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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: MCMAHAN GROUP

ALTERNATE NAMES:
CUPRITE

YAVAPAI COUNTY MILS NUMBER: 410C

LOCATION: TOWNSHIP 11 N RANGE 4 W SECTION 14 QUARTER E2
LATITUDE: N 34DEG 17MIN 54SEC LONGITUDE: W 112DEG 38MIN 12SEC
TOPO MAP NAME: PEEPLES VALLEY - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
COPPER OXIDE
IRON
SILVER

BIBLIOGRAPHY:
BLM MINING DISTRICT SHEET 291
ADMMR MCMAHAN GROUP FILE
KUMKE, C.A. ZONIA COPPER MINE USBM RI 4023
1947
CLAIM EXTEND INTO SEC. 12 & 13
BLM MINERAL SURVEY MS 4695A HAS BEEN AMENDED
BLM MINING DISTRICT SHEET 291

McMAHAN GROUP YAVAPAI COUNTY

Visited the McMahan property adjoining the Zonia mine. The Cuprite Copper Company of Brownsville, Texas is constructing a rectangular concrete tank, etc. and intends to make percolation leach tests of material from this property and from the Zonia deposit which is said to be under option. Dr. Ray Harris, Professor at Texas Tech is the principal in the venture. The crew consists of Donald Dukes, Geologist, in charge and one helper. Neither Harris nor Dukes was present and the information available was therefore rather sketchy. These are the people who backed Sam Hughes on the Joker mine near Prescott. The project closed down amid bitter squabbles and is now in litigation. TPL WR 7-1-61

This property active Oct. 1961

Visited the McMahan Mine adjoining the southern border of the Zonia property. The operator here is the Cuprite Copper Co. of Brownsville, Texas, with Dr. Ray Harris, Professor of Mining at Texas Tech, as principal. None of the operators was present. A portable crushing plant was being moved out by a contracting firm which had put it there for a short test run. TPL WR 10-28-61

RI 4023

Zonia Group (Alt)

DEPARTMENT OF MINERAL RESOURCES

MR-1

STATE OF ARIZONA

MINE OWNERS REPORT

Date: September 1941.

1. Mine: ZONIA GROUP

2. Location: 12 miles S.E. of Kirkland, 7 miles from Kirkland Junction.

3. Mining District & County: Walnut Creek Mining District, Yavapai County, Arizona.

4. Former name: Zonia Mine - later, 1926-1930 property of the Hammon Copper Company.

5. Owner: Estate of James L Gillingham (In Probate).

6. Address (Owner): Sec: J. L. Gillingham. ~~2040 Clinton Ave.~~, Alameda, California. 1065 Wilbur St.

7. Operator:

8. Address (Operator):

9. President, Owning Co:

9A. President, Operating Co:

10. Gen. Mgr:

14. Principal Minerals: Copper. N.E.Section of property Copper, Gold and Silver.

11. Mine Supt:

15. Production Rate:

12. Mill Supt:

16. Mill - Type & Cap: No equipment on property.

13. Men Employed:

17. Power, Amt.& Type:

18. Operations - Present: None.

19. Operations - Planned: Ore developed in quantity tonnage was to be used as a leaching plant operation, shipping the matte copper to a smelter. First unit for which sufficient tonnage had been developed was to be of 600 tons. When two additional units of like capacity were added an electrolytic plant was to be added and refine copper on the property.

20. Number of Claims, Title, etc: 14 patented claims in the Zonia Group owned by the Gillingham Estate. There are also six claims of McMahan Groups held on possessory title which can be included, on which a joint operation was carried on by the Hammon Copper Co. Titles clear and properties can be offered jointly, or the Zonia Group offered as a separate operation.

21. Description - Topography & Geography: Hilly not mountainous. Low grade ore apexes on hills 200 to 300 ft. above adjacent countryside. Elevation about 3800. Climate excellent the year around. Roads into property in good shape. Main R.R.line at Kirkland, 12 miles distant.

22. Mine Workings - Amt. & Condition: On Zonia ground numerous old shafts and tunnels. All showing ore. Property seems in two zones. To the S.W. of French Gulch, which runs through heart of property, the copper lies as oxides and carbonates in a sericitic schist. One shaft on Zonia Copperopolis being 265 ft. showing 50 ft. av. 3.5% copper. Another shaft adjoining claim and going into Zonia Fairplay 874 ft. all in oxidized ore. N.E. claims show many quartz claims. Cu., Ag., Au.

23. Geology & Mineralization: Large tonnage occurs in a sericitic schist, four lodes, one partially developed. Low grades occur in large tonnage in schist, on one formation alone, 60 to 120 ft. in width. There are four or five similar parallel ore bodies. Only one has had real work done upon it. Schist occurs on edge of diabase dikes and enclosing porphoritic monzonite. Zone to the N.E. of French gulch which cuts through the heart of Zonia ground carries good values in gold and silver in addition to copper. Shaft 200 ft. there.

24. Ore - Positive & Probable, Ore Dumps, Tailings. Developed ore body, 35 lbs. copper per ton 1,338,050 tons. Adjacent tonnage of probable ore, 30 lbs. per ton, 760,165 tons. All above 300 ft. level. Less than one-tenth of mineralized length of property has been proven. Minimum of 10,000,000 tons estimated without considering areas not developed and development at depth. Sulphide zone not determined.

24A. Dimensions and Value of Ore Body: Evidence that it may be in the Monzonite. Ore in proven body where development work was done is shallow, to average depth of 260 ft., 3600 ft. N.E -S.W., 60 to 120 ft. wide. On this ore body alone evidenced by surface work not one-fifth has been proven by underground work. Evidence of gossan and other mineralization throughout property lead to belief of possibility of production of very large tonnage. Present work is inadequate to show.

25. Mine, Mill Equipment & Flow Sheet: Complete plans are available for leaching operation. With drawings, results of successful leaching tests in tonnage, with 93% plus recovery with weak sulphuric acid. Working shaft finished to lower level of developed ore. Property was ready to go into a 600 ton per day leaching operation in 1929, when copper market started declining.

26. Road Conditions, Route: Good. Some of roads in claims need slight repair work. Major work was done. Property can be reached from Kirkland Junction, on Phoenix to Prescott Highway.

27. Water Supply: Ample mine water for milling and leaching. Domestic water available from two wells. French Gulch running through property has running water the year around.

28. Brief History: Around 1900 ores from Copperopolis and Sunflower shafts were run through a smelter, still remaining on property. Boston and Arizona Copper Co. Operators. Spillbury sunk shaft off edge on Zonia Group to depth to find sulphides about 1920. Never left the oxidized zone. Sunk 874 ft. at highest point in property. Hammon Copper Co. had operation in 1926-1930. Had to abandon with break of market. Had material there at the time to build leaching plant.

29. Special Problems, Reports Filed:

30. Remarks: Properties as they are at present have developed ore sufficient for leaching plant of 600 tons per day. Shipping can be done but owners do not desire that type of operation, unless conditions make only that possible. The area in the heart of the group near the Zonia Arrastra claim has furnished much high grade copper, gold, silver ore from the Sunflower Claim. Little work has been done in modern times from this shaft but values were so high that the Hammon Copper Co. considered working it as a separate venture from the leaching operation. This ground is worthy of drilling for high grades and the owners would consider having this done.

31. If property for sale - Price, terms and address to negotiate: The property is for sale or lease to responsible people only who could carry through a program. All reports are available but not filed now.

32. Signature: JAMES L. GILLINGHAM

33. Use additional sheets if necessary.

Report on the McMahan Group of Mines
Situated in the Walnut Grove Mining District.
Kirklan,Yavapai county,Arizona.

Names of Claims and Area of Group,-

The property consists of the following named lode claims,-Iron Hat, Oro,Oro No.2, Rising Sun, Union, Black Prince, Shamrock, Umpire and Cuprite, aggregating an area of approximately 177 acres.

Titles.

The titles to the whole of the property are held by location, possession and compliance with the laws of the United States. The owners are R.B.McMahan and the heirs of Constantine McMahan.

Enclosures.

1. Topogrpahical map,showing location of camp and property.
2.Claim map,
3.Plan of workings,
4,Geological sketch map.

Geography and Accessibility,

This group of mining claims is located in the Walnut Grove Mining District,Yavapai county,Arizona, and is distant by wagon road from Kirkland, (Kirkland is on the Santa Fe,Prescott and Phoenix Ry) about 12 miles in a south-easterly direction.

The cost of hauling ore will vary from $2.75 to $5.00 per ton.Freight rates from Kirkland on ores not exceeding $20 valuation, minimum carload of 60,000 lbs,are $1.50 to Clarkedale,$1.60 to Humbolt, $2.50 to Hayden and $4.00 to Douglas. The elevation of the Cuprite shaft is 700 ft higher than Kirkland station and 4700 ft.above sea level.

Geology.

The formation of the territory surrounding the immediate vicinity of the mining claims is reflected on the "Geological Sketch Map",and is the following,-commencing about one mile east of the mining claims and going in a westerly direction is granite on which lie schists tolted at angles of about 56 degrees from the horizontal and dipping toward the west. The schists are cut with siliceous porphyry dikes and finally on the McMahan Group come in contact with diorite and quartz porphyry. The schists near the contact are highly silicified, faulted and intruded with porphyry dikes (especially on the Cuprite claim) and this section constitutes the main ore bearing zone. There is a zone of approximately 2000 ft extending from the NE corner of Cuprite claim to the centre of Black Prince claim. This zone is heavily impregnated with secondary minerals formed in the surface zone of weathering,the most important being cuprite,azurite malachite and chrysocolla. From this zone on the Cuprite claim 267 tons of copper ore have been extracted and shipped to the smelters. The ore occurs as replacements in the schist,in the form of shoots,the surface dimensions being outlined on the map"Plan of Workings". Oxidized copper outcrops assaying from 1 to 4% copper extend in a south-easterly direction,at right angles to the strike of the schist for a distance of 100ft from the hanging wall side of the main deposits,and surface trenches cut in this direction show alternate leached and oxidized copper bearing stretches of siliceous schists,indicating that when water level is reached and primitive ores encountered,the possibility of immense lateral dimensions in the ore shoots. While the surface ores so far extracted have averaged about 6% copper,workings in the lowest depths so far obtained indicate that values will be leached from 100-ft depth to water level (450 ft beneath the surface) with only occasional bunches of 6% ore.When water level is reached,secondary sulphides will probably be encountered of a good grade of copper,and at lower depth primitive sulphides of a grade from 2 to 5% copper. The ore occurrence resembles those of the main copper ore deposits in Yavapai county,such as the United Verde and United Verde Extention at Jerome,and the Consolidated Arizona and Arizona Binghampton located near Humbolt.The property is located approximately 20 miles from Humbolt,measured on an air line.

Prospecting Work Done.

The principal work has been done on the Cuprite clain,the plan of said work being shown on map "Plan of Workings". The vertical shaft reaches a depth of 100ft and is bottomed in 1½% copper material.The crosscut on the 60ft level passed through 9ft of 4% copper from the shaft and then enters leached siliceous schists in which are occasional blotches of copper ore.The lower tunnel is driven on a fault plane for about½ its length from which nodules of high grade cuprite ore was extracted.The high grade ore shipped (5tons of 17.88% copper) came from here. The upper tunnel passed through the orebody for a width of about 25ft. The hangingwall side of this orebody was stoped out to the surface for a width of 8ft,avergaing from 6 to 9% copper.The upper portion of the incline shaft was in 6 or 9% ore and graduâlly entered leached material of 1½% copper.

Ore Produced and Shipped to the Smelters.

Tons Net	Gold Oz	Silver Oz	Copper %	Insol. %	Silica %	Iron %	Lime %	Aluminum %
13.0000	tr	.04	12.9	70.0		2.0		
37.3760	tr	.26	66.8	74.8		5.7	o.9	
46.7465	no assay		6.57	no analysis				
36.2570	" "		9.00	"	"			
23.7520	tr	tr	6.11		55.8	7.4	1.3	13.0
18.4175	.01	.01	7 .27	73.6		5.8		
24.7715	tr	tr	5.59	78.0		6.6		
5.2825	.60	.60	17.88	50.4		9.7		
28.0745	tr	tr	4.46	no analysis				
33.3730			4.35	"	"			

Cost of Opening up the Property.

Permanent water level lies at approximately 450ft beneath the collar of Cuprite shaft,as determined by several churn drill holes in this locality. It is the intention to sink to water level and drift on the ore shoots opened up on the Cuprite property.

The enlarging the Cuprite shaft (vertical) from the surface to its present depth,100ft,and sinking same to water level,crosscutting to the ore shoots and drifting for a distance of 700ft on same,is is what should be done to determine the true worth of the property. That a large property of great value will be opened up, there can be no doubt. The cost of this work,present price of material and cost of labor considered,would be approximately,-

450ft sinking (enlarginf shaft 100ft of present depth)@ $40 per ft	18000.00
100 ft crosscutting @ $9 per ft	900.00
700ft drifting @ $8 per ft	5600.00
Total development	24500.00
Equipment,gasoline hoist,cable,buckets and cars	3000.00
Buildings,head-frame and engine house,	300.00
Total	27800.00

The dwellings of the Zonia Copper Mining Co.,1 mile from Cuprite shaft can be rehted very reasonable.No work has been done on the Zonia property for eighteen years.

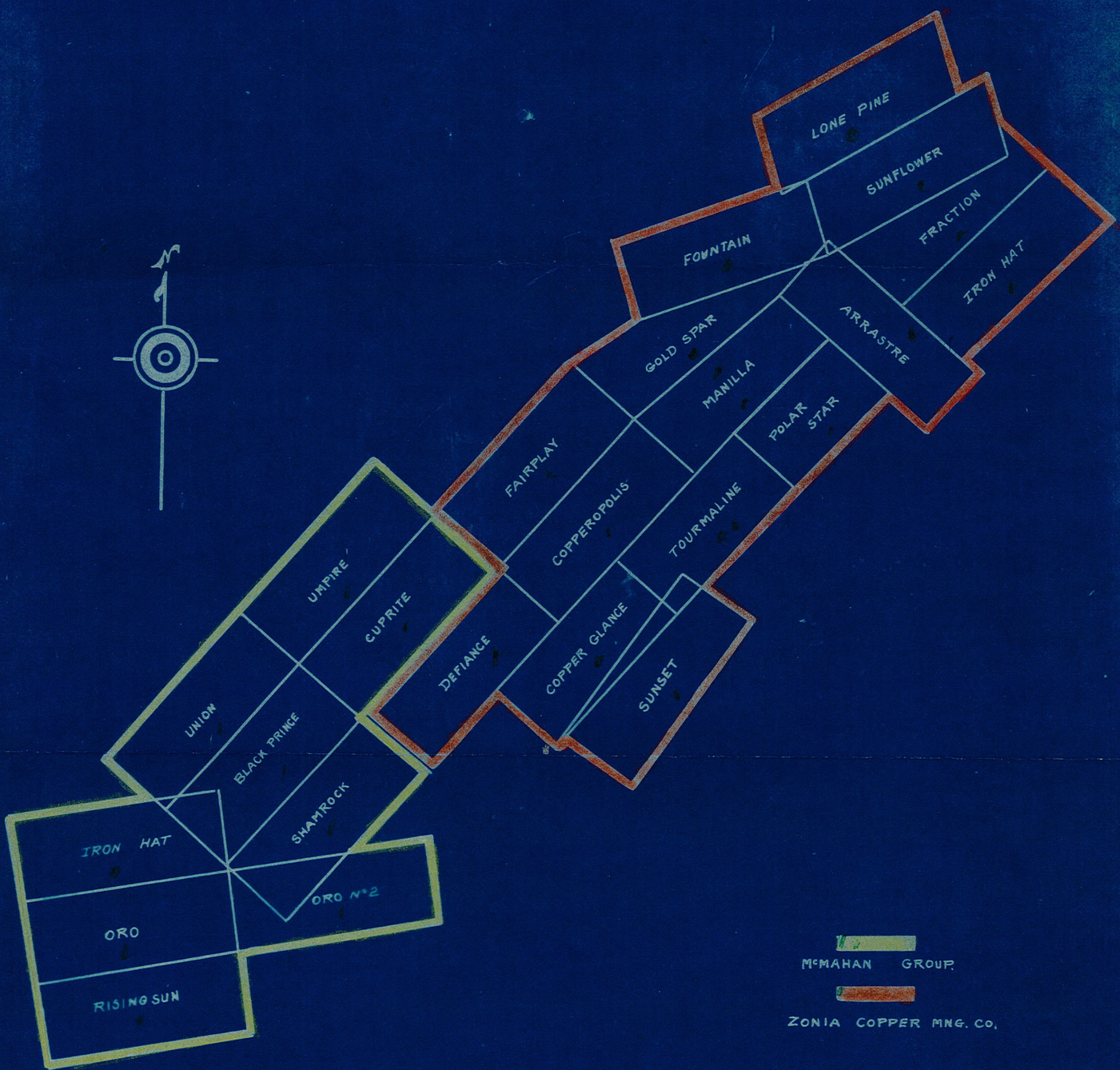
Remarks.

As already stated,the ore occurrence resembles that of the Arizona Consolidated and the Arizona Binghampton near Humbolt.The two properties mentioned had had high grade oxidized ore near the surface,followed by a leached zone,before encountering the sulphide zone. The sulphide ores are mainly treated by flotation, averaging about 3% copper for the crude ore concentrated. The better grade ores are treated direct in the smelters without concentrateion.

There is still exposed on the surface of the Cuprite claim of the McMahan group, a large tonnage of oxidized copper ore ranging in grade from 1 to 4% copper,which might be handled profitably by leaching with sulphuric acid,or by sulphide filming and subsequent flotation.

Denver,Colorado.1217 Adams Street,
(Signed) C.H.McMahan.
Mining Engineer.

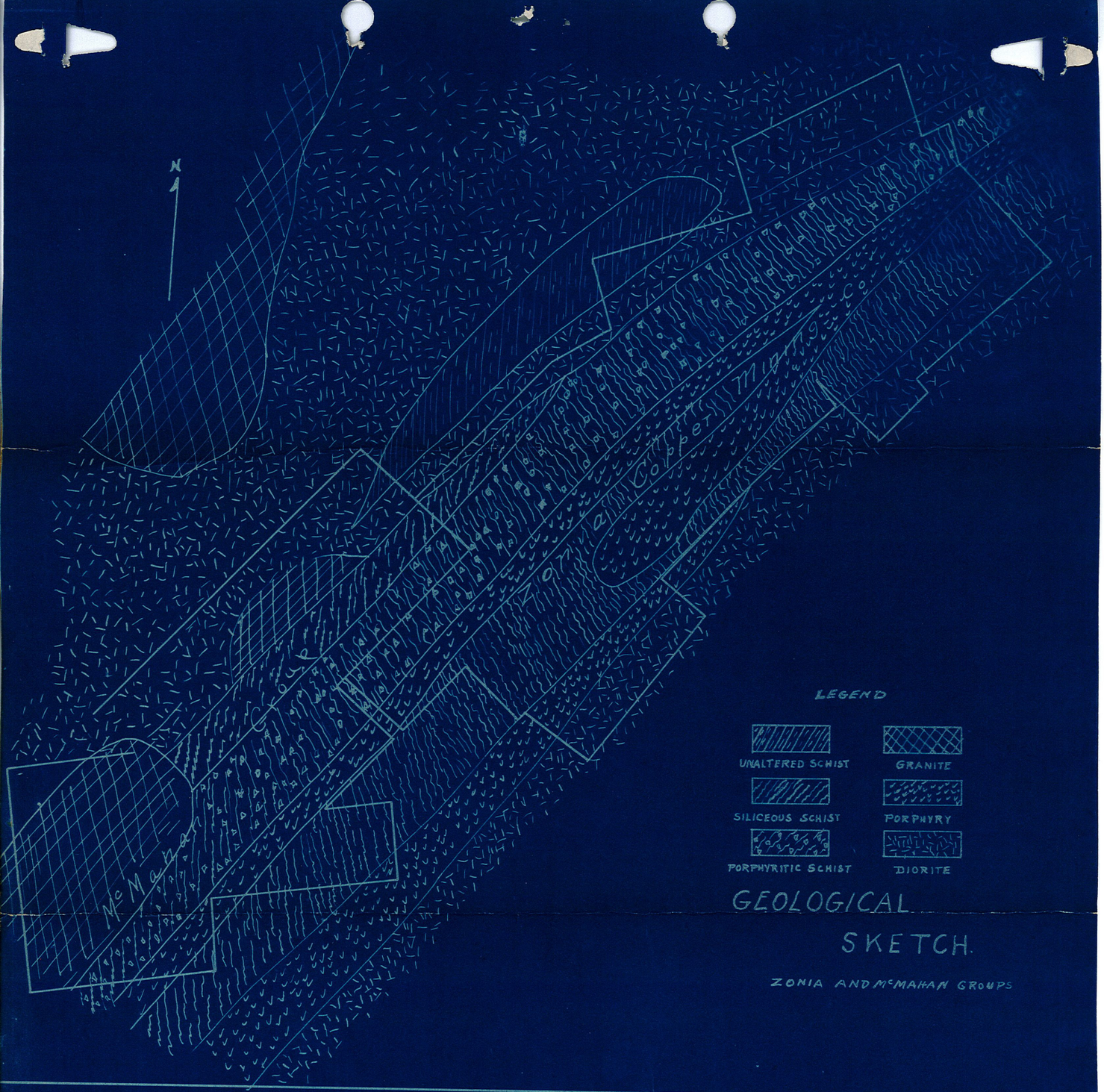
Feb.22,1918.



McMAHAN-ZONIA GROUPS

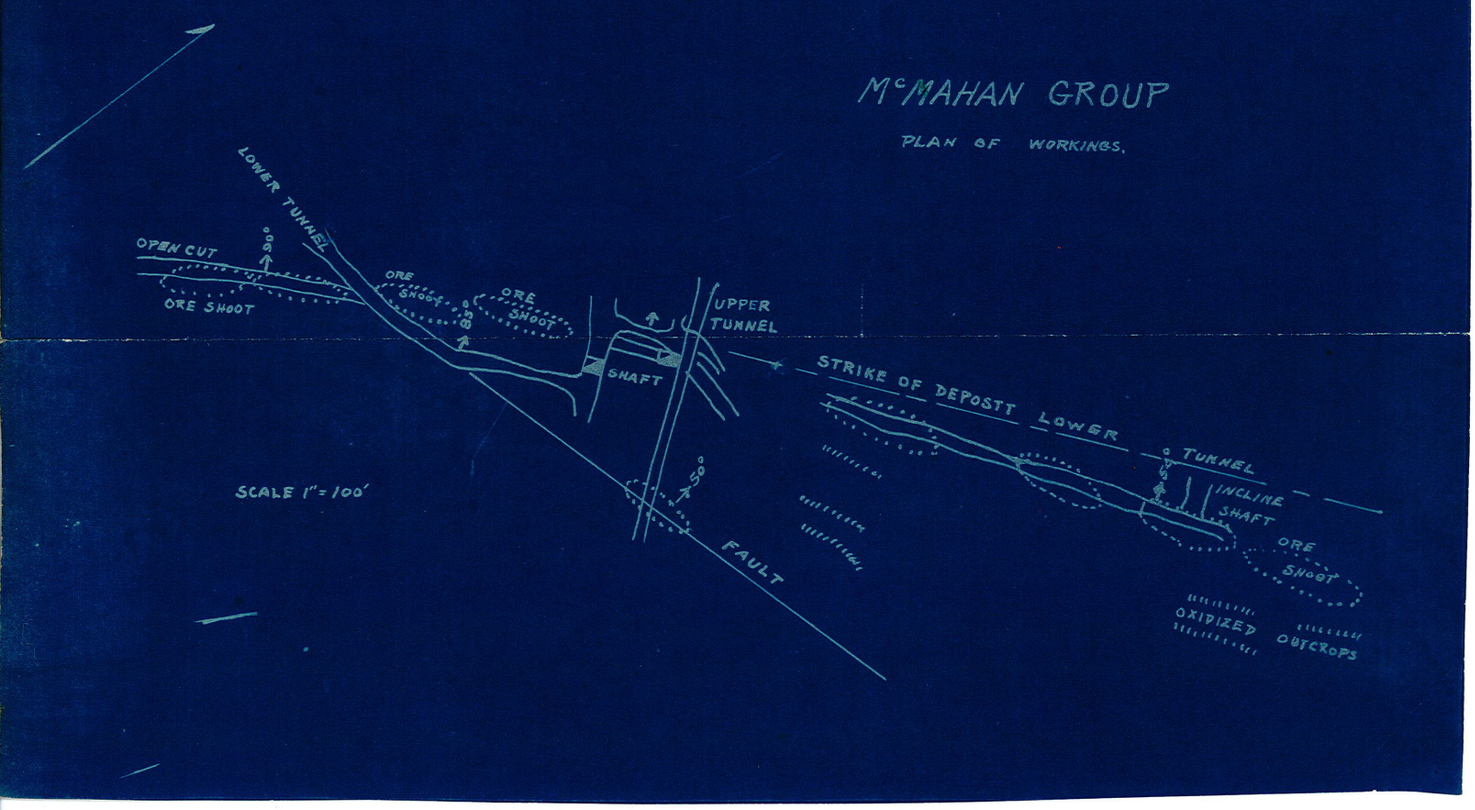
WALNUT GROVE DIST., YAVAPAI CO., ARIZONA.

A.L.F. 19



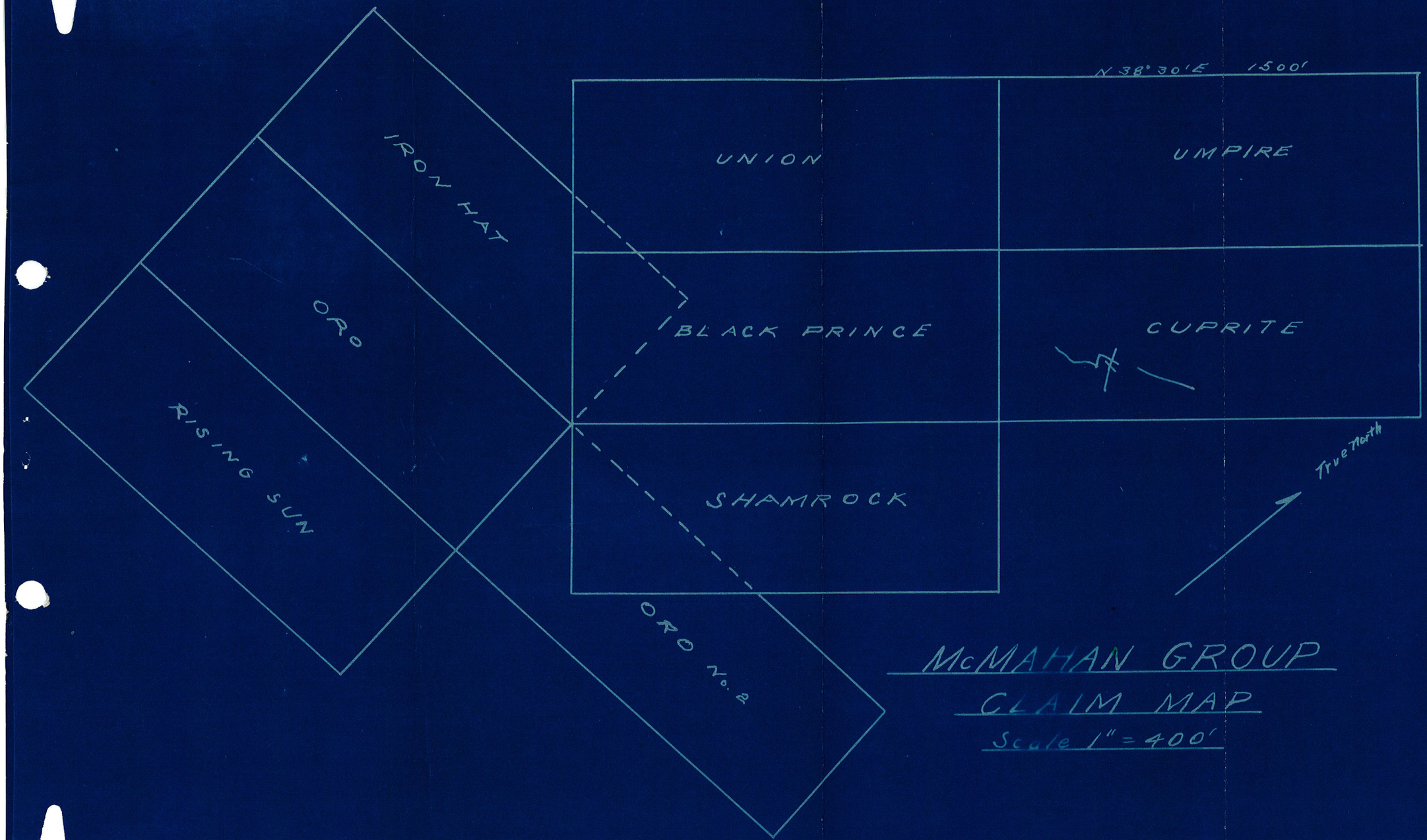
GEOLOGICAL SKETCH.

ZONIA AND McMAHAN GROUPS



McMAHAN GROUP

PLAN OF WORKINGS.



McMAHAN GROUP
CLAIM MAP
Scale 1" = 400'