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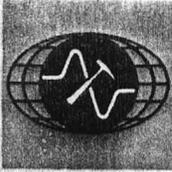
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HEINRICHS GEOEXPLORATION COMPANY

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

August 16, 1983

Sunchief Mines Company
c/o Mr. Gabriel Heday
P.O. Box 301
Tombstone, AZ 85638

COPY

Re: Union Hills Mining Area
Maricopa County, AZ
GEOEX #1659

Attention: Mr. Gabriel Heday

Dear Gabriel:

This will confirm my trip to Phoenix last Tuesday 9 August 1983 to join you for a brief inspection trip to the Union Hills Area.

I had previously read Mr. ^{JACQUAYS} Jaquay's report of his examination of the area during 1945. He reportedly did quite a bit of sampling and based on his results the area is at least of technical interest for potential gold production under present economic circumstances. Jacquays is a reputable mining engineer of long standing practice in Arizona. He is most noted for his successful experience in Arizona asbestos production.

My particular assignment was to help appraise the immediately apparent geologic potential, especially in the context of geophysical exploration methods applicability.

The area is highly affected by cultural pollution of many kinds but mostly from dumped trash, apparently some semi-random bulldozing perhaps for sampling and geologic purposes and some dozing for leach pad construction and operation. Results from all this serves to effectively hide and/or confuse the more or less orderly presentation of known and mapped veins as shown on one sketch map a copy of which you let me have.

In my view confirmation of any or all of Jacquay's sampling is a first order priority objective. Since none of the old workings are accessible now this means being confined to the surface and because the surface is so "stirred up" this may be difficult or even impossible. If such sampling cannot be done, geophysics may be able to help re-map and re-establish vein locations on the ground but the

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Sunchief Mines Company
August 16, 1983
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approach will have to be somewhat experimental. That is, a brief preliminary combination of methods, such as SP, EM, (Mag) (?) (because of the trash), radiometrics, and possibly IP to see what will work and whether or not it would help delineate possible drill targets. Costs of such work would run about \$500.00 per day for field work only for a two man crew and one vehicle. Each field day would require about one office day at about \$250.00 per day to compile, interpret and present the data. Thus you could figure about \$750.00 per day overall including report. The so called experimental phase would not completely cover the whole area of interest in detail. I would estimate at least three field days to complete proper testing and, if a routine method can be chosen and is desired and requested, maybe about four more days to complete coverage on a preliminary reconnaissance basis. The reason for this is because of the relatively small size of target and meticulous care and detail needed to outline such targets.

As mentioned yesterday, the earliest we could start such work if assigned today, would be during the first part of next month (September).

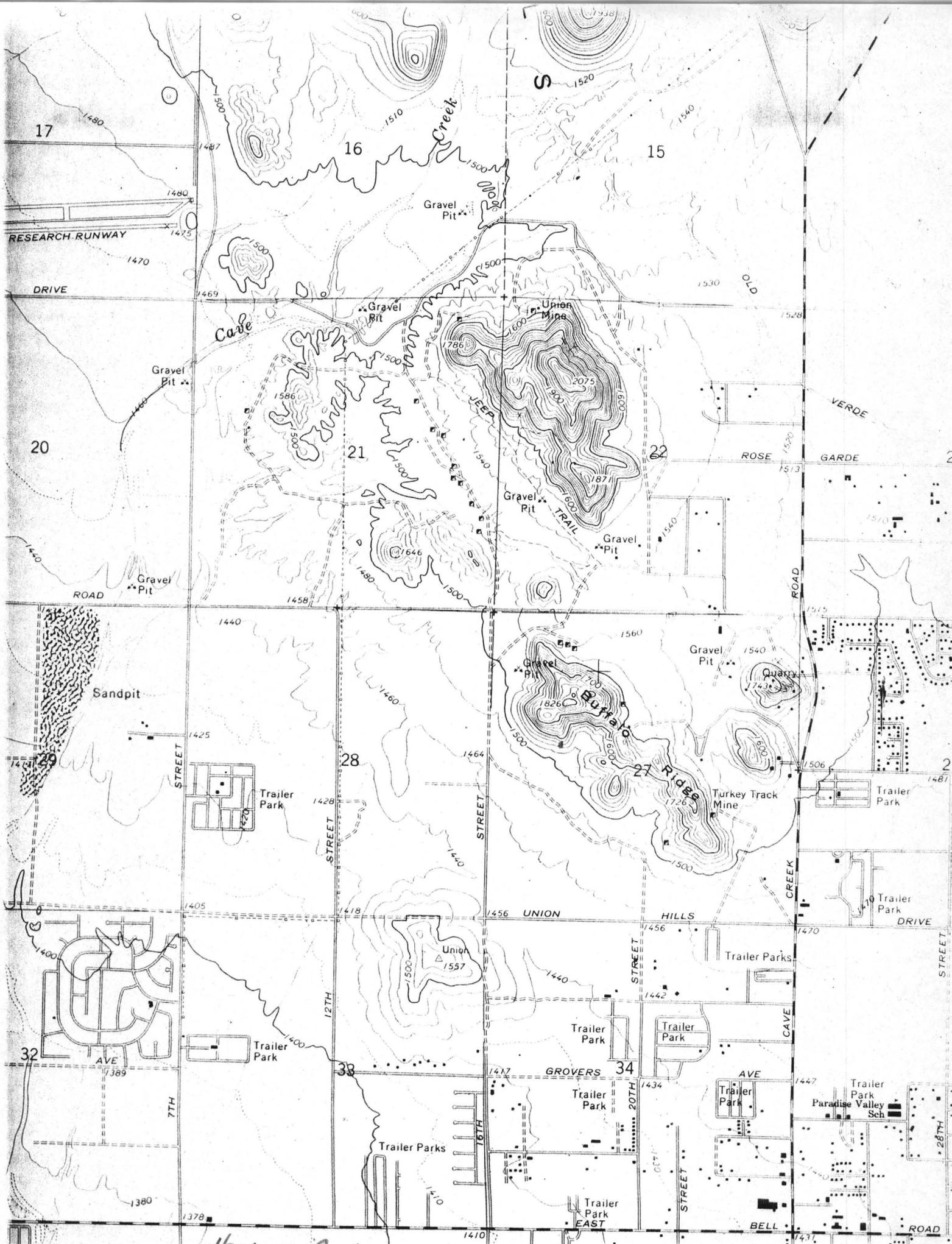
I mentioned to you that the U.S.G.S. 7 1/2' Union Hills quadrangle is available and could be enlarged for base map purposes for the time being. If you develop added data please let me know and I will do the same. Also, don't hesitate with any questions you may have.

Faithfully,

Heinrichs GEOEXploration Co. (Inc)

Walter E. Heinrichs, Jr., President

WEH:mt
Statement for Tombstone Report Enclosed



#1659 Aug '83

REPORT ON UNION MINE
Phoenix, Maricopa County, Arizona
November 1, 1945

By
D. W. Jaquays

Location: The Union Mine is located in Sections 21 and 22, of Township 4 North; Range 3 East; Gila and Salt River Meridian, 16 miles north of Phoenix, Maricopa County, Arizona. Ten miles of the highway to the mine is paved and the balance is five miles of graded county road and one mile of easily maintained mine road. The property is composed of two patented mining claims (Union and Scarlet) of 20 acres each and two unpatented mining claims of about 20 acres each. The title to the property is in good standing and is owned by Sims Ely, Phoenix, Arizona.

History: The property was worked extensively during the 1880's and to date over 1000 feet of shaft work has been done on the property. There are no records of the early production, but from the open stopes and caved areas over stopes considerable tonnage must have been mined near the surface. A ten-stamp mill, constructed about 1885, stands in ruin on the property. This mill treated oxide ores extracted from above the 100-foot level in the Union Shaft and several shallow shafts sunk on other veins on the Union claim. Sulphide ores could not be treated in this type of mill, so practically none of this type of ore has been mined except for some high-grade sulphide ores sorted out during the later development. The only accurate records of production are from shipments made during 1927, 1939 and 1940. During this time, limited operations were carried on in the Union Shaft and 137.0 tons of ore averaging 0.752 ounces of gold was shipped.

From the amount of work done on the property it is evident that previous operators did not spend their money wisely, because a well-planned development program operated through about two shafts would have placed the property in good condition for production, whereas there are six shafts 100 feet or more in depth in an area 1500 by 300 feet. At least two of these shafts, the Good Shaft and the Sturdy Shaft, can be used for future operations.

Geology: The geology of the area covered by the four claims of the Union Mine is simple, being mainly two types of rock, quartz-diorite and granite, with smaller dikes of quartz-porphry, a few inches to ten feet in width, which cut the quartz-diorite and granite. The quartz-porphry dikes are nearly parallel with the general trend of the vein system which strikes north 30 degrees west. All gold-bearing veins in the area occur in shear zones in the quartz-diorite and granite and are characterized by quartz and either pyrite or limonite, the oxidized residue of pyrite. In places the sheared zone on each side of the quartz vein for several feet will assay up to four dollars in gold.

Veins with definite outcrops of quartz and value are: The Evans Veins (North Evans and Evans); the Drake; the Union; the Scarlet; and the Good Vein. These veins are within an area 2000 feet long and 300 feet wide.

Assays and Production Records: The following assay results are from old records and from recent sampling by the writer. The samples taken by the writer were chip and channel samples on the vein outcrops south of the Good Shaft. The balance of the assay results are from old reports and are believed to be reliable. The Thorne assays were made as the result of an examination conducted for the purpose of appraisal of the property for a group of prospective purchasers during 1931. The purchase price asked by

the owner at that time was too high and the interested parties did not exercise their option.

Assays from Good Shaft and Nearby Area

<u>Number</u>	<u>Location</u>	<u>Taken By</u>	<u>Date</u>	<u>Gold at \$35.00</u>	<u>Width</u>
1	100-foot level south face	H. A. Thorne	1931	\$12.43	75"
2	100-foot level south face, sulphides only	" " "	"	47.08	22"
3	100-foot level at crosscut on vein	" " "	"	5.25	66"
4	Same as No. 3, sulphides only	" " "	"	58.20	6"
5	100-foot level 30 ft. north of face	" " "	"	15.40	66"
6	Good Shaft dump pyrite and quartz	" " "	"	54.20	
1	Surface 76 ft. south of Good Shaft	D. W. Jaquays	1945	7.00	28"
2	Surface 86 ft. south of Good Shaft	" " "	"	18.20	24"
3	Surface 118 ft. south of Good Shaft	" " "	"	5.60	6"
4	Surface 118 ft. south of Good Shaft on parallel vein 20 ft. to east	" " "	"	5.60	6"
5	148 ft. south of Good Shaft on Good vein	" " "	"	9.10	6"
6	154 ft. south of Good Shaft	" " "	"	4.20	6"
7	202 ft. south of Good Shaft on parallel vein 20 ft. to east	" " "	"	12.60	6"
8	230 ft. south of Good Shaft on parallel vein 20 ft. east of Good vein	" " "	"	3.50	20"
9	224 ft. south of Good Shaft on parallel vein 20 ft. east of Good vein	" " "	"	11.20	14"

A block of ore 90 feet long on the 100-foot level south of the Good Shaft is stated by John A. Dron, 1930, to average \$15.00 over 24" to 36" in width. This block of ground should safely provide 1000 tons of shipping grade ore. Further development south along the Good vein and the parallel vein 20 feet to the east should provide additional ore. Development to the north towards the Sturdy and Union shafts will also open very interesting ground.

Assays from Union Shaft

<u>Number</u>	<u>Location</u>	<u>Taken By</u>	<u>Date</u>	<u>Gold at \$35.00</u>	<u>Width</u>
1	360-foot level south face of drift on vein	Herbert Strickland	1916	\$57.50	24"
2	In crosscut 30 ft. east of shaft on 360-foot level	" "	"	13.00	24"
3	In crosscut 15 ft. from shaft on 360-foot level	" "	"	5.00	72"
4	270-foot level in shaft	" "	"	22.50	20"
5	280-foot level in east crosscut	" "	"	50.00	24"
6	100-foot of Union Shaft New vein near Vertical Shaft	" "	"	495.25 Sulphides only	Width not given

The above assays indicate some very interesting ground in the area developed by the Union Shaft, and from reliable reports practically no ore has been mined below the oxide zone, or 100-foot level. The Union Shaft remained on the upper segment of the Union vein to 176 feet in depth, where the vein was cut by a fault. The 70-odd feet of vein remaining below the 100-foot level should provide some good sulphide ore. Work on the 360-foot level indicated that the offset on the fault which cuts the vein at 176 feet in the Union Shaft is not great and the lower segment of vein can be located without too great expense.

Drake Shaft

<u>Number</u>	<u>Location</u>	<u>Taken By</u>	<u>Gold at \$35.00</u>	<u>Width</u>
1	280-foot level in cross-cut 30 ft. east of shaft	Drake	\$38.50	48"
2	30-foot drift on above vein south face	"	45.00	12"
3	North face of 30-foot drift	"	9.00	36"

The Drake Shaft is caved and any work in this area would require a new shaft. No work should be considered here until the area can be developed from another shaft.

Scarlet or Sturdy Shaft

<u>Number</u>	<u>Location</u>	<u>Taken By</u>	<u>Year</u>	<u>Gold at \$35.00</u>	<u>Width</u>
1	100-foot level in cross-cut 50 ft. north of Good Shaft	Schnurr		\$18.00	30"
2	Dump at Sturdy, 75 tons	H. A. Thorne	1931	10.85	
3	Dump at Sturdy, 75 tons	D. W. Jaquays	1945	11.20	

This shaft could be opened from the Good Shaft so as to provide a second opening to the mine. Indications are that further ore can be developed in the area opened by the Sturdy Shaft. This shaft would also provide an outlet for ore developed to the north in the area of the Union Shaft.

Well Shaft

<u>Number</u>	<u>Location</u>	<u>Taken By</u>	<u>Gold at \$35.00</u>	<u>Width</u>
1	50-foot level 20-foot crosscut to east	Oscar Long	\$ 5.00	60"
2	50-foot level 4-foot crosscut to west	" "	105.00	4"

This shaft can be classed as a good prospect hole. The area below the present well shaft bottom can be checked and developed as development is pushed to the north from the Good Shaft.

Evans Vein

A block of ground opened by an 80-foot shaft on the Evans vein is said to contain about 1000 tons of \$10.00 ore. This vein has been prospected for for a length of 400 feet and shows a width of two to four feet.

North Evans Vein

This vein is developed by a 112-foot shaft and prospect holes on surface.

Record of Shipments from Union Mine 1927 to 1940

<u>Shipped to</u>	<u>Date</u>	<u>Dry Tons</u>	<u>Gold Assay</u>	<u>Silver Assay</u>	<u>Total Value Per Ton</u>
American Smelting & Refining Company	7/15/27	26.0605	0.51 oz	--	\$17.85
International Smelter	8/11/39	9.291	0.44 oz.	0.20 oz.	15.54
" "	8/31/39	5.3445	0.74 oz.	1.03 oz.	26.62
" "	9/27/39	4.878	0.72 oz.	0.44 oz.	25.31
American Smelting & Refining Company	5/27/39	25.24	0.954 oz.	0.35 oz.	33.63
" "	6/13/39	35.844	0.85 oz.	0.80 oz.	30.31
" "	1/2/40	<u>30.3495</u>	0.787 oz.	0.68 oz.	28.03
Total tons		136.9775			

Contained 103.07 ounces of gold for an average of 0.752 ounces a ton.

The work done to date has established the fact that at least three vein systems will make ore. The condition of the old workings at the present time is such that in order to open the mine for production the Union and Drake shafts should be ignored for the time being. The Good Shaft is well timbered and is sunk in good ground so it can be opened with very little expense. This is also the logical point to start development. Development work should be done north and south of the Good Shaft along the Good vein. This work will develop ore and replace tonnage mined from the known block of ore developed

to the south of the Good Shaft. A connection can be made with the Sturdy Shaft located 250 feet north of the present north face of the drift on the 100-foot level of the Good Shaft. This will provide a second opening to the mine and open further good ground for development. Operations should be balanced so that shaft sinking in the Good Shaft can be done after about six months operations, without being too much of a burden on efforts to keep the mine on a paying basis from production of shipping grade ore.

Mining and Milling: Mining should not present any problems, for the vein is hard and the wall rocks are firm and should stand well. Depending on the width of vein to be mined, either shrinkage, out-and-fill or open stull methods could be used. The mining costs should not exceed \$4.50 to \$5.00 a ton for an operation set up to produce 15 to 20 tons of shipping grade ore a day. Other costs against shipping the ore to a smelter would be \$1.50 a ton trucking to Phoenix, \$1.00 a ton freight, and \$3.50 a ton smelter charges, making a total cost of \$11.00 a ton for ore delivered to the smelter. Any ore assaying \$11.00 or under should be left and considered mill ore, to be mined at such a time as when a mill is warranted. There are about 400 tons of old mill tailings which will assay \$4.00 a ton, and over 1000 tons of mine dumps which will assay \$4.00 to \$5.00. All of this material could be treated in a flotation-cyanide plant at a profit.

Milling of this type of ore is not difficult. The gold-bearing sulphides can be recovered by flotation, and in event the tailings from the flotation section assay too high due to milling some oxide ores cyanide can be used to treat the tailings. With this type of plant it would be possible to treat a wide variety of ores and some custom ore could probably be purchased from other small producers to the north in the Cave Creek area. Water for milling

will not be difficult to obtain. Some water can be pumped from the Union Shaft and the balance for milling can be obtained by sinking a well about one mile to the north near Cave Creek. A good underground flow of water is available here.

A power transmission line passes within two miles of the property to the south, and at such time as the operations warrant it electric power would be available.

Costs of Rehabilitation and Operation: The following estimates are for reopening the Good Shaft and setting up the operation as a producer of shipping grade ore from the block of ore known to exist in the Good shaft area:

Reconditioning the Good Shaft	\$ 400.00
Headframe over Good Shaft	250.00
50-ton ore bin	300.00
Hoist	1000.00
Compressor, 210 C.F.M. - (Rental (not included in operating expense \$200.00)	
1 mounted drill machine	250.00
1 stoper drill machine	365.00
Air and water hoses	100.00
Drill steel and bits	100.00
3 1-ton mine cars second-hand	150.00
1 mine cage	200.00
Air and water pipe and fittings	100.00
Mine rail 1 ton	70.00
Miscellaneous equipment	500.00
Operating expenses two months	<u>3000.00</u>
Total	\$6785.00

At the end of two months the Good Shaft and the 100-foot level should be in condition for production, and from then on expenditures should be governed by the amount of production obtained.

CONCLUSIONS: The showings of ore and the possibilities of additional ore on this property warrant the expenditures necessary to place this property in production, first as a producer of shipping grade ore with plans

for eventually opening up of sufficient ore to warrant the installation of a 50-ton mill so that lower grade ore can be mined and milled at a profit.

Respectfully submitted,



D. W. JACQUAYS,
Registered Mining Engineer.

Call Hawks & S

MAP of

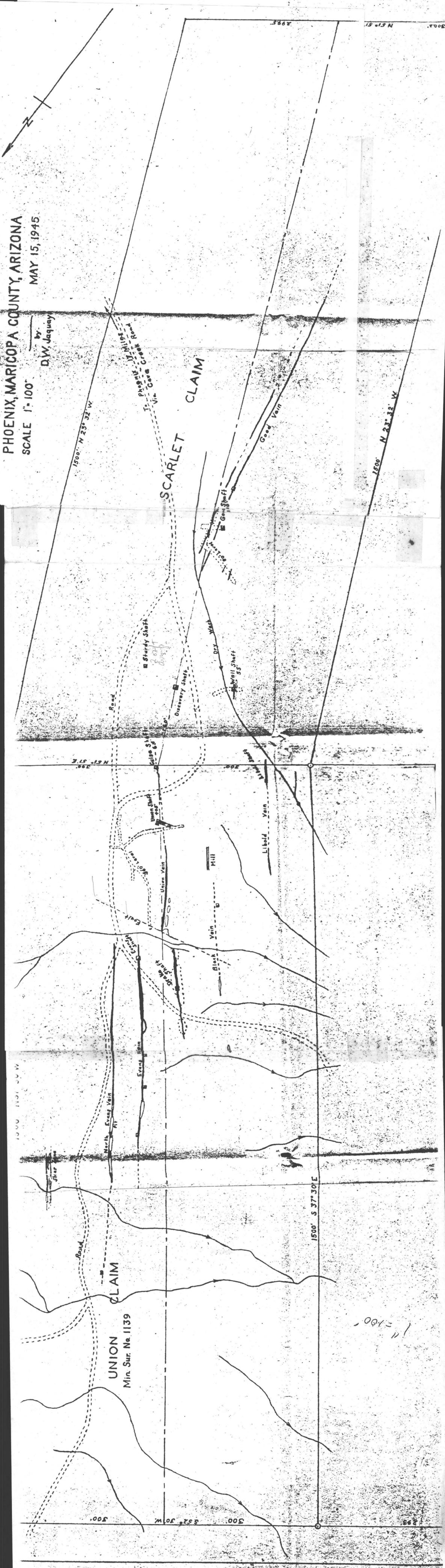
UNION MINE

PHOENIX, MARICOPA COUNTY, ARIZONA

MAY 15, 1945

SCALE 1" = 100'

by D.W. Jaquoy



UNION CLAIM
Min. Sur. No. 11139

1" = 100'

1000 1801 30 W

1500' S 37° 30' E

N 51° 51' E

1500' N 23° 32' W

2985

N 51° 51' E 3002

299