL LENGTH M190: 885 *UNITS M191: FT
LENGTH OF WORKINGS M170: *UNITS M171: *OVERALL WIDTH M200: 834 *UNITS M201: FT
DESC. OF WORK. COM. M220: MAIN MINE WORKINGS INCLUDED A 3000-FT LOWER ADIT, 1000-FT UPPER ADIT, AND SEVERAL 1000 FT OF CROSSCUTS; 3 TUNNELS ON PROPERTY *OVERALL AREA M210: 738,090 *UNITS M211: SQ. FT.

GEOLOGY

AGE OF HOST ROCK(S) K1: JUR. ± 120 ± 60 M.Y. (SIMONS, F.S., 1974)
HOST ROCK TYPE(S) K1A: COARSE-GRAINED GRANITE OF COMORO CANYON
AGE OF IGNEOUS ROCK(S) K2: J.R.I.
IGNEOUS ROCK TYPE(S) K2A: RHYOLITIC TO LATITIC LAVA AND TUFF; SOME TUFFACEOUS SANDSTONE OR GRIT
AGE OF MINERALIZATION K3: L.C.R.E.T.-TERT.
PERT. MINERALS (NOT ORE) K4: PARALLEL STRINGERS, SEAMS, AND BANDS OF HEMATITE IN SHEAR ZONES; PARALLEL STRONG QUARTZ FISSURE VEINS IN
ORE CONTROL/LOCUS K5: N-S TRENDING, ROUGHLY PARALLEL STRONG QUARTZ FISSURE VEINS IN
MAJ. REG. TRENDS/STRUCT. N5: 10 MAJOR N-S TRENDING FRACTURES APPEAR TO BE REGIONAL CONTROL OF
TECTONIC SETTING N15: NNW-TRENDING PATAGONIA BATHOLITH
SIGNIFICANT LOCAL STRUCT. N70: EACH FAULT WITHIN SYSTEM BRANCHES, CAUSING SMALL BRECCIATED ZONES
SIGNIFICANT ALTERATION N75: METASOMATIC REPLACEMENT OF FELDSPAR IN GRANITE BY ORE MINERALS;
PROCESS OF CONC./ENRICH. N80: PRIMARY ENRICHMENT OF CUPRIFEROUS PYRITE AND CHALCOPYRITE; LEACHING
FORMATION AGE N30:
FORMATION NAME N30A:
SECOND FM AGE N35:
SECOND FM NAME N35A:
IGNEOUS UNIT AGE N50: J.R.I.
IGNEOUS UNIT NAME N50A: MOUNT WRIGHTSON FORMATION
SECOND IG. UNIT AGE N55:
OND IG. UNIT NAME N55A:
EOLOGY COMMENTS N85: SURFACE ROCK ABOVE ENRICHED AREA IS SEMI GOSSANIZED; MINERALIZATION ACCOMPANIED AND FOLLOWED FAULTING AND INTRUSION OF ANDESITE DIKES; SLICKENSIDES

GENERAL COMMENTS

GENERAL COMMENTS GEN:

REFERENCE 1 F1 < ABGMT-USBM FILE DATA

REFERENCE 2 F2 < HANDVERGER PAUL A. 1963 GEOLOGY OF THE THREE R MINE, PALMETTO MINING DISTRICT, SANTA CRUZ COUNTY ARIZONA: M.S. THESIS UNIVERSITY OF ARIZONA

REFERENCE 3 F3 < PROBERT F.H. 1914 THE THREE R MINE, PATAGONIA DISTRICT, ARIZONA; MINING AND SCIENTIFIC PRESS, VOL. 109, p. 174-176

REFERENCE 4 F4 < USBM FILES, THREE R MINE GROUP

F12 < BLM DISTRICT MINING SHEET 693 >

C30 < MALACHITE, ALUNITE >

L110 < MINING AND MILLING CO (1916-19), THREE R MINES INC. (1929 1930 1939-1941), BORDER MINES INC. (1937), D. BIRD (1945-46), W.R. GREEN, CALUMET AND ARIZONA MINING CO. PATAGONIA-SUPERIOR COPPER CO. CONSOLIDATED COPPER MINES CO. (1951) COLOSSAL MINES (1954): PROPERTY CONSISTS OF 21 PATENTED AND 14 UNPATENTED CLAIMS THAT ARE GROUPED IN A CONTIGUOUS UNIT >

K4 < QUARTZ-SERICITE GANGUE >

K5 < GRANITE PORPHYRY; LARGE, STEEPLY DIPPING LENSING ORE BODY OF DISSEMINATED CUPRIFEROUS PYRITE IN NNW-TRENDING FAULT ZONE; SPARSE COPPER MINERALIZATION IN QUARTZ-SERICITE VEINS AROUND ORE BODY >

N5 < MINERALIZATION: 3 MAJOR FRACTURE SYSTEMS TRENDING N-S, N75E, AND N30E, RESPECTIVELY >

N70 < THAT FORMED SMALL POCKETS OF ORE AWAY FROM MAIN OREBODY >

N80 < AND SECONDARY ENRICHMENT; SUPERGENE ENRICHED TO HIGH-GRADE CHALCOCITE AND SOME COVELLITE >

N75 < ALTERATION OF REMAINING FELDSPAR HAS RESULTED IN HIGH ALUMINA CONCENTRATION >

N85 < INDICATE THAT LAST MOVEMENT WAS VERTICAL DOWN PLANE OF FAULT >

F5 < ABGMT CLIPPINGS FILE THREE R MINE >

F6 < ADMR FILE DATA THREE R MINE >

F7 < SCHRADER F.C. 1915 USGS BULL. 582 p. 282-287 >

F8 < KEITH S.B. 1975 ABM BULL. 191 p.74 >

F9 < ABGMT FILES STANTON B. KEITH >

F10 < SIMONS, F.S. 1974 USGS MAP I-762 (1:48000) >

F11 < TENNEY JAMES B. 1927-29 HISTORY OF MINING IN ARIZONA; ARIZONA BUREAU OF MINES, p. 311-312 >

U.S. CRIB SITE FORM

RECORD IDENTIFICATION

*RECORD NUMBER B10 < >
*RECORD TYPE B20 < X, r, M >
DEPOSIT NUMBER B40 < >
*REPORT DATE G1 < 82 05 > YR. MO.
*INFORMATION SOURCE B30 < 12 >
*FILE LINK IDENT. B50 < USBM-0040230380 >

*REPORTER(SUPERVISOR) G2 < LARABA, PETER (last, first, middle initial) (CALDER, SUSAN R. (last, first, middle initial)) >

*REPORTER AFFILIATION G5 < ABGMT >
*SITE NAME A10 < THREE R MINE GROUP >
SYNONYMS A11 < COLOSSUS; RICHARDSON PROPERTY >
INC

LOCATION

MINING DISTRICT/AREA A30 < PALMETTO DISTRICT >
COUNTY A60 < SANTA CRUZ >
*STATE A50 < AZ >
*COUNTRY A40 < US >
PHYSIOGRAPHIC PROV A63 < 12 >
DRAINAGE AREA A62 < 15050901 LOWER COLORADO >
*LAND STATUS A64 < 01 (1979) >
QUADRANGLE NAME A90 < NOGALES (1958) >
*QUADRANGLE SCALE A100 < 62500 >
SECOND QUAD NAME A92 < CUMERO CANYON (1981) >
SECOND QUAD SCALE A91 < 24000 >
ELEVATION A107 < 5000 FT >

UTM
NORTHING A120 < 3482100 >
EASTING A130 < 522625 >
ZONE NUMBER A110 < +12 >

*ACCURACY
ACCURATE [✓ ACC] (circle)
ESTIMATED EST < >

GEODETIC
LATITUDE A70 < 31-28-30 N >
LONGITUDE A80 < 110-45-43 W >

CADASTRAL
TOWNSHIP(S) A77 < 0225 : : : >
*RANGE(S) A78 < 015E : : : >
SECTION(S) A79 < 36 : : >
SECTION FRACTION(S) A76 < NW OF SW OF SE >
MERIDIAN(S) A81 < GILA AND SALT RIVER >

POSITION FROM NEAREST PROMINENT LOCALITY A82 < 5.7 MILES NE OF NOGALES INTERNATIONAL AIRPORT >
LOCATION COMMENTS A83 < AT HEAD OF THREE R CANYON; 1.5 MILES EAST OF LOOKOUT MINE >

*ESSENTIAL INFORMATION
+ESSENTIAL SOMETIMES OR HIGHLY RECOMMENDED

DEPARTMENT OF MINERAL RESOURCES

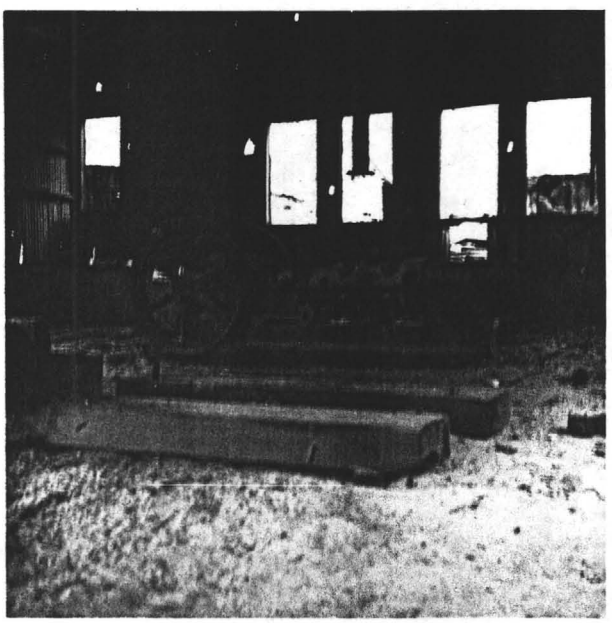
STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine	Three R Mine	Date	Oct. 21, 1963
District	Palmetto District - Santa Cruz County	Engineer	Axel L. Johnson
Subject:	Present Status. Information from G. A. Barber, geologist, Anaconda Co.		

References: Report of Sept. 8, 1960 and June 9, 1960

Present Status: A lease and option on the Three R mine has been obtained by the Anaconda Company from the former lessees, McFarland & Hullinger. No plans for exploration work on the property has been announced, as of this date, by the Anaconda Company.



[redacted]

OF NOGALES, ARIZONA. - MINING WORLD - 8/60

THREE R MINE

Do Not Reproduce

SANTA CRUZ COUNTY

Received the following information - McFarland & Hullinger did location work and annual assessment work in the Three R Mine area in March, April and May, 1963. Since then, a short time ago, Anaconda Co. has been given an option on the property. It is expected that the Anaconda Co. will now continue the exploration started by McFarland & Hullinger.

Memo ALJ 6-28-63

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine: Three R Mine

Date: September 8, 1960

District: Palmetto District, Santa Cruz Co.

Engineer: Axel L. Johnson

Subject: Present status - Information Herman Rhea

References: Report of June 9, 1960

Present Status: Property idle. Exploration work was suspended about 3 weeks ago (about Aug. 17), and all equipment removed. McFarland and Hullinger officials are reported to have stated that they found some ore, but not enough to warrant continuing of the exploration activities.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Three R Mine Date June 9, 1960

District Palmetto District, Santa Cruz Co. Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from George C. Davis and personal visit.

References Reports of Nov. 15, 1956 and May 22, 1956

Location About 8 miles south of Patagonia. Drive 5 miles SW of Patagonia on the Patagonia-Nogales highway. Turn left (SE) and drive 3 miles to the mine. The last mile is very rough and steep. (1 1/2 miles west of the Flux Mine).

Owners Duane Bird and C. A. Pierce, Nogales, Ariz.

Option to purchase or lease address -- Box 811, Tucson) McFarland and Hullinger, Box 238, Tooele, Utah (Local

W. D. Nelson, Gen. Supt.
George C. Davis in charge of Three R Mine exploration.

Principal Minerals Copper ore.

Present Mining Activity Diamond drilling from lower adit. 2 men working.

Geology See report of May 22, 1956.

Ore Values See report of May 22, 1956.

Past History (1) Mine was leased to Robert Lenon, Leland Wilson, and B. Vasquez in 1954, who shipped 8 carloads of ore (about 400 tons), averaging from 5 to 6 % copper. Mine was closed down on Jan. 11, 1955, after 6 months of operation.

(2) Richard Taylor leased the mine in Nov. 1955, and started shipments in Jan. 1956, and shipped 13 or 14 cars of ore to the smelter. Mr. Taylor stated that the reason he had to close down operations was that the smelters notified him that they would not accept any more of the ore on account of its high alumina content. Mr. Taylor closed down in Sept. of Oct. 1956, and the mine has been closed since that time.

Review of Recent Operations McFarland and Hullinger started their operations on April 16, 1960. Preparatory work consisted of repairing one mile of road, laying 1800 ft. of 6" aluminum air line, and installing a 115 c.f. m. compressor.

Diamond drilling was started on May 9, 1960, the location being about 1,800 ft. from the portal of the main lower adit. A Chicago Pneumatic diamond drill, capable of drilling 500 ft. is being used for this work. An EX core is ~~is~~ obtained.

Operators are now drilling on their 3rd hole. The first hole was drilled 200 ft. at an incline of 45 deg. down. The second hole was drilled horizontally for a distance of 200'. The third hole, also horizontal, is now in a distance of 160 ft., and it is planned to drill this a distance of 400 ft. The number of additional holes to be drilled will depend on the ore showings found, and, at present , is indefinite.

THREE R MINE REPORT

SANTA CRUZ COUNTY, ARIZONA

INTRODUCTION

Mr. Jack C. Pierce made available several copies of reports on the Three R Mine for Shattuck Denn Mining Corporation study and consideration.

The property is located in the Harshaw Mining District, Santa Cruz County, Arizona, about 4½ miles south of Patagonia and about 14 miles northeast of Nogales. It consists of 21 patented claims and 14 unpatented claims that are grouped in a contiguous unit.

Mr. and Mrs. Duane Bird, Mr. and Mrs. Thomas Hall, Mr. C. A. Pierce' heirs (Mrs. Mary L. Pierce, Sallie Van Valkenburgh and Mr. Jack Pierce) are co-owners of the property.

A shaft has been sunk and two adits have been driven for access to the main operation, and at least 30 test pits and short adits have been dug to test other areas on the claims. Some rather extensive diamond drilling has been done underground and on the surface to test potential ground to the east and north of the mine.

A field examination was made on December 5, 6 and 7, 1956, by Mr. T. W. Newell and C. W. Appelin. Mr. Richard Taylor, the most recent lessee, directed the visit through the 400 and 600 levels of the mine, and explained the ore potential that was developed by the surface diamond drilling, northerly from the main operations.

After studying the reports and maps at Mr. Duane Bird's office, the conclusion was reached that, if a possibility of an ore extension

exists, it must be northerly from the main operations on the fractures that have been mined. It was learned during the field examination and office map study in Nogales that the northerly area had been drilled from the surface with five holes. Of these holes, two encountered ore-grade rock some 400 feet apart; the remaining three penetrated part of the same fractures, but were poorly mineralized. Thus, the possible area potential was proved discouraging.

CONCLUSION

The Three R Mine has been worked out, as evidenced by the Amster stope. Some ore remains as pillars and level support; however, this tonnage is small. Wall rock reserves in the Amster stope, as indicated on the cross section map, have been mined out by the lessees throughout the subsequent years.

Thus, the Three R Mine has no significant reserve and has little chance of development into a mine of consequence.

GENERAL INFORMATION

Mr. Richard Taylor, as lessee, mined for nearly a year from the Amster Stope between the 600 and 400 levels. He hand-sorted essentially all the rock mined and had difficulty shipping 5 per cent copper ore. A discovery was made on the footwall side of the Amster stope on the 400 level, which indicates a possibility of small tonnage at or about 5 per cent copper. Mr. Taylor could not sink a winze and mine this rock at a profit.

The A. S. & R. Company smelted the ore from the Three R Mine, but penalized the shipper heavily for the excessive alumina content. Th e alumina content eventually precluded further purchase of the ore by

A. S. & R., and Mr. Taylor found himself without a market for the remaining ore that he mined.

Plans had been made toward building a small mill, and Mr. Taylor could not develop enough reserve tonnage to justify the expenditure. Therefore, after losing considerable money, Mr. Taylor dropped his lease.

Mr. William Catron, Bisbee, Arizona, was mine foreman at the time the greater reserve in the Amster stope was being mined out. He said that his company spent about $1,000,000 trying to develop more ore on the 900 level and to develop other fracture zone possibilities prior to abandonment. Mr. Catron concluded that the copper ore was deposited in a depositional zonal sequence because the vein material on the 900 level graded to pyrite, and the drilling has tended to substantiate his thoughts.

GEOLOGY

The Three R Mine lies in a complex of granite and trachyte country rock. Six major northerly-southerly fractures: A, B, C, D, E and F, appear to be the control in the region. The C and D zones were extensively mineralized with chalcocite, chalcopyrite and pyrite. All the essential tonnage that was mined was from this zone. These shear type fracture zones are apparently local in nature and were probably pressure release zones to the local tectonic forces. Mineralizing solutions subsequently invaded these fracture conduits and replaced the feldspar in the granite. Alteration of the remaining feldspar has resulted in high alumina concentration. Apparently some secondary enrichment resulted from ground water action as semi-gossanized surface rock is found above the enriched area.

CWA/hjl-12/21/56

Carl W. Appelin

THE THREE R MINING PROPERTY, SANTA CRUZ COUNTY, ARIZONA

PERTINENT DATA

VICTORY: Discovered in 1897 by R. R. Richardson who located and patented the claims.

From 1907 to 1912 the property was bonded to W. R. Green of Cananea, Mexico; the Lewishon interests; and the Calumet and Arizona Mining Company, all of whom did considerable work and returned the property to its original owner.

In May 1911 the owner found a small ore body and several carloads of 15% copper ore was shipped.

The mine was bonded to N. L. Amster of Boston, Mass. in April 1912. The Amster's interests operated the mine to October 1914. It was stated that they grossed more than three million dollars. There was some dispute regarding the last payment and the property reverted to the original owner, R. R. Richardson.

In 1914 or 1915, the Harrison interests of Houston, Texas built a specific gravity mill to treat a chalcocite ore. They were successful oil operators and the property again reverted to the original owner.

The Magna Copper Company of Superior, Arizona had been interested in the property for some time. They assumed further development including a diamond drilling campaign. All of which was done under the name of the Patagonia-Superior Copper Company. Their chief geologist, a Mr. Ettlinger, discussed the property with me a number of times. He spent months on the property and was very much interested in the area to the north of the present workings. It was his opinion that there evidenced the probability of a large low grade deposit with high grade shipping lenses on the footwall side. He stated that their manager, Mr. Browning, was generally of the same opinion. Later, it seems that a difference of opinion developed between officials of the Magma Copper Company and Mr. Browning resigned.

The Patagonia-Superior Copper Company abandoned the property. It went through the usual promoters spasms until it was purchased by Mr. Duane Bird and myself. We were not financially able to do anything more than ship some low grade ore and make an unsuccessful attempt to locate an ore body indicated by a diamond drill hole.

A number of well qualified mining engineers have examined the Three R property. Insofar as I know, they were all of the opinion that the property had excellent possibilities but the proposed plans of development differed.

As indicated by Mr. Ettlinger's file, the property produced six million two hundred ten thousand tons averaging eighteen dollars per ton, net smelter returns; one-third of which was probably net profit or three million seven hundred twenty-seven thousand dollars.

GEOLOGY

On the east flank of the Three mountain is the Flux Mine -- within the upfaulted block of the Patagonia Mountain (a substantial lead producer); on the west side of the Three R Mountain is the Three R Mine (a large copper property, having produced one of the largest bodies of chalcocite mined in North America.

The Three R Mine is located within a rather large area of binary, granite porphry. A gray, monzonitic dike (surface exposures of which are limited) intrudes the granite porphry and at certain locations contains some finely disseminated chalcocite that evidences the probability of a large, low-grade, deposit. This dike appears to be related to a deep-seated movement which was evidenced by severe faulting, shearing, and fracturing. This dike is similar to the dike which intrudes the Red Mountain rhyolite (Miocene Age) and is profusely impregnated with crystals and grains of pyrite, chalcopyrite, and chalcocite. Red Mountain is adjacent to the Three R Mountain and is therefore of geological importance as regards the Three R.

The Three R ore mined to date, is found within a system of north-south and north-75° east fractures. There is some evidence of a third system of fractures which strike north 30° west. These later fractures are obscured within the highly mineralized area of the ore bodies. They are, however, quite prominent at a location 1600 feet to the north of the Evening Star tunnel portal.

Evidence indicates that solutions accompanying or following the dike's intrusion and regional faulting, were the source of the copper mineralization; thatthis mineralization took place in at least two stages -- during and after intrusion and faulting. The rugged surface escarpment and outcrop evidence a deep-seated movement. This is especially true on the Three R and Hattie R. No. mining claims.

Past exposed work is not helpful to the small operator because the shipping ores above water level and within confines of the Evening Star tunnel are exhausted. For the major companies, the work done is helpful in outlining a development program that has opportunities for the development of large, low-grade copper ores. Such horizons should include substantial tonnages of high-grade chalcocite.

To those interested in the development of a large, low-grade, copper deposit, this property should be of interest. Its development will require ample capital and capable management.

12/49

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Three R Mine Date Nov. 15, 1956

District Palmetto Mining Dist. Santa Cruz. Co. Engineer Axel L. Johnson

Subject: Present Status. Information from D. F. Morris, Nogales.

Location About 8 miles south of Patagonia. For further details see report of 5/22/56.

Owners Duane Bird and C. A. Pierce, Nogales, Ariz.

Operators Not in operation.

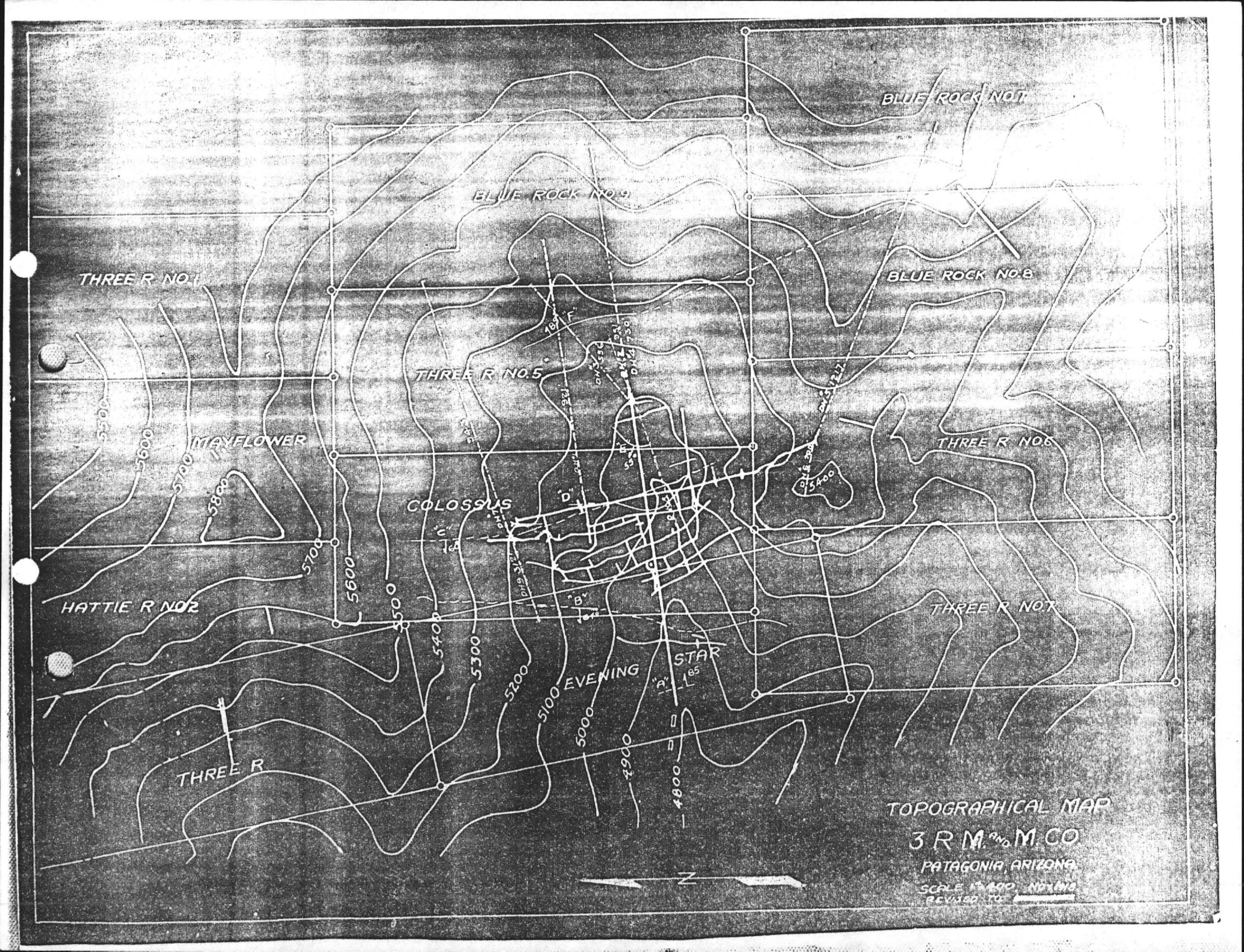
Principal Minerals Copper ore.

Production Rate No production.

Other Details See my report of May 22, 1956.

Present Status Mine has been closed down for about a month. Previous operator, Richard Taylor, was forced to close down operations on account of the fact that his ore was too low a grade and also because it contained high alumina. Mr. Taylor had reported to me previously that his recent shipments averaged about 3.2 % copper with about 15 % alumina, and that the smelters had notified him that they would want to purchase only a limited amount of this kind of ore.

References Report of this property under date of May 22, 1956.


BLUE ROCK NO.7
BLUE ROCK NO.9
BLUE ROCK NO.8
THREE R NO.1
THREE R NO.5
THREE R NO.6
THREE R NO.7
MAYFLOWER
COLOSSUS
HATTIE R NO.2
EVENING STAR
THREE R
5500
5600
5700
5800
5400
5300
5200
5100
5000
4900
4800
TOPOGRAPHICAL MAP
3 R M. AND M. CO.
PATAGONIA, ARIZONA.
SCALE 1" = 400'
REVISED TO

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Three R Mine Date Nov. 15, 1956

District Palmetto Mining Dist.x Santa Cruz. Co. Engineer Axel L. Johnson

Subject: Present Status. Information from D. F. Morris, Nogales.

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Production Rate No production.

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Present Status Mine has been closed down for about a month. Previous operator, Richard Taylor, was forced to close down operations on account of the fact that his ore was too low a grade and also because it contained high alumina. Mr. Taylor had reported to me previously that his recent shipments averaged about 3.2 % copper with about 15 % alumina, and that the smelters had notified him that they would want to purchase only a limited amount of this kind of ore.

References Report of this property under date of May 22, 1956.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Three R Mine Date May 22, 1956

District Palmetto Mining Dist., Santa Cruz Co. Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from Richard Taylor, Lessee.

Location About 8 miles south of Patagonia. Drive 5 miles SW of Patagonia on the Patagonia-Nogales road. Turn left (SE) and drive 3 miles on mine road to the mine. (1 1/2 miles west of Flux Mine.)

Owners Duane Bird, 243 Morley Ave. & C. A. Pierce, Nogales, Ariz.

Lessee and Operator Richard Taylor, Patagonia, Ariz. 10 % royalty.

Principal Minerals Copper ore

Number of Men Employed 4 & 5 men (sometimes only 4)

Production Rate About 3 cars (150 tons) per month.

Geology Country rock is granite. Ore lenses are found along faults in the granite formation. These faults dip about 60 to 70 degrees, and the copper ore is usually found on the footwall side of the faults. The ore lenses vary in size and depth. The largest ore lens found, which is now worked out, was about 200 x 600 ft x 10 ft. in width. The ore lens worked out by Mr. Taylor was about 100 x 100 ft. x 4 ft. in width. Several smaller lens have also been found.

Ore Values Mr. Taylor states that his recent shipments have averaged about 3.2 % in copper (principally chalcocite), and about 15 % alumina. Previous leasers reported from 5 to 6 % copper ore.

Milling and Marketing Facilities Operator has been shipping the ore to the A. S. & R. smelters at El Paso and Hayden, and also some ore to the Deming mill. Operator reports that he has been notified that the smelters will not accept any more of the ore on account of the high alumina content. He also states that he can not ship the ore to the Deming mill on account of the high freight charges.

Past History (1) The mine was leased to Robert Lenon, Leland Wilson and B. Vasquez in 1954. These leasers shipped 8 carloads (about 400 tons) of ore in 6 months, and reported that it averaged from 5 to 6 % in copper. They closed down on Jan. 11, 1955.
(2) Mine was leased to Richard Taylor in Nov. 1955. After spending about 2 months, preparing for ore production, shipments were started in Jan. 1956. About 12 or 13 cars of ore has been shipped from the mine by Mr. Taylor since that time.

Present Operations Operator is stoping ore from the upper adit, called the 300 ft. level.

Main Mine Workings
(1) Lower adit, about 3,000 ft. long.
(2) Upper adit, about 1,000 ft. long.
(3) Several thousand feet of cross cuts.

Proposed Plans Operator, Mr. Taylor, is looking for another property to operate, and would prefer a low grade, high silica copper property that can be operated by open pit methods. Mr. Taylor plans to mine and ship one more car from the Three R Mine, and then close down operations, as the smelters have notified him that they do not want to purchase very much more of this ore on account of its high alumina content.

Return file

3R MINE

SANTA CRUZ COUNTY, ARIZONA

LOCATION

The 3R property is located between Nogales and Patagonia approximately 3⅛ miles to the south of the Nogales-Patagonia highway. It is roughly nine miles by road from the property to the rail terminal at Patagonia. The road from the highway to the property is in fairly good shape.

HISTORY

In the early 1900's Mr. R. R. Richardson of Patagonia purchased the two or three claims which comprised the 3R Mine at that time. About 1906 it was optioned to the Lewissohn interests who did a certain amount of work and managed to locate no ore of any importance. Up to this time, although the fissures were strong, only low-grade ore had been developed. A short time after the Lewissohn's dropped their option Mr. Richardson did a considerable amount of work but succeeded only in developing a similar grade of ore as the Lewissohn's, namely 3 to 4% copper which at that time was impractical to attempt to mine or mill. About 1908 or 9 Mr. E. F. Bohlinger proposed to Mr. Richardson that he do a certain amount of work to the west of Richardson's previous work. Mr. Bohlinger encountered the high-grade ore that was later shipped over a period of several years and proved quite profitable.

In 1910 a Mr. Amster of Boston, Massachusetts, optioned the property for $550,000. He immediately began shipping ore and for a period of four years he shipped in the neighborhood of 50 to 100 tons per day or a total of 40 to 50 thousand tons that averaged 12 to 14% copper. Towards the last of his operations the ore had

dropped to a grade of 7 to 8% which at that time was marginal.

Mr. Amster dropped the property after paying Richardson something over $200,000. Since then there have been three mills built to handle the lower grade ore and a considerable tonnage of 4 and 5% ore mined and milled.

I question whether any of the milling operations, in spite of the excellent grade of ore, were ever successful. All of the milling attempts made use of gravity separation to which the ore is not amenable. The last attempt was in 1941 when the use of jiggs was again attempted as a means of concentrating the 3R ore. Any investigation would have indicated the utter impossibility of making a gravity separation of an ore of this character.

In 1926 the Magma Copper people purchased the property for $75,000 and did a large amount of sampling and diamond drilling. They did not, however, attempt any operation and sold the property for the same price to a Mr. Brown. Since the Magma work I question whether there has been more than 5,000 tons of ore mined from the property.

PROPERTY

The property consists of 30 to 40 (34?) patented mining claims with two mill sites. It covers the entire length of any possible extension of the 3R vein system. All important workings, so far as I know, are open.

WATER AND POWER

To mill the ores of the 3R would require the development of sufficient water, say in the neighborhood of 75 gallons per minute, from the Sonoita River. This pipe line from the Sonoita to the property would be 3.6 miles in length and pumping against

approximately a 400 foot head. This line was in until a few years ago and was a source of water for the past milling operations. The cost of such an installation would not be in excess of $25,000.

The power line from Tubac to Patagonia passes within 2½ miles of the property and within one mile of the location of the pumping plant on the Sonoita. Since Parker Dam power will be available in the next month or two this line will carry sufficient power for any requirements for 3R mining and milling and will therefore eliminate the necessity for the installation of a separate power plant.

GEOLOGY

The development at the 3R has been for the most part through a series of tunnels to the 600 foot level. From this lower tunnel level the property has been developed an additional 300 feet through a winze.

The important copper values are in the form of chalcocite both as veinlets and disseminations although there is a certain amount of chalcopyrite. The mineralization lies in a series of fractures cutting through a large intrusive mass of alaskite which varies from a quartz porphyry to a granite over a length of several miles. It has been termed alaskite which I presume with only field investigation is as good a name as any. This intrusive mass extends from the Flux Mine to well beyond the Ventura some three miles distant. It makes up the entire northwest end and west flank of the Patagonia Mountains. Within the intrusive mass are later dikes of rhyolite and fine grained granite.

The veins consist of six or seven strong fissures running roughly north-south. All of these are mineralized but only three have produced any important ore.

Diamond drilling and development to the 900 foot level has indicated a good grade of ore to this depth and there is no reason to expect that ore will not proceed to a considerably greater depth nor that additional ore bodies will not be found both to the north and south. I am inclined to believe, however, that the most undeveloped direction for ore is towards the south at depth. At the present time there is proven approximately 250,000 tons of ore that will carry 2.67% copper. Of this there is something around 80,000 to 100,000 tons developed and lying above the 600 foot level.

The veins are strong fissures carrying for a distance of several thousand feet along strike. They are roughly parallel and, so far as I know, no intersections of these veins have occurred either along strike or along dip. Aside from the chalcocite and some chalcopyrite there is a certain amount of pyrite present. This latter sulfide is not present ih abundance in the ore zones. It is possible that the chalcopyrite content will increase with depth but to the 600 foot level this has not occurred. The dip of the veins is roughly 70 degrees to the east. The widths of the mineralization vary from 4 feet to 15 or 20 feet.

MINING AND MILLING

In the past gravity methods have proven wholly unamenable. With our present knowledge even an inspection of the ore would indicate that such concentration would be lucky to give a 60% extraction. On the other hand the ore is ideal for straight flotation and there is no reason why something better than a 90% recovery can not be made which will produce a concentrate carrying

from 40 to 50% copper. Due to the fact that there is relatively little sulfide other than chalcocite it may even be possible to run a higher grade concentrate than the above. Except in the high-grade sections of the mine I should judge that approximately 50% of the copper values are in the form of disseminations and the same amount in the form of veinlets which are from 1/8 of an inch to 2 or 3 inches wide. The latter, of course, is much more readilly freed for floating than the disseminations.

Due to the fact that the veins are at a steep angle and that the wall rock stands open without any timber with practically no sloughing low mining costs would be obtained over the widths we have available. I believe that a mining cost, including the surface shops, would not exceed $1.00 to $1.35 per ton delivered to the mill.

Above the 600 foot tunnel level there is sufficient ore developed so that mining operations could be started with only minor costs for stope preparation. In other words, there is available and developed at the present time sufficient ore to furnish a 200-ton mill for more than a year with ore carrying 2.67% copper.

With the present price of 17¢ per pound of copper I believe it entirely possible to considerably augment this tonnage by lower grade ore and still make a fair profit. While the maps are not available I recall that there is a considerable tonnage of ore not included under the 2.67% category. I have no way, until the maps are obtained, of ascertaining just what this tonnage may be.

I believe it possible and probable that a profit on the 2.67% ore would amount to five or six cents per pound of copper produced and that on a 12¢ copper under good management approximately 1 cent per pound profit could be made. Assuming a 200-ton capacity, 17¢

copper and 2.67% ore I believe it possible that a profit of something in excess of $500.00 per day could be obtained. The ore contains relatively low-grade gold and silver values which can not be considered as affording any profit.

FINANCING

It would require a present capital outlay in the neighborhood of $20,000 to $25,000 to obtain the deed and retire the mortgage. This is a variable figure and may run somewhat under this depending upon the price the man holding the deed is willing to dispose of his holding but $9,000, which is included in the first figure, is definite as that is the amount necessary to retire the mortgage. It would not be necessary, however, to spend this latter for two or three months or until just before the date of foreclosure. In addition to the $25,000 it will probably require an additional $1,500 to resample those sections of the mine in which a small amount of mining has been done since the Magma Copper Company sampled the property. It should be remembered that the Magma maps, which I know are entirely reliable and of which I have made a careful study during the course of several days, will be available when the deed is purchased.

The mine is in such shape that an R.F.C. loan should readily be obtained for the main financing. I would anticipate little delay in obtaining such a loan due to the fact that the property is so extensively developed and ready for operation. I have estimated that $100,000 to $150,000 will be sufficient to construct a 200-ton mill and develop the necessary water together with the usual surface equipment of compressors, sharpeners and rough shop buildings. Production could be started well within a period of six months.

There aretwo advantages of using R.F.C. funds other than the money itself. (1) A guaranteed price for copper produced over a two and one-half year period and, (2) From my knowledge of other such loans the equipment is more readily and quickly obtained.

E. E. Maillot

March 23, 1942

1957 - Head Geophysics Research Dept, P.D.

Maillot, E. E. Box 353
~~Patagonia, Arizona~~ Los Altos, Calif. 4-3-42

See 3R MINE (Santa Cruz Co.) - Re letter and report

See 3R MINE - Re reports for prospective operators 2-10-43

NAME OF MINE: THREE R

COUNTY: S. CRUZ
DISTRICT:
METALS: CU

OPERATOR AND ADDRESS: DATE:		MINE STATUS DATE:	
5/1/44	Duane Bird, Nogales	5/1/44	Shipping
		10/46	Idle

[redacted]

3-R MINE

Cu

Santa Cruz 12 - 1 T 23 S, R 15 E

Duane Bird, Nogales '43

Edwin A. Stone 6-8-38

3R Mine, Richardson Property

The 3R mine is reached by driving out from Patagonia on the Nogales highway for 5½ miles to a gulch just past the Circle Z ranch, and taking the road to the left to its end, a distance of about 3½ miles.

The 3R mine has produced from secondarily enriched copper ores developed on nearly [redacted] fractures. The greater part of these fractures contain little ore but "C" & "D" fractures each have one ore shoot and "C" fracture has from 1 to 7 feet of spotty chalcocite ore north of the Amster ore shoot. The Amster ore shoot yielded 33,000 tons of 9.82% Cu grade. A few thousand tons of ore is left on "C" fracture north of the Amster stope. The Amster shoot became very low grade at the 800 level marking the greatest depth of secondary enrichmnt on "C" fracture; the enrichemnt zone had a depth of about 400 feet. — estimate 5% Cu

The Amster stope owes its existence to a change of strike of "C" fracture. This change in strike resulted in tension fractures on the wall opposite the convexity of the change in strike permitting more thorough primary mineralization by pyrite which carried very low grade copper. In turn, the stronger shearing on "C" fracture than other fractures gave better preparation for mineralization. The peculiarly favorable structural conditions [redacted] favored secondary enrichment at this point as well as the more thorough primary mineralization. A factor of possible importance in secondary enrichment is the position of this favorable structure below the gulch where water circulation was more intense. The richness of the secondary ore is dependent directly on two factors: the percentage of pyrite in the sheared granite porphyry, and the perviousness to water. Granting the second condition, the percentage of primary pyrite wholly governed the richness of the ore for replacement by chalcocite is practically complete within the orebody.

The much less valuable orebody on "D" fracture is due to the intersection of "D" and "E" fractures (which diverge in depth), and to the splitting up of these fractures where they encounter an irregular "andesite" dike at a low angle on the strike. The ore is very lean in its primary state but was secondarily enriched.

A prominent zone of shearing marked by saddles and slight iron staining extends [redacted] from the 3R. This zone is exposed in the 400 level workings where it contains no valuable mineralization. It probably is partly later than the mineralization or was too tight for secondary enrichment.

Search for conditions favorable for another good body of secondary ore was not successful. The fractures have been developed by drifts, and the Magma diamond drill holes encountered nothing of much interest. Hole #5 encountered 10 feet of ore averaging 5.9 % Cu but hole #10 from the same set-up gave no values except where the core shows the bit followed a small chalcocite seam.

Probably small orebodies can be developed but doubt that another Amster stope will be found. This is a good place to drop some money with little return.

SANTA CRUZ COUNTY

Palmetto District
T22S R15E Sec 36 SE¼

THREE R MINE

Mining World May 1963 p. 37

USGS Bull. 540 p. 347
USGS Bull. 582 p. 282

ARIZONA MINING JOURNAL Issues of
Sept. 1917 p. 21 Aug. 1919 p. 15
Nov 1919 p. 13 March 1920 p. 24
Feb. 12, 1922 p. 29 ; June, 1918, p. 42
See: ABM # 129 p. 65

Map on microfilm of the claim groups surrounding the Three R mine (original upstairs,rolled)

Geology of the Three R mine, Palmetto Mining District, Santa Cruz County by
Paul A Handverger 1963 Geology File

ABM Bull. 191, p. 74

MILS Sheet sequence number 0040230380

Sheriff sale, to [illegible] Jn. 24, 1942

Presume this report compiled 1943 in application for War II premium prices. [illegible]

THREE R MINE

Santa Cruz County, Arizona

Location:

The Three R property is in the Palmetto-Harshaw Mining Districts (Patent Map states Harshaw Mining District and U.S.G.S. Bulletin states Palmetto Mining District) 4.5 miles south of Patagonia, in the Patagonia Mountains, Santa Cruz County, Arizona. The property is more particularly described as Secs. 31, 35, and 36, T. 22 S., R. 15 E.

A truck road connects the property with the main black-top highway between Nogales and Bisbee. The distance from the mine to the black top is 5.2 miles. The distance from the mine to the Nogales high tension power line is 3.0 miles. The distance from the mine to Patagonia, the nearest railroad shipping point, is 7.8 miles.

Elevation is about 5,000 feet. Topography is rugged.

There are 21 patented claims comprising 349.166 acres. Patent No. 922927 November 10, 1923, recorded in Book 7 of M. D. page 129. There are also 12 unpatented claims. Some work was done on these claims in 1942 and "Intention to hold without Assessment Work" was filed for the years 1942-43.

History:

The property was located and partially developed by R. R. Richardson, an early pioneer. The Amester interests (under bond and lease from Richardson) later blocked out and mined one of the largest lenses of pure [illegible] chalcocite ever discovered.

The Harrison interests (several years after the Amester interests had abandoned the property) built a 60 ton semi-flotation plant and milled substantial tonnages of 3-4% copper ores.

After a period of several years the Magma Copper Company purchased the property and completed a limited diamond drilling program which disclosed about 100,000 tons of 2-3% copper ore. This company later sold the property to promoters. For a number of years the property has withstood the spasms and abuse that often attend such ventures.

More than a year ago (Jan. 1942) the property was sold by the sheriff of Santa Cruz County, Arizona. Title is now vested with that purchaser (C. A. Pierce, C/o United States Potash Company, Carlsbad, New Mexico).

Improvements:

The main haulage tunnel is tracked with 16# rails, a distance of approximately 2,000 feet.

There is an additional 3,000 feet of development work on two levels, two-thirds of which is of future value, the remainder having served its purpose.

There are six stopes partially filled with milling grade ores. Most of the loading chutes are in fair condition. Ladderways are intact but pipe lines, air receivers, etc. have been removed.

The physical condition of the mine workings is very good. The walls stand well and no serious convergence was noted. Underground openings and the main tunnel level are dry and dirty. The only water at the mine site is that in the Bohlinger stope - perhaps 500,000 gallons. It did not appear that the make-up water was of appreciable volume. The only reliable source of water is the Sonoita River about 300 feet lower and several miles distant.

There are two buildings at the mine location that "fit into" any future development. The power plant building, approximately 50' x 60' x 18' to the trusses - galvanized corrugated iron on a frame structure. This building is within the flood plain of the canyon but could be pr[illegible]

by a cribbed or concrete retaining wall. This building could comprise the first unit of a concentration plant. If so, another power plant building would be required or the power line from Nogales to Patagonia and Fort Huachuca would have to be connected in. There is also a small mill building that could be used to house a nominal modern crushing plant, about 20' x 40' x 24' to the eaves.

At the camp location (1-1/2 miles down the canyon) are two modern houses, well furnished. One is adobe and the other frame. A satisfactory pumped water supply and gravity tank are in use.

Development and Ore Reserves:

All large tonnages of exposed shipping ores have been mined and sent to the copper smelters at Douglas, Arizona and El Paso, Texas. There is approximately 4,000 tons of 5% copper ore as chalcocite in pillars and around the perimeters of the old stopes. About half of this tonnage is easy of extraction and the balance more difficult, due to open stopes, some of which are partly filled with milling grade ore.

There are also approximately 80,000 tons of 2.47% chalcocite milling grade ore and 18,000 tons of 5% shipping grade ore indicated by core drilling. These estimates include a 10% reduction of the copper content as a dilution factor. This core drilling was done by the Harrison interests and the Magma Copper Company. The actual drill logs and their interpretations were recorded by competent engineers and there is no apparent reason to question their accuracy. However the general statements of many qualified mining men in Arizona are that "drilling developed 200,000 tons of 3-1/2% copper ores."

Geology:

The ore bodies developed to date are on steeply, westerly dipping north-south fractures at or near their junction with the main E-W fracture. They are large and regular in section. Their depth extensions have not been carefully prospected. The enclosing alascite formation (a binary granite) is definitely silicified at ore body locations. This is quite interesting in that a system of moderate but persistent cross-fractures showing definite alteration exists but has received little if any attention. These cross-fractures are most prominent to the north and east. They have a physical and mineralogical expression both on surface and underground.

The workings are sufficiently extensive to afford excellent core drill hole locations.

The alascite is medium hard but uniform in texture and easily cored.

Proposed Mining Program

Shipping Grade Ore:

With the present 17¢ per lb. price for emergency copper the ore must be 3-1/2% in copper content to break even. A 25¢ per lb. price for this marginal ore would bring this property to the production stage much more rapidly and the volume would be materially increased.

There are approximately 4,000 tons of ore in the perimeter of the old stopes and in pillars that will average 5% Cu. This ore should show an operating profit of about $ .50 a ton or $10,000, which will not pay for the minimum, necessary, immediate improvements.

In order to handle this shipping ore efficiently the broken milling

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grade ore now in portions of many of the old stopes should be drawn off and trammed to surface (about 3,000 tons). Several grab samples of this ore indicated that it could be partially hand-sorted and shipped. The samples averaged 2.2% Cu. A rough hand sorting should raise this grade to 3% in which case it could be shipped at a small loss and the stopes would be in shape to receive the shipping grade ores (4 to 6% Cu.) Smelting capacity is of course a factor in this case. Additional exploration should develop substantial tonnages of high grade shipping ores.

Milling Grade Ores.

The amount of milling grade ores actually blocked out (exposed on three sides) is small - about 10,000 tons of 2.20% Cu. There have been estimated by competent mining engineers to be 80,000 tons of 2.47% Cu. ores and 18,000 tons of 5% cu. ore developed by core drilling. In view of the limited amount of drilling (about 6,000 feet) the results were satisfactory. A large area of unexplored but attractive territory remains to be prospected in an orderly manner and upon a predetermined pattern. The development work necessary to block out this milling grade ore would be about one foot of advance per 100 tons of ore. However, there should be at least 100,000 tons of ore in sight before a treatment plant is built.

Remarks:

The writer is conversant with the history of this property since its discovery. As a producer of high grade copper shipping ore it has a remarkable record. As a producer of good grade concentrates its

[illegible] and equipment for 10 men, office, et[illegible]	$10,[illegible]
Blacksmith and general repair shop with anvil, grinders, drill press, forge, small tools and supply stocks, etc. and 50 H.P. Caterpillar power unit	20,[illegible]
6 Mine Cars - 16 to 20 cu. ft. capacity	1,600
1 Air Compressor Sullivan Class WN - 102-C Vericle V, two stage, 445 cu. ft. with Caterpillar D - 13,000 full diesel engine	10,000
[illegible] - Rock drills, steel, detachable bits, etc.	2,500
2,000 feet of 2" air line and 1,000 feet of 16# track	4,000
Roads - Extensions, repairs, and maintenance	5,000
Total	$53,100
Labor	7,000
Grand Total	$60,100

Note: Connecting with the Nogales power line would eliminate power unit but require more copper, so is probably "out" at this time. Nevertheless it has possibilities.

Production - Second Stage

To drive 2,000 feet of exploratory work in developing the ore body outlined by core drilling. The high grade ore to be stoped and shipped; the milling grade ores to be blocked out pending the erection of a mill.

This stage should produce four to five times as much shipping ore as stage one and to block out 100,000 tons of milling grade ores.

On 17¢ copper, returns from shipping ores should about pay for the development and extraction costs. Twenty-five cent copper should pay off the indebtedness and prepare for the installation of a temporary milling plant.

One hundred thousand tons of good grade milling ores should be

required (at least 75% blocked out) before a mill is built. The concentration of a chalcocite ore in an alascite gangue should not be difficult one. Should it develop that a part of this milling ore is finely disseminated, the problem is not materially complicated.

It seems unnecessary at this time to go into detailed methods and cost statements of beneficiation. When the physical and chemical characteristics of this partially core drilled ore body are known, the copper will be obtained through selective mining or concentration, if that copper is needed.

There are certain conditions of this property that fit in with the present emergency. Work can be started immediately with a small crew and minimum of equipment. As equipment and materials are obtained production will be increased. For maximum, initial production a better price than 17¢ per lb. should be allowed.

The writer has not made a complete sampling on this property nor personally examined the drill cores. The tonnages and metal contents noted in this report are a matter of record with the Magma Copper Company, Superior, Arizona, and Hugo Miller, Nogales, Arizona (records from several carload shipments). The writer did take sufficient pilot samples to verify, to his own satisfaction, the accuracy of the statements made.

It is recognized that this preliminary report is sorely lacking in detail, maps, and corroberating data, however it is hoped that it may be somewhat helpful.

Respectfully submitted,

s/ C. A. PIERCE E.M.

About March, 1943

THREE R MINE

LOCATION

{Also referred to as Palmetto-Harshaw Mining Dist.

This copper property is located in the Harshaw Mining District, Santa Cruz County, Arizona about 4½ miles south of Patagonia and 14 miles northeast of Nogales. It consists of 21 patented claims and 14 unpatented claims, all contiguous, on the upper west slope of the Patagonia Mountains between elevations of approximately 5,000 and 5,800 feet. It is reached by some 3½ miles of ungraded rodd from the paved highway connecting Patagonia with Nogales. The nearest railhead is at Patagonia, about 7½ road miles away on a Southern Pacific branch line.

OWNERSHIP

The Three R.Mine ownership is as follows: One half interest held by Duane Bird and Thomas Hall (with their wives), Nogales attorneys; one half by heirs of C. A. Pierce who are Mrs. Mary L. Pierce (¼ interest), Sallie Van Valkenburgh (1/8 interest) and Jack C. Pierce (1/8 interest).

HISTORICAL

4. Discovered in 1890, the property was explored and developed in minor ventures by W. R. Green of Cananea, the Lewisohn interests and the Three R syndicate prior to 1909. During that period there was produced only a small tonnage of high-grade chalcocite ore. Between 1909 and 1912 R. R. Richardson (for whom the property derives its name) and the Calument and Arizona Mining Co. developed and shipped to the El Paso smelter considerable 5-15 percent copper ore.

In April, 1912 N. L. Amster of Boston, Mass. acquired the property for $550,000 and by August, 1914 had shipped about 30,000 tons of ore averaging 9 percent copper with gross value reported at more than $1,000,000.

In the 1920's Magma Copper Company blocked out ore by diamond drill and underground work and erected a mill which operated until a severe drop in copper price. (Details of this operation are not immediately available to the writer but are on file in the law offices of Bird and Hall in Nogales).

Early in World War II the property was acquired by Duane Bird and C. A. Pierce, who operated it profitably in a small way throughout the war. Ore was obtained by new development, pillar trimming and other scavenger operations in the principle workings of the property. The small profits were applied to exploration for an untapped ore body discovered by a Magma diamond drill hole. Operations were suspended at the close of the war and the withdrawal of Premium Price plan support. (Have detail on this operation)

In 1950 Kennecott Copper Corp., recognizing a part of the property as a potential, large, disseminated copper deposit made cursury examination and declined further interest, because the exposed deposit was not indicative of a large enough operation for Kennecott. This Corporation referred the mine to Consolidated Coppermines Co. and, under a lease-option agreement, this company conducted a comprehensive surface and underground geological mapping and sampling job on the property during 1951. Five diamond drill holes placed in the granite and trachyte porphyry formation suggested as a possible commercial disseminated deposit were disappointing. The formation is copper enriched but sub-marginal except in narrow fault and fracture zones where copper values were consistently attractive though representing small volumes of ore.

Following Consolidated's abandonment of the property in Sept,, 1951 two local groups have held leases on sections of the ground to exploit the near-surface enriched fractures discovered by aforementioned diamond drill exploration and to mine lower-grade segments of the old mine. Twenty two cars of ore were shipped by these operators who recently suspended operations and relinquished their interests in the property. We are told the reason for abandonment by the lessees on the new ore was internal friction among the partners in the venture. The group shipping from the old workings met with smelter resistance to the ore due to high alumina content. The grade of all 22 cars ranged between 3 and 9 percent copper.

PRESENT STATUS

The Three R Mine is available for purchase, lease and option or bonded lease. Ample time for extensive examination will be allowed to any responsible party. Initial cash payment for an option to lease or purchase would be low. Terms for lease and purchase will be reasonable.

OWNER'S OPINION

Although there is established a limited volume of direct-shipping ore on the property, the ultimate success of an operation at the Three R depends on a milling operation. We believe that examination will disclose sufficient milling grade ore to justify a small mill, based on a copper price in excess of 30¢ per pound.

There are three geologically attractive and yet unexplored potential ore horizons on the property. We believe that Coppermines was interested primarily in the prospects of an open pit operation at the point of their drilling operations and paid little or no attention to indications of ore sources that could be exploited by underground mining methods.

In summary, it is our opinion that the Three R Mine should be attractive to experienced operators with the financial and technical ability to confirm indicated mill-ore reserves and to place a mill in operation. The unexplored, favorable ore horizons should enhance the attractiveness of the property as a potential long-lived copper mining operation.

Jack C. Pierce
September 25, 1956

See 5/30/79 Addendum attached.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Conley Leaching Plant Date Jan. 6, 1965

District Palmetto District, Santa Cruz County Engineer Axel L. Johnson

Subject: Mine Visit. Information from Ted Jones, Foreman

Location: In Three R Canyon, about 6 miles south of Patagonia. Sec. 35 - T. 22 S. - R. 15 E.

Owners & Operators: Conley-Nelson Mining Co., 2462 N. Jordan Drive, Tucson
Paul N. Conley, 2462 N. Jordan Drive, Tucson & Lloyd Nelson, Tucson, owners.
Ted Jones, Foreman

Number of Claims: 4 unpatented claims

Principal Minerals: Oxidized copper ores.

Present Activity: Leaching of the copper ore. 1 man working daily and 3 men working on week ends.

Leaching Facilities:
(1) 1 leaching precipitation tank - 8 ft. wide, 20 ft. long and 5½ ft. high built of lumber.
(2) 1 leaching precipitation tank - 7 ft. wide, 14 ft. long and 4 ft. high, also built of lumber.
(3) 4 additional tanks slightly smaller, the last one used for water collecting.
(4) 1 dam across the Three R. Canyon, a short distance below the precipitation tanks.
(5) 1 pump at the dam for pumping the water for use in the leaching operation, with a 2" pipe line from the dam to the leaching dump.

Review of Operations: (1) The first precipitation tank was built about January, 1964, and the dam across Three R. Canyon and the pipe line was installed about the same time.
(2) The second precipitation tank was built in July and August, 1964.
(3) A well was drilled on contract to a well driller in August & Sept. 1964, in order to provide water for the leaching operations. This was later abandoned because it did not supply enough water.
(4) The additional precipitation tanks were built since Sept. 1, 1964.

The ore leached comes from the side of a fairly steep hill about 1/4 mile above the leaching plant. There is little or no overburden to remove.

After drilling and blasting, the ore is loaded into a dump truck with an end loader, and then hauled a short distance to the leaching dump, which is located about 100 yards from the precipitation tanks and at a higher elevation than the tanks.

At the leaching dump, the ore is sprinkled with water, the pregnant solution running into a sump, from whence it is siphoned off into the precipitation tanks.

From the last tank, the leaching solution is pumped back to the leaching dump and allowed to re-circulate.

The water used is pumped out of the dam on the Three R. Canyon Creek by means of a small pump through a 2 inch pipe line. At present, there is only enough water to run the plant about 6 hours each day. The well, which was drilled last fall, did not provide any water, but operators plan to drill another well in a different location soon, hoping to develop sufficient water for a full time leaching operation.

Sulphuric acid is added to the water at the precipitation tanks. Information as to the amount of acid added was not available.

Scrap iron used for the leaching operation is obtained from the Patagonia dumping grounds.

Proposed Plans: To drill another well as explained above.

May 8, 1943

Mr. E. G. Dentzer
Magma Copper Company
Superior, Arizona

Dear Mr. Dentzer:

Thank you for your letter of May 7 and for your kindness in making available to our Department the data on the Three R Mine.

I will arrange either to look over this material myself or to have our field engineer in the Globe district, Mr. Andrew Macfarlane, look them over and will arrange to do this at some time other than on a Saturday, Sunday or Monday.

With best wishes and kindest regards, I am

Very truly yours,

J. S. Coupal, Director

JSC:kk

Magma Copper Company
SUPERIOR, ARIZONA

May 7, 1943.

Mr. J. S. Coupal, Director,
Department of Mineral Resources,
413 Home Builders Building,
Phoenix, Arizona.

Dear Mr. Coupal:

This will acknowledge the receipt of your letter of May 6th relative to the Three R. Mine at Patagonia. As you know, the Magma Copper Company owned this property for several years and did considerable work there. Most of the maps and I believe the drilling records are still here in our Superior office. However, the only report we have on the property is a very short one made in 1913 in conjunction with reports on some other properties in the Patagonia District.

The maps, etc. which we have covering the Three R. property could not very well be transplanted to the files of your Department, and neither are we able to spare the time to go over the materialwith the present owners of the property due to the very great shortage of manpower in our organization. However, if you or some member of your Department wishes to come to Superior and go through the material which we have covering the property, we will do all possible in our power to assist, and you can then turn the desired information over to the new owners of the property.

If and when you send someone here for the information, I request his visit not be made on Saturday, Sunday, or Monday, as those are measuring days in this mine, and there is no one available in the Engineering Department for any other than routine work on those days.

Yours very truly,

E. G. Dentzer

E. G. Dentzer,
General Manager.

EGD:P

3 B mine

May 8, 1943

Mr. Dean Steele
156 Montgomery Street
San Francisco, California

Dear Mr. Steele:

Thank you for your letter of May 5. I have written confirming the wire from Mr. Willis to Mr. Duane Bird and as soon as I get a reply I will advise you. If necessary, I will arrange to see Mr. Bird as soon as I know that he will make terms which are reasonable, and as soon as the authorization is granted to offer the property I will advise you.

The information available is rather meager but I do know that the property was owned or operated at one time by the Magma Copper Company. I have been able to get permission from the Company to look over their report, drill logs, and so forth, and get complete information. I will not do that, however, until I get work from Mr. Bird or until you do as to the terms of a possible deal.

Regarding our friend, Tiny Salmon, will say that he passed away September or October of last year from a heart attack. As his deal was entirely personal and depended upon his making the contact with capital, nothing has come of the deal. Other phases of the same general plan are being considered by independent groups but these parties are working on their own and I have only an academic interest in the results.

With best wishes and kindest regards, I am

Very truly yours,

J. S. Coupal, Director

JSC:kk

P. S. In your letter you mention your desire of all the information and the authority to deal, also the profit you and I are to realize. As Director of the Department of Mineral Resources it is prohibited in the law creating the Department that the Director or any of the employees receive any fees, commissions, or acquire active interests in any mining property while in the employ of the State.

DEAN STEELE COMPANY
156 MONTGOMERY STREET
SAN FRANCISCO, CALIFORNIA
GARFIELD 1509

May 5, 1943.

J. S. Coupal
413 Home Builders Building
Phoenix
Arizona.

Dear Mr. Coupal:

Thank you for the letter and report on the 3R mine. I had to go to Los Angeles after receiving the wire from Mr. Willis and did not have the opportunity to write you before this.

I have some people interested in the mine and I would like to have the information concerning the title situation that you mentioned in your letter, and also the terms on which the mine can be purchased.

When I sent the wire the other day I had the people here from the east and wished to give them all of the pertinent data I had, but I did not have sufficient information as to price and terms and, consequently, this matter had to be left open until such time as it is available.These people are interested and have all the money to undertake any size operation they are sold on.

Please send me all the information you have on this property and the authority to make a deal . Also the profit you and I are to realize.

How did Tiny's deal come out? I ahven't seen him in several years but I did talk to an attorney by the name, I believe , of Laughlin in Los Angeles who said he couldn't make the deal make sense.

With best wishes and kindest regards, I am,

ds/m

Sincerely yours,

Dean Steele.

Dean Steele.

May 6, 1943

Mr. Ed Dentzer
Magma Copper Company
Superior, Arizona

Dear Mr. Dentzer:

The parties owning the Three R Mine at Patagonia, Santa Cruz County, are trying to make plans to get into operation. They lack important information and I understand that the Magma Copper Company has drilled the property and undoubtedly have a record of the billing logs and also undoubtedly have a report on the property.

This information would be of great value to the proposed efforts of the owner in getting the property into production. If the information could be placed in our files or if you would permit us to make copies of the information, I am sure it would assist in getting another property into production.

If you care to send me copies of the information, I would be glad to follow up and see what can be done toward assisting the operators.

Very truly yours,

J. S. Coupal, Director

JSC:kk

April 13, 1943

MEMORANDUM

Three R mine
Patagonia Dist.

To: Director, Dept. Mineral Resources
From: George A. Ballam

Mr. Duane Bird, co-owner of this mine, informed me that his partner, C. A. Pierce of Carlsbad, N.M., has had considerable correspondence relative to opening this mine, especially in view of the possibility of increased copper price. They have definitely turned down all overtures in this direction from Mischell and others who they do not feel would operate to advantage. Mr. Carl Lancaster has had some contacts on the subject, as also other substantial operators. Mr. Bird has been pretty busy on the Wolverine-Denn case, and has not gone into the matter, but believes he will finish the case in a couple of weeks, at which time he will consult with the department as to ways and means of getting the Three R into production.

Meanwhile, and anticipating that any operator will desire to ask for government aid, he is anxious to obtain from Magma Copper Co., logs of drilling they performed on the property. He feels that this information would be essential in substantiating application for loan. Due to the nature of the ore deposit, and the probable negative results obtained by drilling this type of ore occurrence, the logs may not be of material assistance. However, I informed him that I would transmit his request to the department, in the hope that something may be done to get access to this type of information.

As you know, there are a great number of cases where valuable records and reports are in the hands of the larger companies, and in view of the copper emergency, it might be possible to have at least partial access to this information - say access on the part of the department, without complete publicity. This procedure might not meet with so much opposition from the companies.

GAB.

May 5, 1943

Mr. Duane Bird
Nogales, Arizona

Dear Mr. Bird:

I have talked many times with George A. Ballam and with others about the Three R property. On April 9 I had a letter from Mr. Dean Steel, 156 Montgomery Street, San Francisco, California, whom I have known for sometime, stating that he and his associates were interested in the purchase of a copper property to Mr. Steel and sent a copy of a mine owner's report which I have on file here.

On April 30 Mr. Steel wired me stating, "Have buyers for Three R stop wire me price and terms of deal and authority to proceed stop letter follows." As I was out of the State at the time Mr. Charles F. Willis, who is Chairman of the Board of Governors, wired you repeating the wire from Steel and suggesting that you communicate direct with Mr. Steel.

I do feel as though the Three R is one of the potential copper producers and, due to the fact that we are in urgent need of increased production of copper from Arizona for the war effort, feel that some steps should be taken to get the property into immediate production and hope this may be a connection which would lead along the right lines.

With best wishes and kindest personal regards, I am

Very truly yours,

J. S. Coupal, Director

JSC:kk

CHECK SERVICE DESIRED OTHERWISE MESSAGE WILL BE SENT AT FULL RATE			
DOMESTIC		FOREIGN	
FULL RATE		FULL RATE	
DAY LETTER		CDE RATE	
NIGHT LETTER		URGENT	
SERIAL		DEFERRED	
RESERVATION		NIGHT LETTER	
TOUR-RATE		SHIP RADIO	

Postal Telegraph

Mackay Radio · Commercial Cables · All America Cables · Canadian Pacific Telegraphs

CHARGE ACCOUNT NUMBER	
CASH NO.	TOLLS
CHECK	
TIME FILED	(STANDARD TIME)

Form 2

Send the following message, subject to the Company's rules, regulations and rates set forth in its tariffs and on file with regulatory authorities

C O P Y

APRIL 30, 1943

DEAN STEELE
156 MONTGOMERY STREET
SAN FRANCISCO, CALIFORNIA

RETEL APRIL THIRTY COUPAL OUT OF CITY WILL RETURN EARLY NEXT WEEK STOP AM REFERRING YOUR TELEGRAM TO DUANE BIRD NOGALES ARIZONA WHO HAS AUTHORITY TO QUOTE PRICE AND DEAL ON THREE R PROPERTY STOP COUPAL WILL WRITE WHEN HE RETURNS

CHARLES F. WILLIS
DEPARTMENT OF MINERAL RESOURCES

CHECK SERVICE DESIRED OTHERWISE MESSAGE WILL BE SENT AT FULL RATE			
DOMESTIC		FOREIGN	
FULL RATE		FULL RATE	
DAY LETTER		CDE RATE	
NIGHT LETTER		URGENT	
SERIAL		DEFERRED	
RESERVATION		NIGHT LETTER	
TOUR-RATE		SHIP RADIO	

Postal Telegraph

Mackay Radio · All America Cables · Commercial Cables · Canadian Pacific Telegraphs

CHARGE ACCOUNT NUMBER	
CASH NO.	TOLLS
CHECK	
TIME FILED	(STANDARD TIME)

Form 1

Send the following message, subject to the Company's rules, regulations and rates set forth in its tariffs and on file with regulatory authorities

COPY

April 30, 1943

DUANE BIRD
NOGALES ARIZONA

DEAN STEELE 156 MONTGOMERY STREET SAN FRANCISCO WIRES AS FOLLOWS QUOTE HAVE BUYERS FOR THREE R STOP WIRE ME PRICE AND TERMS OF DEAL AND AUTHORITY TO PROCEED STOP LETTER FOLLOWS UNQUOTE PLEASE COMMUNICATE WITH STEELE DIRECT TOWARD MAKING DEAL

CHARLES F. WILLIS
DEPARTMENT OF MINERAL RESOURCES

Charge to Dept. of Mineral Resources

April 15, 1943

Mr. Dean Steele
156 Montgomery Street
San Francisco, California

Dear Mr. Steele:

Many thanks for your letter of April 9 and I will be very pleased to work with you on presenting some good properties to you and your clients.

There is one property that I have in mind at the present time, namely, the 3R Mine, and I am sending you a copy of a report on this property.

There is some title litigation on this and I am asking our field engineer who is in that district to advise me of the present status and of the amount necessary to clean up certain mortgages and make a deal.

With best wishes and kindest regards, I am

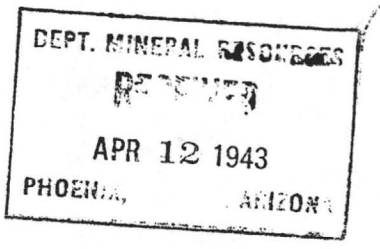
Yours very truly,

J. S. Coupal, Director

JSC:LP
Enc.

DEAN STEELE COMPANY
156 MONTGOMERY STREET
SAN FRANCISCO, CALIFORNIA
GARFIELD 1509

April 9,1943.



Mr. J. S. Coupal
Hotel Adams
Pheonix
Arizona.

Dear Mr. Coupal;

In September 1940 I had the pleasure of receiving a letter grom you concerning the erection of a smelter to be financed by Mr. Whitney through the offices of Glenn M. Salmon. I merely state this to recall to your mind who I am, and not to discuss the deal referred to.

I am interested in the purchase of copper, silver or mercury mines and I wonder if you know of any in your state that are available. The people I represent are capable of buying a property of any size, providing it is good, and financing it properly.

If we could work together on good properties I am sure that it could be made mutually profitable.

I hope that you can inform me of conditions in Arizona and that you can assist me .

ds/m

Sincerely yours,

Dean Steele.

Dean Steele.

April 15, 1943

MEMORANDUM 3 R MINE

TO: George A. Ballam

FROM: J. S. Coupal

Please find out the status of the 3R Mine and, if possible, who is qualified to make a deal, his name and address and the amount of cash necessary to make such a deal.

I have one party who I believe may be interested.

STANDARD TIME INDICATED

RECEIVED AT

(11)=

TELEPHONE YOUR TELEGRAMS TO POSTAL TELEGRAPH

Postal Telegraph

Mackay Radio · Commercial Cables · All America Cables · Canadian Pacific Telegraphs

TELEGRAMS · CABLEGRAMS · RADIOGRAMS

THIS IS A FULL RATE TELEGRAM, CABLEGRAM OR RADIOGRAM UNLESS OTHERWISE INDICATED BY SYMBOL IN THE PREAMBLE OR IN THE ADDRESS OF THE MESSAGE. SYMBOLS DESIGNATING SERVICE SELECTED ARE OUTLINED IN THE COMPANY'S TARIFFS ON HAND AT EACH OFFICE AND ON FILE WITH REGULATORY AUTHORITIES.

Form 16

NI.SA147 S.FB178

APR 30 PM 2 02

LF102F (FIVE) 20=F SANFRANCISCO (CALIF) 1200A=

=J S COUPAL=

:413 HOME BUILDERS BLDG (PHOENIX ARIZ):

=HAVE BUYERS FOR THREE R STOP WIRE ME PRICE AND TERMS OF DEAL AND AUTHORITY TO PROCEED STOP LETTER FOLLOWS

=DEAN STEELE.

xxxxxxxxxxxx

518 Title & Trust Bldg.

April 3, 1942

Card

Mr. E. E. Maillot
Patagonia, Arizona

Dear Mr. Maillot:

Thank you for your letter of April 1 and the report on the 3R Mine. I am enclosing a Mine Owner's Report fwwm which we would like to have in our files. I know all the information necessary for this report is in the March 23 report by you on the 3R Mine, but I thought that you might like to place the highlights regarding the property in a form acceptable to you and under the items set forth in the Mine Owner's Report form.

We have had several inquiries for copper and expect to have more of them as time goes on, and I will be glad to submit the data on the 3R Mine whenever I get an opportunity. I have been on the property and have read the report with great interest.

With best wishes, I am

Yours very truly,

J. S. Coupal

JSC:LP
Enc.

E. E. Maillot
Patagonia, Arizona
April 1, 1942

Mr. C. S. Coupal
Director, Department Mineral Resources
State of Arizona
c/O 528 Title and Trust Building
Phoenix, Arizona

Dear Mr. Coupal:-

It has been some months since I have seen you. You might be interested to know that we have been forced to give up further development of the Greaterville placers until such times as the present world disturbance is over.

I was talking with Mr. Weldon Humphrey, an associate of mine, who is developing the Pride of the West out of Washington, Santa Cruz County. He informed me of his talk with you recently in Phoenix and for that reason I am bringing to your mind the 3R property upon which I have done a considerable amount of geological work. I believe it represents the best small copper property from which a quick return can be made on capital invested.

The title is somewhat complicated due to the fact that the past owner, a Mr. Brown, turned the deed over to a purchaser and in turn took a mortgage on his own property. When failure to meet the final payment of $9,000 occurred Mr. Brown brought foreclosure proceedings. Since then he has sold this mortgage and the $9,000 is due in something like two months. I believe it entirely possible to obtain the deed and for from $10,000 to $15,000 and later, before date of foreclosure, pay the remaining $9,000. There is some competition for the property and I feel convinced that the purchase price will be several times this if the foreclosure is allowed to proceed.

The property is developed to such an extent that there is well over one year's supply of ore developed at 200 tons per day and better than two years additional supply proven. This 250,000 tons will average 2.67% copper. I believe, with a relatively small expenditure to bring the Magma Copper Company maps up to date and the writing of a comprehensive report, that an R.F.C. loan could be obtained in a relatively short time.

I am enclosing a brief report on the property.

With the kindest regards, I am

Yours very truly,

Enclosure:-

E. E. Maillot

February 10, 1943

Mr. E. E. Maillot
Patagonia, Arizona

Dear Mr. Maillot:

I do not know where this will reach you, but I am sending it to your old address at Patagonia.

Nothing has been done as yet on the 3R property and I would like very much to call it to the attention of the Arizona Eastern Gold Mines Company who own the Octave property, which has been shut down due to the gold closing order and also to the practical working out of the mine.

They have certain equipment and organization together and some small amount of capital to go ahead on.

I do not have any detailed reports but know that you investigated the property and must have certain data available. Would it be possible and agreeable for you to mail this information to me at Phoenix? I can then present it to the Octave Company and if they are interested, I can arrange to follow up the legal end and see what sort of deal can be made.

I do hope you are enjoying your work and will be glad to hear from you.

With best wishes and kindest regards, I am

Very truly yours,

J. S. Coupal, Director

JSC:kk

CONLEY LEACHING PLANT SANTA CRUZ

Visit at Conley Keck copper. Mr. Tamayo, a miner living there, has 4 or 5 tons stockpiled. Told him that Inspiration might buy it if the grade was right and he had a large truck load. GWI WR 12/7/73

PAY DIRT '68

Mine visit, Conley Keck copper in 3R Canyon; no activity. GWI WR 9/1/76

MINES AND PROSPECTS.

The deposits of the district are opened by about a dozen mines and prospects, most of which are given in the following list:

Three R.	New Hope	Sulphide.
Domino (Chief).	Palmetto.	
Jarilla (Bullion).	Sonoita.	

THREE R MINE.

Location.—The Three R mine, which, by reason of its reported rich copper deposits, has been attracting the attention of the mining world for the last two years and has stimulated activity in this and the surrounding districts, is situated at the eastern border of the district, 4½ miles south of Patagonia. It is in the upper west slope of the Patagonia Mountains near the axis of the range, mostly between elevations of 5,100 and 5,500 feet. It is reached circuitously by ascending Three R Gulch near the Gray camp on the west by a wagon road, and thence its northern tributary by a steep trail.

History and production.—The property comprises a group of 30 or more claims containing about half a dozen small mines or good-looking prospects. It was discovered in 1897. Several years later it was bonded to W. R. Green, of Cananea, who paid about $13,000 on it and did several hundred feet of work, mostly on the Three R and Colossus openings, but in 1907 relinquished it together with his third payment. Later the Lewisohn people, through H. S. McKay, took an option on it, did about 1,600 feet of work, and relinquished it in about four months. Their work was mostly on the Colossus, Three R No. 6, and Blue Rock No. 8 openings.

The production at the time of visit in 1909 had been about four carloads of hand-sorted ore averaging about 20 per cent in copper. The property was then owned by the Three R syndicate, consisting of five or more members with headquarters at Patagonia, and was developed by several thousand feet of work consisting of tunnels and drifts distributed through a vertical range of about 400 feet. Later in that year the Calumet & Arizona Mining Co. was said to have secured an option on the property. By May, 1911, under the development of R. R. Richardson, a leading owner, a substantial body of chalcocite ore extending from near the surface to the 125-foot level had been opened, and from it the mine had shipped to the El Paso smelter four carloads of 15 per cent copper ore. From this time on shipments continued to be made at close intervals, and considerable 5 to 10 per cent ore was accumulating on the dumps. By October, 1911, developments had demonstrated the extension of the ore body to the 200-foot level, and this led to the driving of a 600-foot lower tunnel and the construction of a wagon road to its mouth to facilitate transportation of the ore from the mine, for previously the ore had to be packed down the steep slope on burros.

By April, 1912, the mine, according to report, was bonded to the present operator, N. L. Amster, of Boston, Mass., for $550,000, $20,000 being paid down and the balance being due in three semiannual installments. By October 1, 1912, it was reported that the mine had shipped under the Amster management 65 carloads of ore netting more than $1,000 a car and that more than all payments had been taken out of the mine in ore, besides which a large quantity of ore had accumulated on the dump. By October 15 it was said that the mine had been purchased by Mr. Amster upon developments having demonstrated the extension of the ore body to the 250-foot level, and that it was shipping two carloads of high-grade ore daily and continued to accumulate a large amount of good ore on the dump. Later reports announce that shipments were continued throughout the months of November and December at the rate of about four carloads a day, and that 6,000 tons of ore was blocked out ready to stope. In April, 1913, it was reported that the mine was continuing very regularly to ship more than 100 tons of ore a day, and by January, 1914, the activity and rate of production had materially increased, and further sinking had encountered a considerable body of high-grade copper ore extending from the 800-foot level downward. By August, 1914, the Amster management was reported to have shipped approximately 30,000 tons, or more than a million dollars' worth of ore gross, averaging 9 per cent copper. In October the management was reported to have relinquished its bond, owing to litigation between the owners of the mine.

Development and equipment.—The developments at the time of visit consisted principally of three tunnels, located, respectively, at elevations of about 5,200, 5,300, and 5,500 feet, with lengths of about 200 to 300 feet. The Colossus or main working tunnel, which is driven to the north on the lode, contained also about 70 feet of crosscut to the east and as much more to the west, and a 70-foot winze. The principal equipments were tram tracks in about all the tunnels, and the workings were reached by steep trails only. At present writing (November, 1912) the developments, made mostly under the new management, are said to include a 600-foot lower tunnel, giving the mine about 700 feet of backs, and a 375-foot double-compartment shaft. The tunnel contains 500 feet of drift on the vein and a 90-foot winze with drifts at 60 feet below the tunnel level. A 65-horsepower gasoline hoist, a plant for operating six machine drills, ore bins, and substantial camp buildings have been installed, and a good wagon road over which the ore is hauled to Bloxton station, 3½ miles distant on the railroad, extends to the mouth of the tunnel.

Topography and geology.—The mine is in the upfaulted block of the Patagonia Mountains, described in the section on the Flux mine.

The topography is mountainous and in part rugged. The raise from Three R Gulch to the mine is 1,000 feet in about a third of a mile.

The country rock is mainly the granite porphyry, which has been described on pages 64–66. It is composed of quartz and orthoclase in large aggregates with rarely a little biotite. It is much weathered, altered, pyritic, and iron stained, and is vertically sliced by two systems of sheeting, of which the dominant system trends about north-south, parallel with the Colossus lode, and the other about N. 75° E. Mineralized shear zones, on which mines are located, occur in both systems, some of them being marked by ledges with enormous croppings, such as that of the Blue Rock No. 8, southeast of the Three R mine, belonging to the east-west system. The rock, especially in the vicinity of the north-south shear zones, has also been pressed and sheared to a high degree, so that it weathers like a schist, which it locally resembles. It is cut by dikes of rhyolite and a younger granite porphyry, but these rocks seem to be only sparingly present. At the Evening Star prospect the orthoclase is largely replaced by pink alunite, as shown in Plate XIX, *A*, and described more fully on page 61.

Ore deposits.—The deposits, which are valuable principally for copper, occur in a north-south shear zone about parallel with the axis of the range, traversing the granite porphyry country rock, which as shown in all the tunnels is heavily impregnated with iron pyrites, apparently cupriferous, and a little chalcopyrite. Along the shear zones there is a concentration of these minerals, forming crude stockworks and veins. Alum and copper sulphates coat the workings.

The last 100 feet of the lower tunnel and the back 140 feet of the middle one show clearly the sheared, altered nature of the rock. In both of these tunnels the chief shearing trends north and the country rock is more heavily impregnated with sulphides in the zone of greatest shear. There are practically no gangue minerals with the exception of a little gouge, and in the two tunnels mentioned all the rock broken could well be milled.

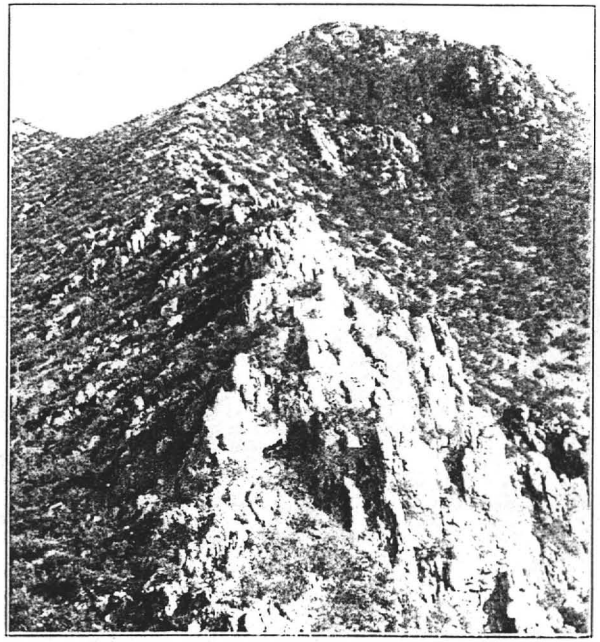
Pyrite, the principal metallic constituent of the ore, is well crystallized, and masses as large as 8 inches in diameter were noted. Striæ show on most of the crystals, and twinning is common.

Chalcopyrite occurs as a widely scattered constituent of the ore. It is seldom found intergrown with the pyrite, but rather as small, separated masses. Very small amounts of azurite and malachite occur locally as films on the walls near the mouth of the lower tunnels.

At and in the vicinity of the mine the shear zone, as indicated by iron-stained silicified croppings (Pl. XIX, *B*), has a width of 40 to 100 feet or more, and is variously traversed by parallel stringers, seams, and bands of ferruginous rock or hematite. One of these

A. ALUNITIZED GRANITE PORPHYRY FROM EVENING STAR PROSPECT OF THREE R GROUP OF MINES, NEAR PATAGONIA.

The light-colored portion is mostly pink alunite replacing orthoclase. The dark portion is quartz. The many veinlets traversing the field horizontally from left to right and producing the schistlike structure are also alunite. Photographed from polished surface of hand specimen. Natural size.



B. CROPPINGS OF COPPER DEPOSITS OF THREE R MINE ON MINERALIZED SHEAR ZONE IN GRANITE PORPHYRY.

Looking south-southwest.

bands is about a foot in width, is partly honeycombed, and in part has a laminated or platy structure, being apparently pseudomorphic after calcite or some other spar mineral. This band is said to carry some copper and gold, and farther up the mountain side it contains also lead minerals.

The Colossus tunnel, driven in the shear zone or lode, largely follows a slip or fault plane, which dips 75° W. and is associated with a ½-inch to 1½-inch band of hematite or reddish-brown ferruginous rock, on the footwall side of which occurs from 1 to 3 feet of crushed and partly mineralized reddish-brown iron-stained granite porphyry. The zone also contains seams, stringers, veins, and lenses of rich copper ore, consisting of malachite and chalcopyrite with pyrite, bornite, and chalcocite, of which the largest observed is a band about 2 inches wide, composed of pure chalcocite, inclosed in slickensided porphyry and whitish gouge, showing that more or less profound movement has taken place since the chalcocite was deposited. Native copper, apparently derived from chalcocite, occurs in beads and films or thin sheets facing the sheeting or shear planes in the shaft and open cut above the tunnel, and a sample of it, consisting of a thin sheet about 1½ feet in diameter, was presented, it is said, to the University of Arizona, at Tucson. As a rule the sulphides begin at or very near the surface, about the only exception being the Mayflower opening, at the top of the hill, where, owing to leaching, much carbonate is encountered.

To judge from later accounts the new work under the Amster management has shown a continuity of the ore body from the surface or early workings down to and below the 250-foot level and seemingly below the new 600-foot lower tunnel, which gives to the ore body a vertical range of about 700 or 800 feet. Where it has been crosscut at two points on the 600-foot tunnel level, the ore-bearing portion of the zone or lode is said to be 40 feet in width and to contain chiefly chalcocite, bornite, and chalcopyrite—presumably not in a solid body, however, through this entire width, but in stringers, veins, and lenses with intervening rock and gouge as already described, containing in the aggregate a large amount of rich ore. Shoots of chalcocite averaging 70 to 75 per cent in copper are said to be common. The average of the daily ore shipments is about 10 per cent in copper, and a large amount of good lower grade ore, by estimate more than 300,000 tons, is in sight or on the dump.

The ore now being mined is said to be nearly all secondary chalcocite. According to later and more extensive examinations of Probert[1]—

> Masses of pure glance several feet across are found, the high-grade lens being at the main adit level (215 feet below the surface) 37 feet wide. The horizontal

[1] Probert, F. R., The Three R mine, Patagonia district, Ariz.: Min. and Sci. Press, vol. 109, No. 5, p. 176, 1914.

limits of the ore body are marked only by the change in value, not by any structural detail. This ore body has been followed a vertical distance of 500 feet, with high-grade ore still showing in the bottom of the winze. The stopes extend to within 40 feet of the surface, where the glance slowly fades into the ocherous hematite. On the footwall side of the stopes the chalcocite is finely disseminated around bright glistening pyrite grains in a soft sericite felt. The center of the ore body is more completely alunitized and sectile slabs and masses of pure glance have the appearance of a conglomerate, so striking is the black and white contrast of mineral and gangue. On the hanging-wall side perfect stubby octahedra of pyrite 2 and 3 inches across are found coated with a thick film of chalcocite. The compact masses of pyrite are but surficially altered. On the 500-foot level, 110 feet below the surface, stope No. 100, the pyrite was found coated with covellite of a purplish blue color, while on the Three R claim bornite envelops the crystal faces of pyrite. The high-grade ore is always found in close proximity to the major fractures and fades gradually into noncommercial unaltered pyrite on either side. Where the cupriferous pyrite is definitely crystalline it is but coated with chalcocite; enrichment seems to advance with distortion or crushing of crystal forms. * * *

Other small lenses of high-grade ore have been exposed by drifts along the main fractures, but their distribution is very erratic between high-grade shoots. The rock on either side of the fault fissure contains disseminated chalcocite, 3 to 4 per cent ore, which may later be mined and milled.

The source of the ore is here referred to the cupriferous pyrite and chalcopyrite which are widely disseminated in the granite porphyry country rock and are regarded as primary constituents. From these minerals, by processes of leaching and the action of percolating solutions, the bornite, covellite, chalcocite, and chalcopyrite have been concentrated to secondary forms of the vein class of deposits, as stringers, lenses, and shoots in the fault fissures and shear-plane fractures of the shear zone, and as metasomatic replacement deposits in the crushed rock in the zone and the wall-rock porphyry.

The process of this enrichment, as shown by microscopic study of ores from this mine by Graton and Murdoch,[1] consists of several steps or stages of mineralization, approximately in the order of the minerals named above, though all the minerals are not invariably present. With this process the results of later studies made by Probert[2] in the mine and described further on essentially agree.

The shear zone contains also an intrusive dike of a siliceous granite porphyry of reddish tinge, much finer grained than the inclosing rock. This dike seems to have been intruded during the epoch of shearing, and it is possible that thermal solutions accompanying or following its intrusion have also exerted an influence in the formation of the ore deposits. It is also possible that solutions accompanying or following the eruption of the rhyolite which occurs in the east base of Three R Mountain may have been influential in the

[1] Graton, L. C., and Murdoch, Joseph, The ores of copper; some results of microscopic study: Am. Inst. Min. Eng. Trans., vol. 46, No. 77, pp. 754–755, figs. 5 and 6, 1913.

[2] Probert, F. R., op. cit.

ore deposition, but the absence or paucity of secondary or vein quartz leaves the theory of contributions from these eruptive sources very much in doubt. This doubt is further strengthened by the fact that "development to date shows that the largest ore bodies are found under an outcrop where the pyrite has been completely oxidized to earthy hematite."[1]

The hematite and the copper ore in this place were derived by oxidation from the pyrite, cupriferous pyrite, and chalcopyrite that were contained in probably a very great thickness of the overlying pyritized porphyry, now eroded away, and were concentrated along the sheer zone or fissures, the copper deposits mainly by chalcocitization and covellitization.

WEST SIDE MINE.

A new property, known as the West Side mine, located near the Three R mine, is said to be shipping considerable ore from an ore body 30 feet wide, the most of which is said to average 8 per cent copper and $4 in gold and 8 ounces in silver to the ton.

DOMINO MINE.

The Domino or Old Chief mine is about three-fourths of a mile west of the Three R mine, at the west foot of the Patagonia Mountains, near Gray camp, at an elevation of about 4,200 feet. It is on open ground and easy of access by wagon road.

The mine was located in 1881 by A. J. Stockton and partners, who held it until 1885, sinking two shafts 83 and 62 feet deep. In 1884 a pocket of galena coated with cerusite was opened at the surface, from which 7 cars of ore were taken that averaged 61 per cent in lead and 58 ounces to the ton in silver. In 1885 Mr. Stockton sold the property to Douglas Gray, who still owns it. Mr. Stockton reports his production from this property to be $8,000. Later W. D. Gray shipped from it 16 tons of cerusite ore that carried 86 ounces of silver to the ton.

The mine is opened by an 83-foot vertical shaft, drifts, and stopes. The shaft is timbered and has stations and drifts at the 40 and 75 foot levels. As the drifts are untimbered and the ground is very soft, caving has locally closed them up. The 40-foot level runs east and west from the shaft with curvature to the north. Most of the vein above the 40-foot level has been stoped for a distance of 75 feet west from the shaft, and surface ore has been removed from a few shallow pits.

The veins or deposits occur principally in an east-west shear zone in altered and leached diorite, and in association with the contact of

[1] Probert, F. R., op. cit., p. 175.

THREE R PROPERTY

May 30, 1979

"HISTORICAL" ADDENDUM TO 9-23-56 REPORT

In 1959 McFarland & Hullinger of Tooele, Utah took a lease and option on the property to thoroughly study the underground mine in search of operating viability. They were unsuccessful and relinquished their rights after about a year of inspection and deliberation.

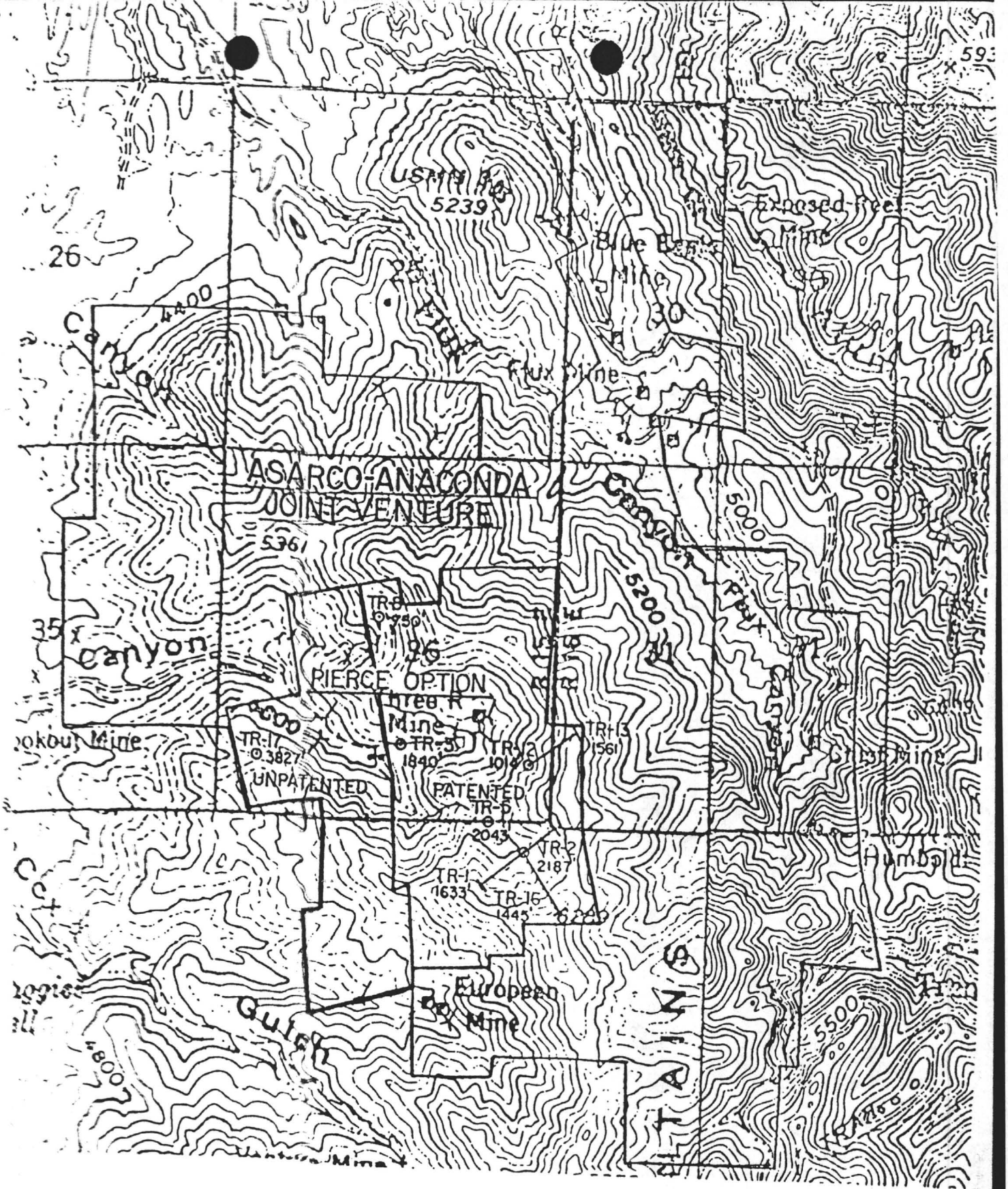
In 1962 McFarland & Hullinger again asked for a lease and purchase option with a 10-year term and the meticulous document was finally executed after almost a full year of negotiation. In February, 1963 they assigned their rights to Anaconda, for whom they secretly represented in this matter.

Anaconda explored for about 9 years over the original Three R ground (21 patented and 11 unpatented claims) and scores of claims they located and made a part of the property. Such activity caused Asarco to extend its Flux property (east of Three R) toward the Three R and in 1972 Anaconda negotiated a 5-year extension of its lease from Three R owners. Immediately upon execution of that extendion, Anaconda and Asarco formed a joint venture exploration with the latter becoming the active exploration entity. In 1977 Asarco-Anaconda were granted an additional 3-year extension, now about 2 years old.

Neither Anaconda or Asarco have shown any interest in the old mine located on the Three R, Evening Star and Colossus claims, which mine is considered either "worked out" or potentially too small for their requirements. The mineable ore reserves can properly be placed at zero tons, but the leachable copper potential is likely quite significant. There is evidence of many small blocks and zones of 2% copper mineralization and major fracture zones of mineralization in the 1% Cu range. The several thousands of feet of drifts, crosscuts, stopes, raises, winzes and shafts occur on 9 levels, probably bracketing about 700 feet of fractured, vertical mineralized section.

A study of the potential for in-place leaching is certainly warrented. Seepage from the mine into the canyon bed has previously gone into small, crude cementation catchments but the practice was discouraged because such seepage occurs only following periods of unusually high precipitation in the vicinity of the mine.

Jack C. Pierce



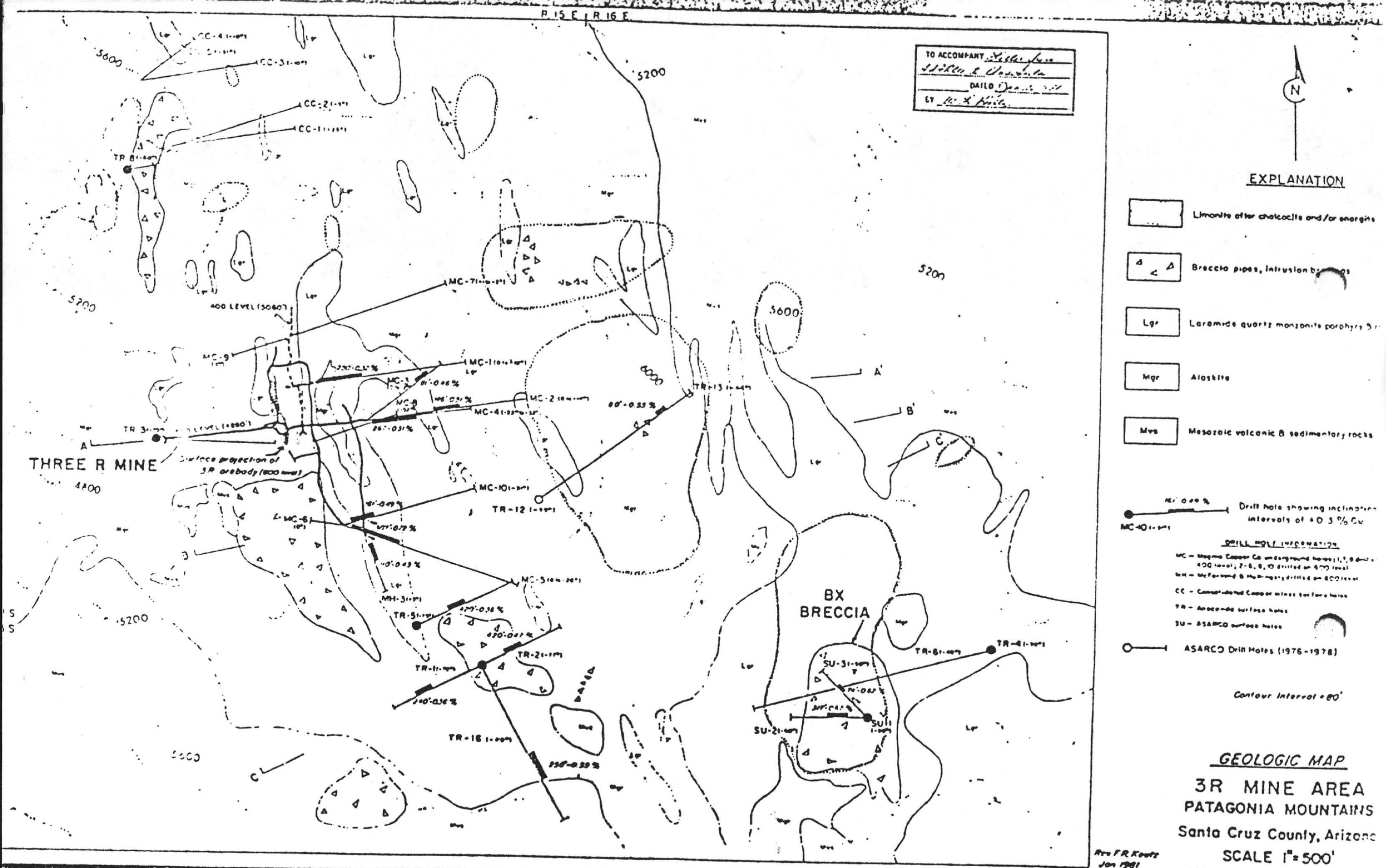
ASARCO DRILLING

PREVIOUS DRILLING

LAND & DRILL LOCATION
3R JOINT VENTURE
SANTA CRUZ CO., ARIZONA
SCALE: 1" = 2000'
R.B CRIST JUNE 1981


MAY FLOWER
THREE R No 4
WHITE TAIL DEER
BOOT
BIG FOUR No 2
BIG FOUR No 4
No 3
THREE R CANYON GROUP
COLOSSUS
THREE R No 5
BLUE ROCK No 9
EVENING STAR
COLOSSUS No 5
COLOSSUS No 4
COLOSSUS No 3
COLOSSUS No 2
THREE R MINE
BLUE ROCK No 8
BLUE ROCK No 7
BLUE ROCK No 6
T 22 S
T 23 S
HILLTOP No 5
HILLTOP No 6
THREE R No 7
BLUE ROCK No 2
BLUE ROCK No 3
BLUE ROCK No 4
BLUE ROCK No 1
HILLTOP No 2
HILLTOP No 3
HILLTOP No 4
ESCALADA MINE
EUROPEAN MINE
5000
6000
Range (West claim group)
West Range (West claim group)

P = patented



GEOLOGIC MAP

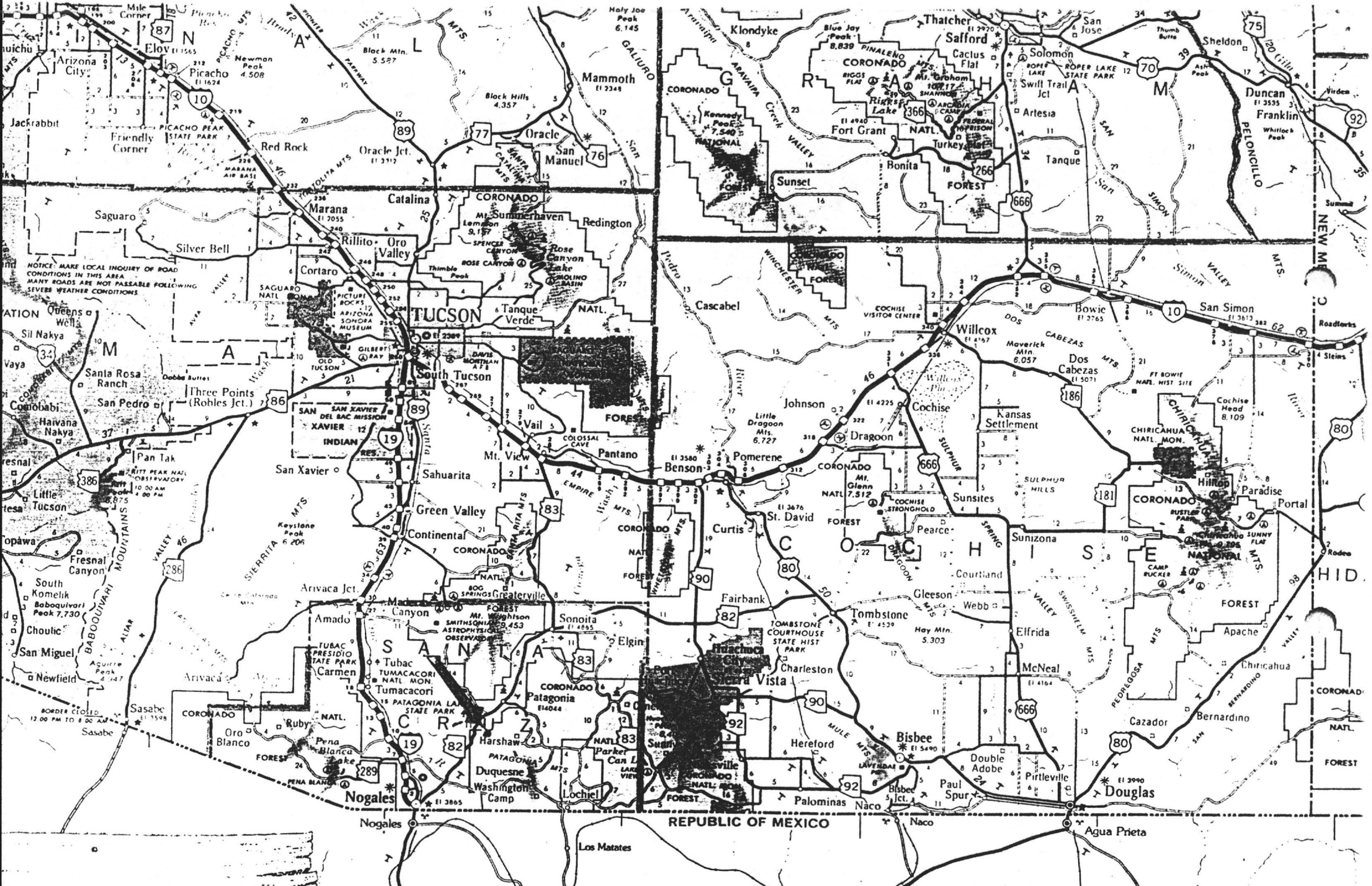
3R MINE AREA

PATAGONIA MOUNTAINS

Santa Cruz County, Arizona

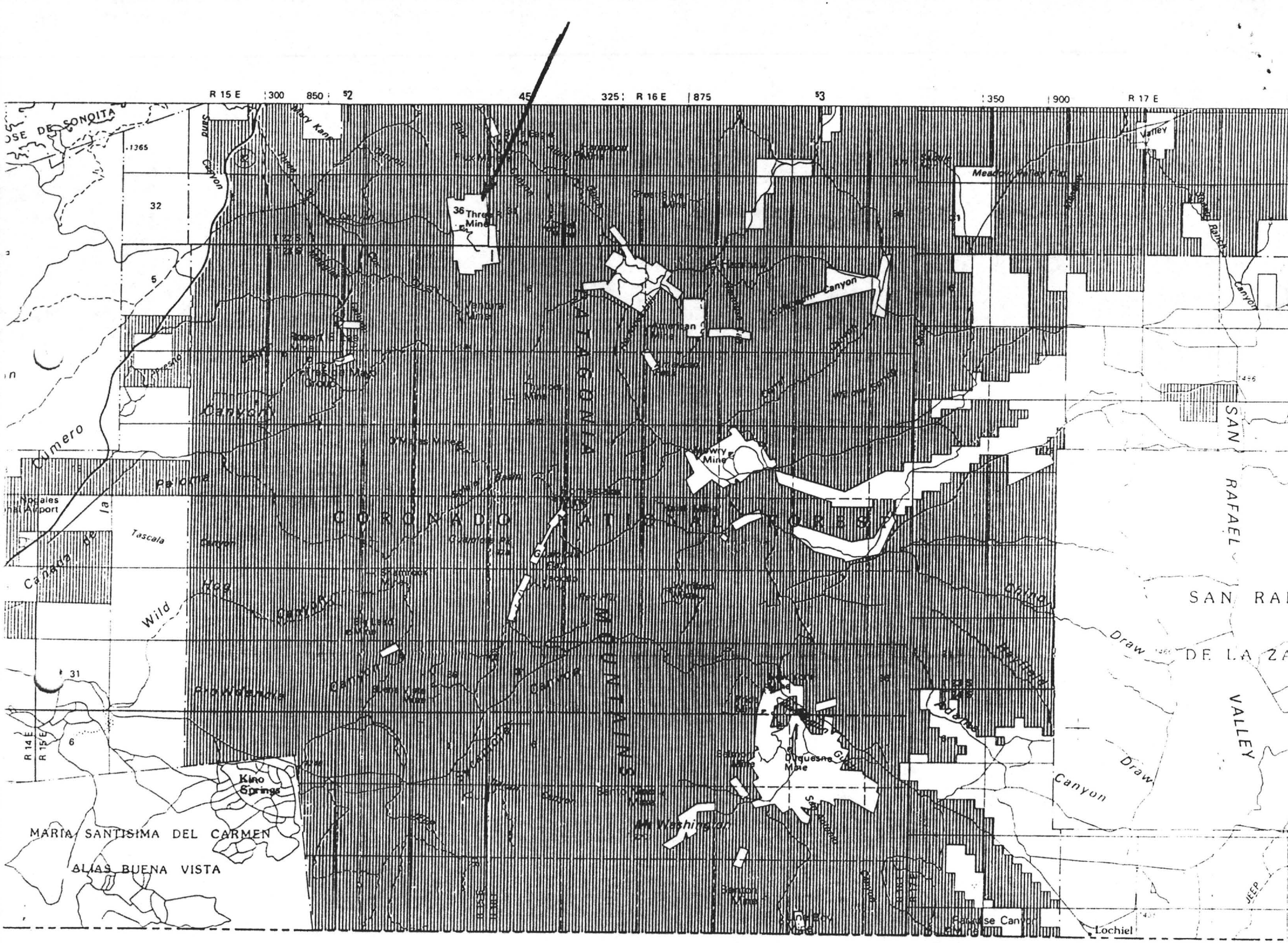
SCALE 1" = 500'

Rev F.R. Koutz
Jan 1981



...NG SUGGESTIONS

...ELLING ARIZONA'S HIGHWAYS:
...MPLE SUPPLY OF WATER. 2. RAISING



R 15 E
R 16 E
R 17 E
R 14 E
SONOITA
Three R
Mine
Canyon
Cumero
Nogales
Airport
Canada de la
Tascala
Wild
Hog
Canyon
CORONADO NATIONAL FOREST
PATAGONIA
MOUNTAINS
Mowry
Mine
Duquesne
Mine
Mt Washington
Kino
Springs
MARIA SANTISIMA DEL CARMEN
ALIAS BUENA VISTA
SAN RAFAEL
SAN RAF
DE LA ZA
VALLEY
Draw
Lochiel
Meadow Valley Flat
Valley
JEEP
Paradise Canyon

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine: Conley Leaching Plant — Date: Jan. 6, 1965

District: Palmetto District, Santa Cruz County — Engineer: Axel L. Johnson

Subject: Mine Visit. Information from Ted Jones, Foreman

Location: In Three R Canyon, about 6 miles south of Patagonia. Sec. 35 - T. 22 S. - R. 15 E.

Owners & Operators: Conley-Nelson Mining Co., 2462 N. Jordan Drive, Tucson
Paul N. Conley, 2462 N. Jordan Drive, Tucson & Lloyd Nelson, Tucson, owners.
Ted Jones, Foreman

Number of Claims: 4 unpatented claims

Principal Minerals: Oxidized copper ores.

Present Activity: Leaching of the copper ore. 1 man working daily and 3 men working on week ends.

Leaching Facilities:
(1) 1 leaching precipitation tank - 8 ft. wide, 20 ft. long and 5½ ft. high built of lumber.
(2) 1 leaching precipitation tank - 7 ft. wide, 14 ft. long and 4 ft. high, also built of lumber.
(3) 4 additional tanks slightly smaller, the last one used for water collecting.
(4) 1 dam across the Three R. Canyon, a short distance below the precipitation tanks.
(5) 1 pump at the dam for pumping the water for use in the leaching operation, with a 2" pipe line from the dam to the leaching dump.

Review of Operations: (1) The first precipitation tank was built about January, 1964, and the dam across Three R. Canyon and the pipe line was installed about the same time.
(2) The second precipitation tank was built in July and August, 1964.
(3) A well was drilled on contract to a well driller in August & Sept. 1964, in order to provide water for the leaching operations. This was later abandoned because it did not supply enough water.
(4) The additional precipitation tanks were built since Sept. 1, 1964.

The ore leached comes from the side of a fairly steep hill about 1/4 mile above the leaching plant. There is little or no overburden to remove.

After drilling and blasting, the ore is loaded into a dump truck with an end loader, and then hauled a short distance to the leaching dump, which is located about 100 yards from the precipitation tanks and at a higher elevation than the tanks.

At the leaching dump, the ore is sprinkled with water, the pregnant solution running into a sump, from whence it is siphoned off into the precipitation tanks.

From the last tank, the leaching solution is pumped back to the leaching dump and allowed to re-circulate.

The water used is pumped out of the dam on the Three R. Canyon Creek by means of a small pump through a 2 inch pipe line. At present, there is only enough water to run the plant about 6 hours each day. The well, which was drilled last fall, did not provide any water, but operators plan to drill another well in a different location soon, hoping to develop sufficient water for a full time leaching operation.

Sulphuric acid is added to the water at the precipitation tanks. Information as to the amount of acid added was not available.

Scrap iron used for the leaching operation is obtained from the Patagonia dumping ground.

Proposed Plans: To drill another well as explained above.

Date: November 23, 1982

WALLABY ENTERPRISES

Mining District Data Base Program

1. Mine or Property Name: Three R Mine

2. Mining District, County & State:
Palmetto Mining District, Santa Cruz Co., AZ

3a. Quadrangles or Map Names:
Nogales 15' Quad.

3b. Location: T 22S R 15E S 36
_____ _____ _____

3c. Lat. _____ Long. _____

4. Any Former Names:

5. Owner:
Mr. J. Pierce

6. Address (Owner):

7. Operator: Wombat Mining Co.

8. Address (Operator):
3425 W. Bardot St.
Tucson, AZ 85741

9. Principal Metals: Cu, Ag, Pb, Zn, Au

10. Mining & Milling Operations: Kinds & Capacities

Present: inactive

Past: Most of the ore mined came from one large stope, inwhich shrinkage-stope and open-stope methods were used. The ore shipped was of direct-smelting grade.

11. Number of Claims, Title, etc. (Please include a sketch map or plat showing location, T. R. & Sec., and the general outline of each group)
8 unpatented claims; patented mining claims.
(See claim location map)

12. Previous Published or Unpublished Reports: Probert (1914); Schrader (1914); Handverger (1963); Az. Dept. Min. Res. File Data.

13. Names of Mining Companies or Governmental Agencies that have worked, or are now working on this property. Magma Copper, Asarco, Anaconda, Phelps-Dodge, Consolidated Copper.

14. Ore & Gangue Minerals: Chalcocite, some covellite, bornite; chalcopyrite, cupriferous pyrite. The wall rock is an altered Jurassic granite containing disseminated pyrite and copper mineralization in quartz-sericite veinlets around the orebody.

15. Geology:
(please include any Geologic Maps, Sketches or Cross Sections)
Quartzite intruded by the Patagonia batholith (mid to late Tertiary). The batholith is composed of several granitic rock types, reflecting a complex intrusive history. This was followed by masses of latite. East-northeast shearing and the north-northwest Three R faulting is probably a result of stresses developed by the intrusion of the batholith. Hydrothermal solutions deposited sulfides along those structures. Andesite dikes are found in the mine area.

16. Type of Mineralization-Metallurgical Considerations:
(please check appropriate box or boxes)
Chalcocite mineralization is found in proximity to alunite alteration. The origin is attributed to supergene formation.
Most of the primary copper is derived by cupriferous pyrite rather than primary copper minerals.
Chalcopyrite is disseminated throughout the granite with pyrite in quartz-sericite veinlets.
Most of the pyrite is cuperiferous occurring as disseminations, veinlets or in large veins and masses.

X	Vein or Lode
	Stratiform
X	Disseminated
	Placer
	Oxide
X	Sulfide
	Other _____

17. Ore Reserves: (Refer to map)
Dumps_____tons @_____grade
Tailings_____tons @_____grade
Proven Reserves: 75,000 tons of sulfide ore, averageing 2% Cu (Broken ore in stopes:P-D
Probable : 12,000,000 tons of 0.55% Cu (Asarco and Anaconda drilling)
18. Mine, Mill Equipment & Flow Sheet: Prospective: 50,000,000 tons of 0.55% C

19. Road Conditions, Route:
From Patagonia: 4 miles south on Rt. 83 to a dirt road heading east, 3.5 miles.
(See location map)

20. Water & Power Supply: No permanant supply of water on the property. The Three R mine levels are flooded to the 600-foot level. The sonoita Creek Valley, 3 miles west, is the closest and largest supply.

21. Extent of Development: (Please include any maps, plans, sketches, longitudinal or cross sections of underground or surface workings)
The mine consists of 6 levels, the 200-foot and 600-foot levels are presently accessible. The total development along these levels is more than 2 miles.

22. Brief History: The Three R mine was first located in 1897. There was no significant work until 1909. In April, 1913, 100 tpd was shipped. By August, 1914, 30,000 tons of 9% copper had been shipped. In 1919, Magma Copper Co. optioned the property and located 10,000 tons of 2-3% copper. In 1920, Magma dropped the property. Various lessees worked the property from 1920. Total! production from 1908 to 1956 is approximately 130,000 tons of ore averaging 4% copper with minor silver, lead, zinc and gold. Kennecott Copper Corp. did some work in the 1940's.

23. Previous Sampling, Drilling & Other Studies
Magma Copper did extensive mapping, sampling and drilling on the property in the 1920's. Consolidated Copper Co. drilled and mapped the old workings in the 1950's. (See figures and tables)

24. Environmental-Social-Political Conditions & Considerations:

25. Sampling: See figures and tables.

Sample Nos:

Sample Types or Types:

26. Assaying:

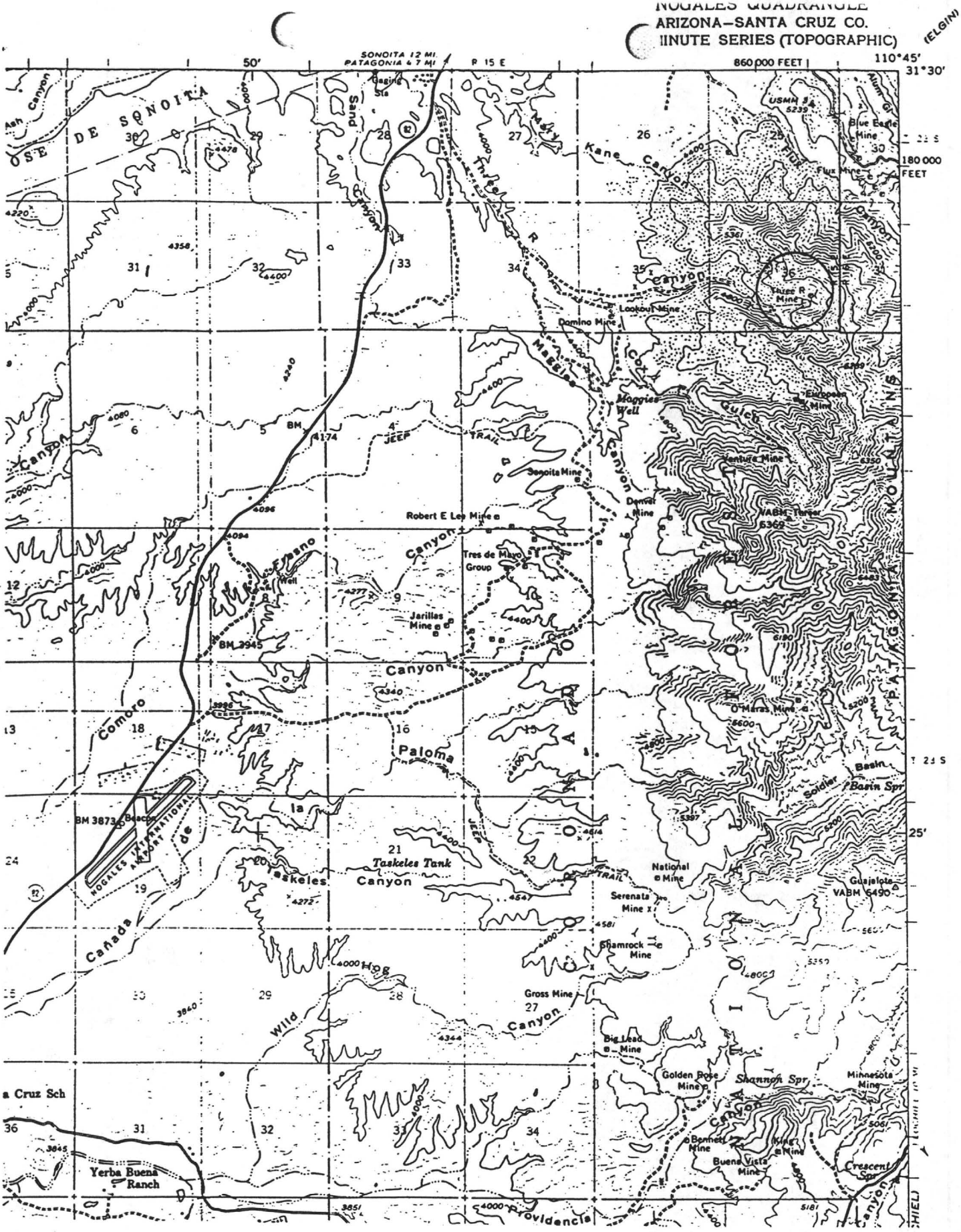
27. Financial Terms, Conditions & Considerations: The property is open to lease with option to purchase, purchase or exchange.

28. Remarks: The property has existing reserves of high grade sulphide ore and has significant potential as a porphyry copper deposit. The patented holdings are also valuable as a land exchange with the U.S.F.S.

29. Date: November 23, 1982

Signature _____

R.J. Lundin
Mineral Expl. Consultant



LOCATION MAP FOR THE THREE R MINE
PALMETTO MINING DISTRICT
SANTA CRUZ CO., ARIZONA

CONLEY LEACHING PLANT SANTA CRUZ COUNTY

Leaching plant below 3R Property operated by Conley Brothers. No one around, trailer removed. Appeared to be little activity. Information from R. Baker, Anaconda. GWI WR 7-17-65

Mine visit to Conley Keck copper in lower 3R canyon. GWI WR 11-9-68

Conley Keck Copper, located in lower 3R canyon did some leaching and were starting to develop an open pit zinc mine, that would furnish the Joe Sirgo mill north of Nogales approximately 100 tpd. GWI QR 12-1968

Mine visit to the Conley Keck copper operations. GWI WR 9-6-69

Conley Keck copper were doing a little mining at their property and putting the ore behind their leach dam in lower 3R canyon. GWI QR 9-1969

Desultory work continues at Conley Keck copper in 3R canyon. GWI QR 4-1-70

Visited Conley Keck - no one around. Some signs of activity. GWI WR 5-7-70

Conley Keck - inactive. GW WR 5-8-70

Mine visit - Conley Keck Copper 3 R Canyon - no one around. GWI WR 5-10-71

Mine visit. Konley Keck Copper in 3R Canyon. (Conley-Keck) GWI WR 9/27/71

Mine visit. Conley Keck Copper, no one around. GWI WR 3/27/72

Conley Keck Copper in Lower 3R Canyon. It has changed hands but have not been able to find out who the new owner is. Mr. Nick Tomayo is the watchman living at the site. He has staked 12 claims nearby and produced a little copper ore, but is unable to sell it. GWI 9/25/72

Mine visit. Conley Keck Copper; no one around. H. Patty says that R. Conley is trying to option to a company. (Called Conley for details but he was not at home.) GWI WR 1/22/73

Stopped at Conley Keck Copper, Tamayo who has an option is not working as he cannot find a place to ship his ore. He lives in the camp. GWI WR 3/19/73

THREE R MINE SANTA CRUZ COUNTY

KAP WR 11/11/83: A visit was made to the consulting engineering office of Jack Pierce 612 Morell Blvd., Prescott. He explained he is no longer employed by Mountain States on a retainer basis, but he continues to maintain a professional relationship with the firm. Mr. Pierce explained he is part owner of and has power of attorney over the remainder of a 50% interest in the Three R Mine, Santa Cruz Country. He has tried to promote exploration of the property as a bulk porphory copper desposit, and as a grouping of higher grade secondary enrichment zones with little success. Although he has only had a few of the many surface, underground and drill hole samples assayed for gold, enough have been anomalies in gold (0.005-0.04 tr. oz Au/ton) to suggest further investigation for the properties gold potential.

THREE R MINE Do Not Reproduce SANTA CRUZ COUNTY

Visited the Three R Mine - Anaconda drilling, one drill, Boyles Brothers. Anaconda's plans depend on drilling results. Nothing definite at the present time. GWI WR 7-17-65

Mr. Arthur Barber of Anaconda reports that they are still studying the Three R Mine near Patagonia. GWI WR 2-20-66

Active Mine List Oct. 1966 - Exploration
" " " April 1967 - Exploration
" " " Oct. 1967 - "
" " " April 1968 - "
" " " Oct. 1968 - "

Mine visit - Anaconda drilling. GWIWR 11-7-68

Active Mine List April 1969 - Expl. - G.A. Barber in charge - 151 S.Tucson Blvd.,Tucson

Anaconda is still evaluating the results of the 3R drilling. GWI QR 3-1969

Active Mine List Oct. 1969 - Expl. - G.A. Barber - S36, 22S, 15E

Anaconda still holds but is not at the present time doing any work at the 3R mine. GWI QR 4-1-70

Visited the Three R. Mine - no one around. GWI WR 5-9-70

KAP WR 6/17/83: Met with Jack Pierce, Prescott, Arizona. He reported he owns part interest in the Triple R Mine (Three R), Santa Cruz County. The property is a mix of patented and unpatented claims. Considerable high grade copper ore was reported as shipped in previous years. Earliest shipments were chalcocite and later shipments were chalcopyrite, all from fissure veins. Anaconda had an exploration effort on the property for a copper porphry deposit, but had dropped it. The suggestion was made that the property might have potential as a precious metal-copper flux deposit. The property is available for sale, lease and/or suggestions.

NJN WR 11/11/83: Visited Jack Pierce, Mining Engineer, in Prescott. Mr. Pierce will be sending us a set of data for our 3-R Mine file, Santa Cruz County.

5.0 The Three R Mine

5.1 Location: T22S,R15E, section 36
Palmetto Mining District, Santa Cruz Co., Ariz.
Number of claims unknown, some patented.

5.2 Geology

Paleozoic (?) & Mesozoic (?) sediments are intruded by the Patagonia batholith (Tertiary). The batholith is a complex intrusive comprised of several granite (?) phases. Later intrusive activity included latite and andesite dikes. The main structural features are ENE shearing and NNW faulting (Three R fault).

Secondary chalcocite mineralization is found in proximity to alunite alteration. Primary copper mineralization appears to be cupriferous pyrite, occurring as disseminations, veinelts or large veins/masses.

Magma Copper, Asarco, Anaconda, Phelps Dodge and Consolidated Copper have all worked in the property. From previous work 75,000 tons @ 2% Cu, proven and 12,000,000 tons @ 0.55% Cu, probable, are indicated.

5.3 Comments & Recommendations

Previous work has indicated the potential for porphyry - type mineralization. Little or no potential for precious metals is indicated and no further work is recommended at this time. ??

THREE R MINE

LOCATION

This copper property is located in the Harshaw Mining District, Santa Cruz County, Arizona about 4½ miles south of Patagonia and 14 miles northeast of Nogales. It consists of 21 patented claims and 14 unpatented claims, all contiguous, on the upper west slope of the Patagonia Mountains between elevations of approximately 5,000 and 6,800 feet. It is reached by some 3½ miles of ungraded road from the paved highway connecting Patagonia with Nogales. The nearest railhead is at Patagonia, about 7½ road miles away on a Southern Pacific branch line.

OWNERSHIP

The Three R.Mine ownership is as follows: One half interest held by Duane Bird and Thomas Hall (with their wives), Nogales attorneys; one half by heirs of C. A. Pierce who are Mrs. Mary L. Pierce (¼ interest), Sallie Van Valkenburgh (1/8 interest) and Jack C. Pierce (1/8 interest).

HISTORICAL

Discovered in 1890, the property was explored and developed in minor ventures by W. R. Green of Cananea, The Levisohn interests and the Three R syndicate prior to 1909. During that period there was produced only a small tonnage of high-grade chalcocite ore. Between 1909 and 1912 R. R. Richardson (for whom the property derives its name) and the Calument and Arizona Mining Co. developed and shipped to the El Paso smelter considerable 5-15 percent copper ore.

In April, 1912 N. L. Amster of Boston, Mass. acquired the property for $550,000 and by August, 1914 had shipped about 30,600 tons of ore averaging 9 percent copper with gross value reported at more than $1,000,000.

In the 1920's Magma Copper Company blocked out ore by diamond drill and underground work and erected a mill which operated until a severe drop in copper price. (Details of this operation are not immediately available to the writer but are on file in the law offices of Bird and Hall in Nogales).

Early in World War II the property was acquired by Duane Bird and C. A. Pierce, who operated it profitably in a small way throughout the war. Ore was obtained by new development, pillar trimming and other scavenger operations in the principle workings of the property. The small profits were applied to exploration for an untapped ore body discovered by a Magma diamond drill hole. Operations were suspended at the close of the war and the withdrawal of Premium Price plan support.

In 1950 Kennecott Copper Corp., recognizing a part of the property as a potential, large, disseminated copper deposit made cursury examination and declined further interest, because the exposed deposit was not indicative of a large enough operation for Kennecott. This Corporation referred the mine to Consolidated Coppermines Co. and, under a lease-Option agreement, this company conducted a comprehensive surface and underground geological mapping and sampling job on the property during 1951. Five diamond drill holes placed in the granite and trachyte porphyry formation suggested as a possible commercial disseminated deposit were disappointing. The formation is copper enriched but sub-marginal except in narrow fault and fracture zones where copper values were consistently attractive though representing small volumes of ore.

Following Consolidated's abandonment of the property in Sept., 1951 two local groups have held leases on sections of the ground to exploit the near-surface enriched fractures discovered by aforementioned diamond drill exploration and to mine lower-grade segments of the old mine. Twenty two cars of ore were shipped by these operators who recently suspended operations and relinquished their interests in the property. We are told the reason for abandonment by the lessees on the new ore was internal friction among the partners in the venture. The group shipping from the old workings met with smelter resistance to the ore due to high alumina content. The grade of all 22 cars ranged between 5 and 9 percent copper.

PRESENT STATUS

The Three R Mine is available for purchase, lease and option or bonded lease. Ample time for extensive examination will be allowed to any responsible party. Initial cash payment for an option to lease or purchase would be low. Terms for lease and purchase will be reasonable.

OWNER'S OPINION

Although there is established a limited volume of direct-shipping ore on the property, the ultimate success of an operation at the Three R depends on a milling operation. We believe that examination will disclose sufficient milling grade ore to justify a small mill, based on a copper price in excess of 30¢ per pound.

There are three geologically attractive and yet unexplored potential ore horizons on the property. We believe that Coppermines was interested primarily in the prospects of an open pit operation at the point of their drilling operations and paid little or no attention to indications of ore sources that would be exploited by underground mining methods.

In summary, it is our opinion that the Three R Mine should be attractive to experienced operators with the financial and technical ability to confirm indicated mill-ore reserves and to place a mill in operation. The unexplored, favorable ore horizons should enhance the attractiveness of the property as a potential long-lived copper mining operation.

Jack C. Pierce
September 23, 1956

02/21/91

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: ROBERT G.

ALTERNATE NAMES:

SANTA CRUZ COUNTY MILS NUMBER: 194

LOCATION: TOWNSHIP 23 S RANGE 16 E SECTION 32 QUARTER NW
LATITUDE: N 31DEG 23MIN 27SEC LONGITUDE: W 110DEG 44MIN 22SEC
TOPO MAP NAME: LOCHIEL - 15 MIN

CURRENT STATUS: EXP PROSPECT

COMMODITY:
GOLD
SILVER
COPPER
MOLYBDENUM

BIBLIOGRAPHY:
ADMMR ROBERT G. FILE

ARIZONA DEPARTMENT OF MINERAL RESOURCES
MINERAL BUILDING, FAIRGROUNDS
PHOENIX, ARIZONA

July 14, 1958

To the Owner or Operator of the Arizona Mining Property named below:

Robt. G.(Santa Cruz County) gold,silver & copper and molybdenum
(Property) (ore)

We have an old listing of the above property which we would like to have brought up to date.

Please fill out the enclosed Mine Owner's Report form with as complete detail as possible and attach copies of reports, maps, assay returns, shipment returns or other data which you have not sent us before and which might interest a prospective buyer in looking at the property.

Frank P. Knight

FRANK P. KNIGHT,
Director.

Enc: Mine Owner's Report

extra copies

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
MINE OWNER'S REPORT

Date June 10, 1939

1. Mine Robt. G.
2. Location 14 miles East of Nogales, Ariz
3. Mining District & County Patagonia
4. Former name
5. Owner Bryson & Ferguson
6. Address (Owner) 522 N. Stone, Tucson, Ariz.
7. Operator
8. Address (Operator)
9. President, Owning Co.
9A. President, Operating Co.
10. Gen. Mgr.
14. Principal Minerals Gold, Silver Copper & Molybdenum
11. Mine Supt.
15. Production Rate
12. Mill Supt.
16. Mill: Type & Cap.
13. Men Employed
17. Power: Amt. & Type
18. Operations: Present
19. Operations: Planned Drift 30 ft.
20. Number Claims, Title, etc. 1 unpatented lode
21. Description: Topography & Geography In foothills--on ridge between 2 canyons-off
22. Mine Workings: Amt. & Condition 1 incline 20' long, 12' wide x 6' high.

eology & Mineralization

Country rock--black porphyry
Vein-quartz, calcite & chalcopyrite--molybdenite (minor) 10" and widening.

re: Positive & Probable, Ore Dumps, Tailings

10 tons on dump. Ore in sight as above $20.00 per ton.

Dimensions and Value of Ore body

line, Mill Equipment & Flow-Sheet

None

oad Conditions, Route

Good--from Nogales on Washington camp road 14 miles--claim is ¼ mile off highway on good road.

Vater Supply

Water ¼ mile distant on Red Racer claim owned by Bryson & Kellog

rief History

None known--shaft probably 50 yrs. old.

pecial Problems, Reports Filed

No Engr's. report.

emarks

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

Will sell for $500.00 or will take grub stake of $250 for ½ int. Believe can take out 1 ton per day.

32. Signature.....(Signed).....J. E. Bryson.....
522 N. Stone
Tucson, Arizona

se additional sheets if necessary.

MR#4

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA

OWNERS MINE REPORT

Date June 10, 1939

Mine Robt. G.

District Patagonia

Location 14 miles East Nogales

Former name

Owner Bryson & Ferguson

Address 522 N. Stone, Tucson

Operator

Address

President

Gen. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Gold, Silver & Copper and Molybdenum

Men Employed

Production Rate

Mill: Type & Cap.

Power: Amt. & Type

Operations: Present

Bryson & Ferguson
522 N. Stone
Tucson, Arizona

Abandoned 1-16-41

6-10-39.

See MR-4 - Re Owners Mine Report - ROBERT G., Santa Cruz Co.

Operations Planned Drift 30 ft.

Number Claims, Title, etc. 1 - Unpatented lode

Description: Topog. & Geog. In foothills - on ridge between 2 canyons - off

Mine Workings: Amt. & Condition 1 incline 20' long, 12' wide x 6' high

(over)

Geology & Mineralization Country rock - black porphyry
Vein - quartz, calcite & chalcepyrite - molybdenite
(minor) 10" & widening

Ore: Positive & Probable, Ore Dumps, Tailings 10 tons on dump. Ore in sight as above
$20.00 per ton

Mine, Mill Equipment & Flow Sheet None

Road Conditions, Route Good - from Nogales on Washington camp road 14 miles - claim is
1/4 mile off highway on good road

Water Supply Water 1/4 mile distant on Red Racer claim owned by Bryson & Kellog

Brief History None known - shaft probably 50 yrs. old.

Special Problems, Reports Filed No engrs. report

Remarks

If property for sale: Price, terms and address to negotiate. Will sell for $500.00 of will take
grub stake of $250 for 1/2 int. Believe can take out 1 ton per day

Signed J. E. Bryson

522 N. Stone, Tucson

Use additional sheets if necessary.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA

OWNERS MINE REPORT

Date June 10, 1939

1. Mine Robt. O.
2. Mining District & County Patagonia
3. Former name
4. Location 14 miles East Nogales
5. Owner Bryson & Ferguson
6. Address (Owner) 522 N. Stone, Tucson
7. Operator
8. Address (Operator)
9. President
10. Gen. Mgr.
11. Mine Supt.
12. Mill Supt.
13. Principal Metals Gold, Silver & Copper and Molybdenum
14. Men Employed
15. Production Rate
16. Mill: Type & Cap.
17. Power: Amt. & Type
18. Operations: Present
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21. Description: Topography & Geography In foothills - on ridge between 2 canyons - off
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(over)

23. Geology & Mineralization — Country rock - black porphyry
Vein - quartz, calcite & chalcopyrite - molybdenite (minor) 10" & widening

24. Ore: Positive & Probable, Ore Dumps, Tailings — 10 tons on dump. Ore in sight as above $20.00 per ton

24-A Vein Width, Length, Value, etc.

25. Mine, Mill Equipment & Flow Sheet — None

26. Road Conditions, Route — Good - from Nogales on Washington camp road 14 miles - claim is 1/4 mile off highway on good road

27. Water Supply — Water 1/4 mile distant on Red Racer claim owned by Bryson & Kellog

28. Brief History — None known - shaft probably 50 yrs. old.

29. Special Problems, Reports Filed — No engrs. report

30. Remarks

31. If property for sale: Price, terms and address to negotiate. — Will sell for $500.00 or will take grub stake of $250 for 1/2 int. Believe can take out 1 ton per day

32. Signed J. E. Bryson
522 N. Stone, Tucson

33. Use additional sheets if necessary.

JUN02-9H

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

1. Mine file: THREE R
2. Mine name if different from above:
3. County: Santa Cruz
4. Information from: Helen Conley

   Company:

   Address: Hereford, AZ

   Phone: 378-2453

5. Summary of information received, comments, etc.:

Mr. & Mrs. Conley have 18 claims in Three R Canyon that they have held since 1955. They want to sell out. [put on 4-sale list]

Date: June 1989

Harrison E. Matson, Mining Engineer

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Gold Standard Date Dec. 2, 1959

District Palmetto District, Santa Cruz Co. Engineer Axel L. Johnson

Subject: Present Status. Information from Herman Rhea.

References Report of June 4, 1959.

Present Mining Activity Mine is idle. Operations closed down about Oct. 10, 1959. The mining equipment owned by Floyd R. Bekins of Los Angeles, Calif. is standing idle in the yard, where Joe Banta's house trailer used to stand. Mr. Rhea states that Joe Banta left the country about Oct. 10, without leaving a forwarding address, and his whereabouts are unknown.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Gold Standard Date June 4, 1959

District Palmetto District, Santa Cruz Co. Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from Joe Banta. Not visited.

Location In Three R Canyon, about 9 miles SW of Patagonia.

Number of Claims 1 unpatented claim.

Owner Carl Conley, Patagonia, Ariz.

Lessee Joe Banta, Nogales Star Route, Nogales, Ariz. 10 % lease, with option to purchase.

Principal Minerals Gold, Silver, Lead.

Present Mining Activity Driving an adit into the mountain. 2 men working.

Geology Mr. Banta reports 2 veins, viz.:
(1) Vein about 24 in. wide, containing Gold, Silver, and Lead.
(2) Vein about 18 in. wide, containing Gold and Silver.
Veins dip about 85 degrees.

Ore Values Mr. Banta reports one shipment of 6 tons of ore to A. S. & R. at El Paso (hand sorted) which assayed as follows: Lead -- 59 %; Silver 61 oz.; Gold 0.20 oz.

Old Mine Workings
(1) 1 adit, formerly 40 ft. ---now has been extended to 100 ft. --- on the 24 in. vein.
(2) 1 shaft (incl. 85 deg) -- 67 ft. deep on the 24 in. vein.
(3) 1 shaft (incl 85 deg) --- 30 ft. deep on the 18 in. vein.

Present Mining Operations Mine has been operated for about one month. During this time the old adit has been extended an additional 60 ft., and is now 100 ft. in length. One shipment of 6 tons of ore has been shipped to the A. S. &. R. smelter at El Paso. See assay of same above.

Remarks Engineer will visit the property on his next trip to the area.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
MINE OWNER'S REPORT

Date June 10, 1939

1. Mine Red Racer
2. Location 15 miles E. of Nogales
3. Mining District & County Patagonia
4. Former name
5. Owner Bryson & Kelogg
6. Address (Owner) 522 N. Stone, Tucson, Ariz.
7. Operator
8. Address (Operator)
9. President, Owning Co.
9A. President, Operating Co.
10. Gen. Mgr.
11. Mine Supt.
12. Mill Supt.
13. Men Employed
14. Principal Minerals Molybdenum
15. Production Rate
16. Mill: Type & Cap.
17. Power: Amt. & Type
18. Operations: Present
19. Operations: Planned Drift 40 Ft.
20. Number Claims, Title, etc. 3 lode claims
21. Description: Topography & Geography On top of foothills
22. Mine Workings: Amt. & Condition 150 ft. drifts & Tunnels

3. Geology & Mineralization

Country rock large vein of talc and oxide molybdenite--there has been several cars shipped from this mine.

4. Ore: Positive & Probable, Ore Dumps, Tailings

4A. Dimensions and Value of Ore body

5. Mine, Mill Equipment & Flow-Sheet

6. Road Conditions, Route Good--on highway from Nogales to Washington Camp.

7. Water Supply Well--good water.

8. Brief History

9. Special Problems, Reports Filed

10. Remarks

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

Will sell for part cash or grubstake $250. for ½ interest--there is $5000.00 work been done on this mine.

32. Signature (Signed) J. E. Bryson
522 N. Stone, Tucson, Arizona

33. Use additional sheets if necessary

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA

OWNERS MINE REPORT

Date June 10, 1939

1. Mine Red Racer

2. Mining District & County Patagonia

4. Location 15 miles East of Nogales.

3. Former name

5. Owner Bryson & Kelogg

6. Address (Owner) 522 North Stone, Tucson

7. Operator

8. Address (Operator)

9. President

10. Gen. Mgr.

11. Mine Supt.

12. Mill Supt.

13. Principal Metals Molybdeum

14. Men Employed

15. Production Rate

16. Mill: Type & Cap.

17. Power: Amt. & Type

18. Operations: Present

19. Operations Planned Drift 40 feet

20. Number Claims, Title, etc. 3- Lode Claims

21. Description: Topography & Geography On top of foothills.

22. Mine Workings: Amt. & Condition 150 feet drifts and tunnels

(over)

23. Geology & Mineralization Country rock large vein of talc and oxide molybdenite - there has been several cars shipped from this mine.

24. Ore: Positive & Probable, Ore Dumps, Tailings

24-A Vein Width, Length, Value, etc.

25. Mine, Mill Equipment & Flow Sheet

26. Road Conditions, Route Good - on highway from Nogales to Washington Camp.

27. Water Supply Well - good water

28. Brief History

29. Special Problems, Reports Filed

30. Remarks

31. If property for sale: Price, terms and address to negotiate. Will sell for part cash or grubstake $250.00 for ½ interest - there is $5000.00 work beem done on this mine.

32. Signed J. E. Bryson-------522 North Stone, Tucson

33. Use additional sheets if necessary.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date June 10, 1939

1. Mine Red Racer
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8. Address (Operator)
9. President
10. Gen. Mgr.
11. Mine Supt.
12. Mill Supt.
13. Principal Metals Molybdenum
14. Men Employed
15. Production Rate
16. Mill: Type & Cap.
17. Power: Amt. & Type
18. Operations: Present
19. Operations Planned Drift 40 feet
20. Number Claims, Title, etc. 3- Lode Claims
21. Description: Topography & Geography On top of foothills.
22. Mine Workings: Amt. & Condition 150 feet drifts and tunnels

(over)

23. Geology & Mineralization Country rock large vein of talc and oxide molybdenite - there has been several cars shipped from this mine.

24. Ore: Positive & Probable, Ore Dumps, Tailings

24-A Vein Width, Length, Value, etc.

25. Mine, Mill Equipment & Flow Sheet

26. Road Conditions, Route Good - on highway from Nogales to Washington Camp.

27. Water Supply Well - good water

28. Brief History

29. Special Problems, Reports Filed

30. Remarks

31. If property for sale: Price, terms and address to negotiate. Will sell for part cash or grubstake $250.00 for ½ interest - there is $5000.00 work been done on this mine.

32. Signed J. E. Bryson 522 North Stone, Tucson

33. Use additional sheets if necessary.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

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19. Operations Planned Drift 40 feet

20. Number Claims, Title, etc. 3- Lode Claims

21. Description: Topography & Geography On top of foothills.

22. Mine Workings: Amt. & Condition 150 feet drifts and tunnels

(over)

23. Geology & Mineralization

has been several cars shipped from this mine.

24. Ore: Positive & Probable, Ore Dumps, Tailings

24-A Vein Width, Length, Value, etc.

25. Mine, Mill Equipment & Flow Sheet

26. Road Conditions, Route Good - on highway from Nogales to Washington Camp.

27. Water Supply Well - good water

28. Brief History

29. Special Problems, Reports Filed

30. Remarks

31. If property for sale: Price, terms and address to negotiate. Will sell for part cash or grubstake $250.00 for ½ interest - there is $5000.00 work been done on this mine.

32. Signed J. E. Bryson 522 North Stone, Tucson

33. Use additional sheets if necessary.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Old Timer Mine Date Dec. 2, 1959

District Palmetto District, Santa Cruz Co. Engineer Axel L. Johnson

Subject: Present Status. Information from Herman Rhea. Not visited.

References Report of June 4, 1959

Principal Minerals Lead, Silver

Present Mining Activity Idle at present. Operator is waiting for a pump to be shipped from California to be used for pumping water from the shaft. Mr. Rhea states that work in the shaft will be resumed as soon as this pump is installed, and the power plant overhauled. He estimates this will be shortly after Jan. 1, 1960.

Review of Operations The shaft (incl. 80 deg.) has now been repaired and retimbered the full depth of 70 ft.

Proposed Plans Mr. Rhea states that he plans on sinking the shaft an additional 30 ft., to a depth of 100 ft., and then start drifting on the 100 ft. level.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Old Timer Mine Date June 4, 1959

District Palmetto Mining District, Santa Cruz Co. Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from Herman Rhea. No Visit.

Location West of the Three R Canyon, and near the Three R Mine.

Number of Claims 1 unpatented claim.

Owner & Operator Herman Rhea, Box 667, Nogales, Ariz. mail ret. 10-19-65 moved left no address
Formerly owned by George Morris

Principal Minerals Lead, Silver.

Present Mining Activity Repairing an old shaft. 2 men working.

Past History Mr. Rhea reports that the mine was worked last in 1954 by George Morris.

Old Mine Workings

(1) 1 shaft (incl. 80 deg.) -- 70 ft. deep, now being retimbered by new owner.
(2) 3 additional old shafts (depth not known)

Present Operat ions

Mr. Rhea reports that he is repairing the old shaft (item(1), and putting in new sets. He states that he has now repaired 53 ft. of the shaft, and expects to continue until the bottom at 70 ft. has been reached.

Mr. Rhea states that the shaft was sunk on the vein, and that the vein is approximately 4 ft. wide, with a pay streak about 18 in. wide. He says he has not reached the pay streak yet. He further states that the previous owner, George Morris, reported that the ore assayed 61 % lead, and 218 oz. of Silver in the pay streak.

Same as Homestake Mine

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine: Four Metals Mine (also called Red Mountain) Date: May 8, 1963

District: Palmetto District, Santa Cruz Co. Engineer: Axel L. Johnson

Subject: Field Engineers Report. Information from Art Robinson & personal visit.
(19,20,29,30,32 - workings in 29)

Location: Approximately Sec. 29, T. 23 S., R. 16 E. To reach property drive 5 miles north from Nogales on Hwy 89, turn right (east) and drive east for 9.3 miles on Nogales-Washington Camp road. Turn left (north) and drive north for 1.3 miles to the mine.

Owners & Operators: West Range Co., subsidiary of [illegible] Mines
C. F. [illegible], Manager, Catalina Foothills Lodge
5250 E. [illegible] Road, Tucson, Ariz.
Stan Williams, Engineer in charge of operations
Art Robinson, Mine Foreman

Number of Claims: 31 [28?] unpatented claims
1 claim purchased from Manuel Herrera? (covers part of same area as [illegible])
Other 29 claims located by the company.
30 [illegible] 1 claim staked April 8, 1963

Principal Minerals: Copper

Present Mining Activity: Repairing adit on S side of Red Mountain - 3 men working.

Past History & Production: (1) The Four Metals group of claims (38 claims) was formerly a part of Coronado Mines, owned by Coronado Mines, Inc., and consisting of 10 mines with 163 unpatented claims. (See report of Coronado Mines under date of Dec. 3, 1953.) Prior to about 1940, these holdings were known as [illegible] Copper Company. (2) In 1953, Duval Sulphur & Potash Co. put down several diamond drill holes on the Four Metals group of claims, at that time called "Red Mountain." (See report of Coronado Mines under date of Feb. 3, 1956.)

There is no record of any past production.

Old Mine Workings:
(1) 1 tunnel on the 5360 ft. level (S side of Red Mountain) 175 ft. long
(2) 1 tunnel on the 5400 ft. level (N side of Red Mountain) 400 ft. long
(3) 1 adit on the 5250 ft. level (S side of Red Mountain) 750 ft. long with about 200 ft. of cross cuts.
(4) 1 adit on the 5090 ft. level (S side of Red Mountain) 1137 ft. long, referred to as "bottom level." This is now being repaired.
(5) 1 raise, about 110 ft. high, connecting the 5250 ft. level and the 5360 ft. level.

Much of the above old workings are caved in and in need of repair.

Review of Recent Operations: Operators started work on this property about April 1st. Since that time, about [illegible] ft. of the bottom adit, (5090 ft. or bottom level) has been cleaned out, repaired and retimbered. A contract has been let to Mettler Bros. Drilling Co. for underground diamond drilling, which work will start as soon as enough of the adit has been repaired.

Proposed Plans: (1) Underground diamond drilling by Mettler Bros.
(2) Geologic mapping and sampling on the bottom level.

Other Work in the Area: Mettler Bros. Drilling Co. drilled 2 diamond drill holes on [illegible] tract for West Range Co. in March and April. These holes were put down SE of the Golden Rose and Buena Vista, approximately in Sections 25 & 26, T. 23 S., R. 15 E.
1-4-26

retroactive ~ Feb. 23,

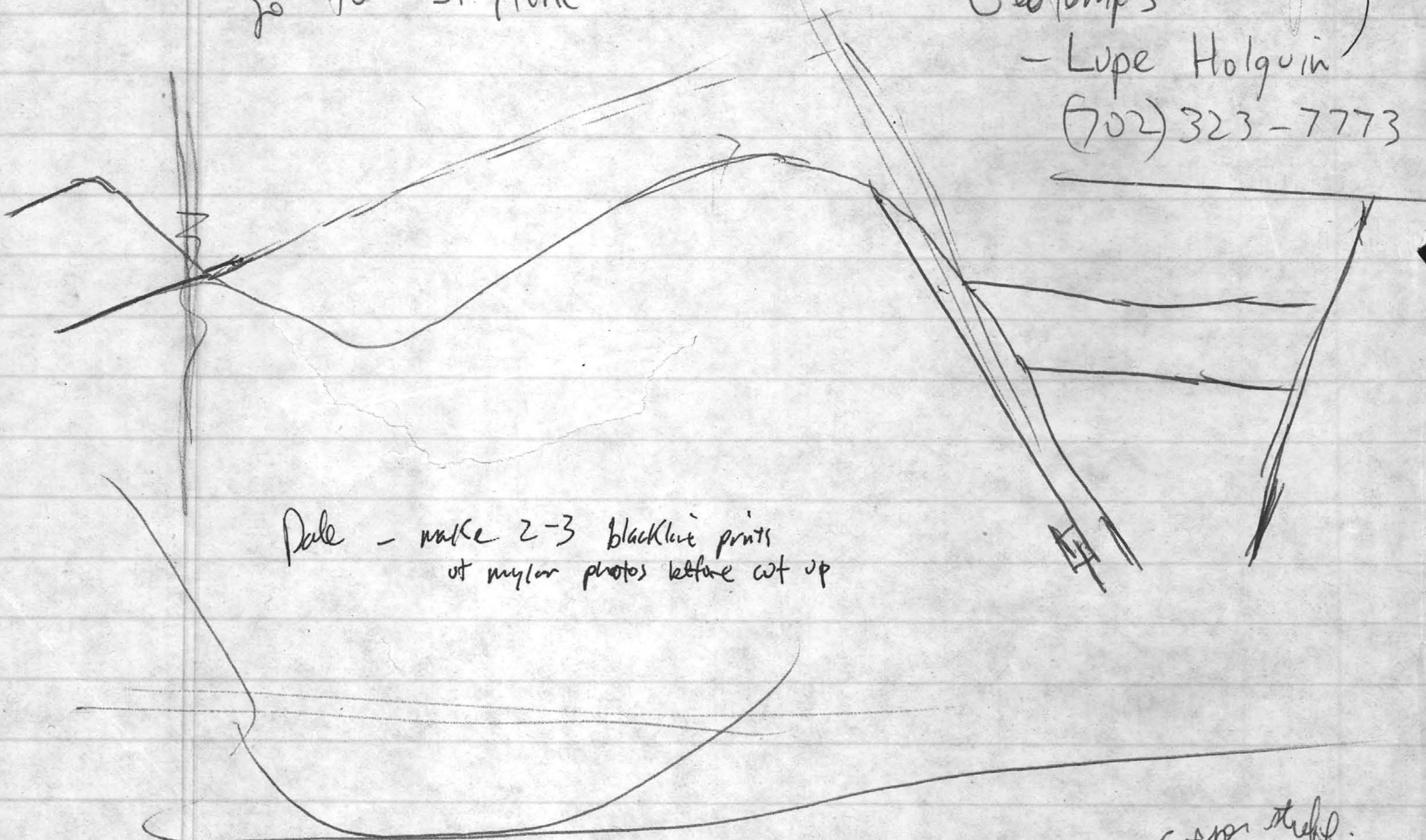
Artevs – till 4 pm. → 621-6024 — $9.00/hr.

– Call Bob Golden – ask how slides turned out

go to Cooper –

go to Skyline

Geotemps – $
– Lupe Holguin
(702) 323-7773



Dale – make 2-3 black line prints of mylar photos before cut up

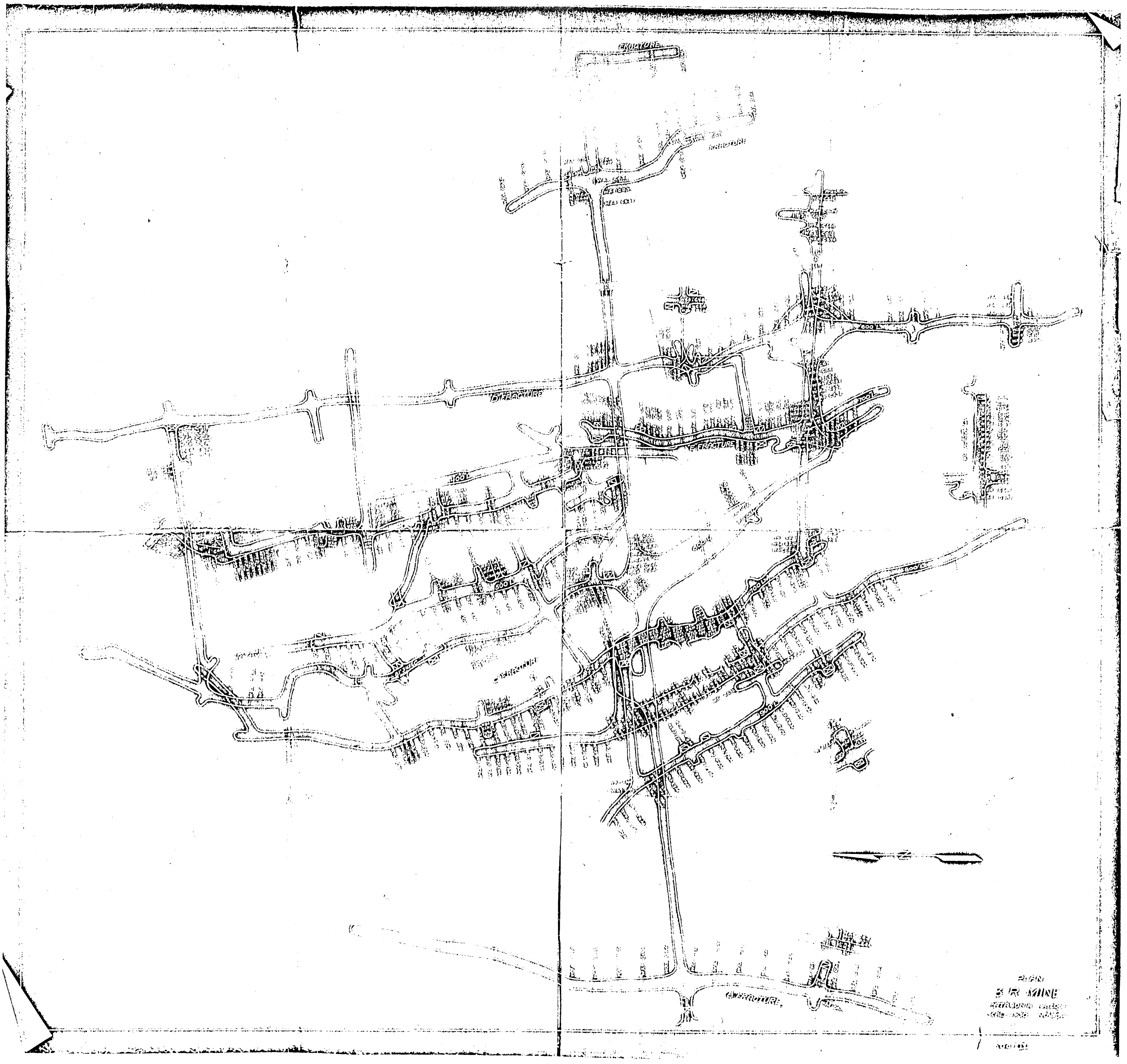
– 2-3% Copper stuff.

4 Metals – .41% cut-off
– chalcocite – chalcopyrite
– only total Cu assays
– no logs for inside the pipe
– breccia pipe, well defined
– all based on flat core holes from drifts

all inground was chalcocite ~ CuOx

favorable stand from USFS.

probably can pick up for holding costs – ie 15,000/yr to buy-out, underlying 3% NSR



E FRACTURE
D1 FRACTURE
600 L
700 L
800 L
900 L
500 L
E FRACTURE
3 R MINE