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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: STAR GROUP

ALTERNATE NAMES:
CASTLE MINING CO. CLAIMS

YAVAPAI COUNTY MILS NUMBER: 966

LOCATION: TOWNSHIP 7 N RANGE 2 W SECTION 9 QUARTER NW
LATITUDE: N 33DEG 58MIN 01SEC LONGITUDE: W 112DEG 28MIN 30SEC
TOPO MAP NAME: GARFIAS MOUNTAIN - 7.5 MIN

CURRENT STATUS: EXP PROSPECT

COMMODITY:
TUNGSTEN
GOLD LODE

BIBLIOGRAPHY:
USGS GARFIAS MTS QUAD
ADMMR STAR GROUP FILE
BLM AMC FILES 76704-76707
CASTLE MINING CLAIMS ALSO IN SEC. 3-5, 8, 10
& 15

YAVAPAI COUNTY
Castle Creek District

STAR GROUP (Castle Mining Co.)
Section 9, T7N, R2W

KAP WR 7/8/75: Medie Fritzler, consulting for Castle Mining Company on their properties in the Garfias Mountains, called about aerial photographs of the area. Referred her to ARIS.

RRB WR 6/6/80: Tom Katamoto is looking at property of Art Cousins (Castle Mining Co.) in Yavapai County, on Constellation Road north of Wickenburg. Was looking for consultant to examine property to evaluate it and set up operations. Referred him to our Directory of Consultants.

CJH WR 10/3/80: Phil Swogger, Broker, All Star Realty Inc. 10814 N. 32nd Street, Phoenix, Arizona 85028, phone: (Business) 971-8810, (Residence) 938-2882. Mr. Swogger has been retained by a group of claim holders to develop a lode gold mining operation in the Castle Creek District, Sec. 9, T7N, R2W, Yavapai County. One of the claim holders has a relative who is a mining engineer who will do a study for the group who have formed the Castle Mining Co. Mr. Swogger allowed us to copy two reports on the claim group. One is a magnetometer survey by Carpenter Development Inc. and the other an economic and feasibility study by GSR Metals Inc., 350 E. 10th Drive, Mesa, Arizona 85202, phone 835-0853.

Castle Mining Co.
4 way Morrison t.
Castle Hot Springs
2
Sec 9, T7N R2W
Cousins in town land.

GSR METALS, INC.

31 SOUTH 42ND PLACE
PHOENIX, ARIZONA 85034

PLANT 602/275-2009

MEMORANDUM



TO: Mr. C. Hughes
Mr. A. Cousins
Phoenix, Arizona

October 2, 1974

Gentlemen:

This memorandum will attempt to set forth some of the more pertinent points regarding the economics and feasibility of starting a gold recovery operation on your property north of Morrystown.

The various samples brought to us for analysis to date clearly demonstrate the persistency of the gold values throughout the open cut where the samples were derived. Table IV shows a range of values of gold content from 0.2 - 3.0 oz./T. At current gold prices the values are from \$30 to \$450 per ton.

The following is our tentative conclusion:

CONCLUSION:

The preliminary investigations reveal the following:

1. Gold values persist throughout the cut (0.2-3.0 ozs/ton).
2. The oversize fraction contains the higher values (7 oz/ton).
3. A proper size mining operation would probably be within a range of 100 tons/day.
4. After concentration the values would be in the range of \$20,000/ton of final concentrate.
5. The final concentrate would be within a range of 1/2 ton/day.
(Note: the tests showed higher concentration ratio.)
6. Projected gross revenues from such operation would be within the range of \$13,000/day.

The preliminary investigation is based upon the following samples:

1. A one-pound concentrate hand-delivered by Mr. Cousins. This sample apparently was derived by upgrading the sluice concentrate rather manually. (See Table III.)
2. A second sample of approximately 100 pounds was brought in three five-gallon plastic buckets described as the ore after having undergone crushing and wet grinding at the mine site. (See Table III.)



3. Samples taken as follows:

- a. Random samples taken across the face of the open cut.
- b. Samples obtained off the concentrating sluices while in operation, representing an operational profile.
- c. Multiple assay tests were conducted to ascertain the values, and to determine the percentage distribution throughout the various screen sizes. (See Table IV.)

Preliminary Evaluation:

1. The present concentrating method being used at the mine would, by and large, be suitable for future operation.
2. Excluding some modification in the future, the proposed operation will most likely include the following general steps:
 - a. Mining:
 1. Open pit mining, employing a ripper and a loader.
 2. Primary and secondary crushing with screening steps.
 - b. Concentrating:
 1. Desliming, followed by wet grinding of the feed.
 2. Table-concentrating or other form of concentrating devices.
 3. Filtration and collecting concentrate^s to be delivered to the processing plant.
 - c. Processing:
 1. Treating above concentrate by various means currently being investigated to obtain a final concentrate.
 2. Treating such final concentrate chemically and physically to obtain metal bars.
 3. Treating such bars to obtain gold bullion of mint grade.

OBSERVATION:

1. Generally speaking, it is advantageous to upgrade the ore at the mine site as much as is feasible in order to save expenses in subsequent hauling to processing plant.

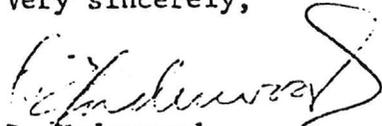
10/2/74

2. The advantages gained may be offset, however, by the necessity to equip the mining camp for self-sufficiency in repairs, spare parts, supplies, etc. Daily fresh supplies would have to be brought in so that men will stay on the site.
3. The concentrate in its final form would be of such high values as to introduce security problems. Material balance control would have to be very stringent in order to satisfy any auditing system.
4. As a remedy it may be suggested to haul the ore after crushing to a near city location where further upgrading and recovery would be done in proximity of each other.
5. Hauling raw feed, however, is unduly more expensive than hauling the low bulk concentrate.
6. Disposal rules are more stringent in cities than at the mine site.
7. Ample land should be available or may have to be reclaimed by the dumping of large tonnages of ore.

As was suggested above, our viewpoint is preliminary in nature. More samples would have to be run to ascertain the extent of the reserves and the final content of the ore. We hasten to add, however, that the showings so far are very encouraging. We certainly hope the above preliminary work will hold up and will closely reflect the final conclusion.

We would like to take this opportunity and express our thanks for letting us work with you, and look forward to a long-term association.

Very sincerely,


D. Underwood


S. Makalla

TABLE I

DISTRIBUTION OF VALUE

	<u>WEIGHT TONS / DAY</u>	<u>CONTAINED VALUES</u>	<u>VALUES RECOVERABLE</u>	<u>VALUES RECYCLED</u>	<u>VALUES RECOVERED</u>	<u>VALUES LOST</u>
(1) Oversize	35	\$15,750	\$13,110	\$2,640	\$12,454	\$856
(2) Undersize	37	2,775	2,220	555	2,109	111
(3) Slime Portion	<u>28</u>	<u>1,140</u>	<u>-</u>	<u>1,140</u>	<u>-</u>	<u>-</u>
TOTAL	<u>100</u>	<u>\$19,665</u>	<u>\$15,330</u>	<u>\$4,335</u>	<u>\$14,563</u>	<u>\$967</u>
PERCENTAGE	-	100	78	22	74.05	4

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TABLE II

PROCESS EVALUATION
VARIOUS CONCENTRATION ROUTES
(PROJECTION FOR 100 TON MINING OPERATION PER DAY)

	MINING DEPARTMENT			CONCENTRATING DEPARTMENT			PROCESSING DEPARTMENT (ASSUMING 95% EXTRACTION)	
	ORE MINED TONS/DAY	AVAILABLE FEED TO CONCENTRATE TONS/DAY	VALUES BEFORE CONC. OZ/TON	VALUES AFTER CONC. OZ/TON	RATIO BY WEIGHT OF CONC. TO FEED APPROX.	TOTAL CONC. TONS/DAY	VALUES/TON @\$150/OZ \$	GROSS VALUES RECOVERED \$
(1) Oversize Fraction +10 Mesh	100	35	3.0	200	80:1	0.437	30,000	12,454
(2) Undersize -10+400	100	37	.5	40	100:1	0.370	6,000	2,109
(3) Oversize & Undersize (less slimes)	100	72	1.71	120	90:1	0.807	18,990	14,563

REMARKS:

- a. By keeping both fractions the load to processing plant doubles with an extra recovery of 10%.
- b. The figures do not reflect efficiency of concentration. See table I for recycling figures.
- c. At the processing plant the recovery is 95%.

TABLE III

VARIOUS RESULTS OF SAMPLES SUBMITTED



<u>SAMPLE NO.</u>	<u>ASSAY OZ/TON</u>	<u>VALUES/TON AT \$150/OZ.</u>	<u>REMARKS</u>
1	140	\$21,000	Sample brought by Cousins in jar; weight 361 gm. This apparently was hand panned after wet grinding and sluiced.
2	7	1,050	Ore brought in 3 five-gallon buckets, after grinding.
3	1.3	195	Feed picked from cut, dry crushing only.
4	1.0	150	Various rocks on top of hill.
5	3.0	450	Concentrate off trough, after wet grinding.

TABLE IV

SCREEN SIZE DISTRIBUTION
SHOWING VALUES IN FRACTIONS

<u>SAMPLE</u>	<u>% WEIGHT DISTRIBUTION</u>	<u>VALUES OZ/TON</u>	<u>CALCULATED HEAD</u>	<u>% VALUES DISTRIBUTION (APPROX.)</u>
(1) Oversize + 10	35	3	1.05	80.0
(2) Undersize -10+100	37	.5	.185	14.0
(3) Undersize -100+400	10	.4	.04	3.0
(4) Slimes -400	18	.2	<u>.04</u>	<u>3.0</u>
			1.315	100.0

REMARKS: No. (1) fraction is only 35% of the mined rock, but contains 80% of total value in place.

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MAGNETOMETER STUDY
OF THE
HOT SPRINGS AREA CLAIM GROUP
YAVAPAI COUNTY, ARIZONA

INTRODUCTION

The services of Carpenter Development, Inc., consulting geologists/geophysicists, were retained to conduct a magnetometer survey of the Hot Springs area claim group located in Yavapai County, Arizona. All data was gathered along predetermined data lines in the general area.

This claim group is located in Section 9, T 7N, R 2 W of Yavapai County, Arizona. No topographic maps of the area were available, however, detailed aerial photo coverage was furnished as a base for the laying out of survey data gathering points and survey lines. Figure 1 shows the general layout of the claims and the area of study for this report.

DATA PROCEDURES

Data was gathered in the field by a continuous recording process in which both magnetic and radiometric instruments operated simultaneously. Data stations were spaced at approximately 1320' intervals. The data gathering technique is a combination of new data reduction techniques with old gathering principals. By combining the two techniques it is possible to locate previously hidden mineralization zones.

Both the magnetic and radiometric systems are instrumented for instant recording of all data and have designed and modified for operation from moving vehicles.

V
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The system utilized for this work are custom built geophysical apparatus based on the primary design functions of the Sharpe Magnetometer and precision radiation simulation equipment. All equipment has been custom re-designed and transistorized for the specific uses to which it has been placed.

The nature of the sensing systems are such that true magnetic north orientation of the equipment is not necessary. The magnetic portion of the system is designed to give the relative magnetic variations of the total vertical magnetic field rather than an absolute value for the vertical field. Since these data are acquired for the purpose of economic evaluation and exploration work, it is not necessary that the absolute value for the vertical intensity be measured, only the relative changes of same, which are significant when determining mineralization zones and potential economics of a mineral deposit.

All data was brought back to the Phoenix Office, and necessary corrections for terrain, diurnal variations, and instrument corrections were applied before data was reduced through computerized technique formulas for plotting.

RESULTS OF STUDY

Vertical Magnetics

The results of the Magnetic portion of the survey are presented in Figure 2. This is a plot of the residual vertical force magnetics as computed from the field data with all of the regional effects removed.

Examination of Figure 2 indicates that there are two large anomalous areas in the general area of the claim group. The highest residual reading of 800 gammas in the western portion of the claim group is significant and it is felt that the 600 gamma residual anomaly in the eastern section is also of importance. Because of the nature of

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the distribution of the anomaly, it is felt that this anomaly represents some type of disseminated mineralization, as opposed to veins or dikes in the area.

This disseminated mineralization could be a sulfide body at depth or some other type of metallic ore occurrence. It is felt by this writer that the anomaly represents a disseminated mineralized zone at a depth greater than 300'. If the zone were shallower than 300', and highly mineralized it is felt that the residual anomaly in this particular area would have been considerably higher than is evidenced at this point. It is felt that anything below the 200 gamma anomaly line would be insignificant with respect to ore deposition or mineralization at any depth practical to mining.

Radiometric Data

Residual Radiation data as accumulated in the area is plotted in Figure 3. This data was acquired in order to maintain a check on the region to determine if high radiation was found associated with any of the mineralization. It can be seen by a study of this figure that little radiation was evidenced in the region. There is no general pattern which can be attributed to mineralization in the region which has any association with high radiation activity.

CONCLUSIONS AND RECOMMENDATIONS

After a study of the data the following conclusions may be derived from this study:

1. There is indication of a disseminated mineralized zone underlying the major portions of the claim area.
2. The heaviest concentration of this mineralized zone is located in the western half of the claims with an equally good zone located in the eastern half.
3. The rock appears to be mineralized at a depth greater than 300'.
4. There is no significant radiation activity associated with these zones which would aid in determining depth or extent of the area.

5. No major faults were evidenced in the data gathered, however it is possible that numerous minor faults exist in the region.

IT IS THEREFORE RECOMMENDED, that this property be more fully examined by a core drilling with at least one core hole extending to 500 feet in the vicinity of the 800 gamma residual anomaly in the western portion and the 600 gamma residual anomaly in the eastern portion.

It is possible that low grade disseminated sulfide ores may be wide spread in this area and these two core holes would certainly give an accurate indication of this existence.

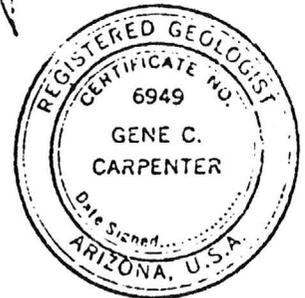
If the core holes show reasonable mineralization to be of commercial value, it is then recommended that a detailed core drilling program be laid out in conjunction with a detailed assay program for proving up the extent of mineralization on the property.

Respectfully Submitted,

CARPENTER DEVELOPMENT, INC.



Gene C. Carpenter
Registered Geologist



DATE Sept. 3, 1970

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Star Group - Tungsten
District White Picacho District
Subject: Present Operations - Mine and Mill

Date October 24, 1953

Engineer Mark Gemmill

LOCATION AND OWNERSHIP

The mine is located about 12 miles Northeast of Morrystown just a short distance off the Caste Hot Springs road. The mill is located on the property close the mine workings. It is owned by the Pessin Mining Company, a corporation. Al Pessin, Morrystown, Ariz. is President and Manager.

MINE

I dont believe that property has any particular past history. Mr. Pessin stated that he had aquired claims from sevrall propectors and located some himself - about 20 claims in all. Operation were started this past spring with development work consisting mainly of cuts made with a bulldozer. These cuts exposed faces of what was described to me as milling ore, but they dont have available an estimate of ore in sight or its value. The mineral is mainly Scheelite.

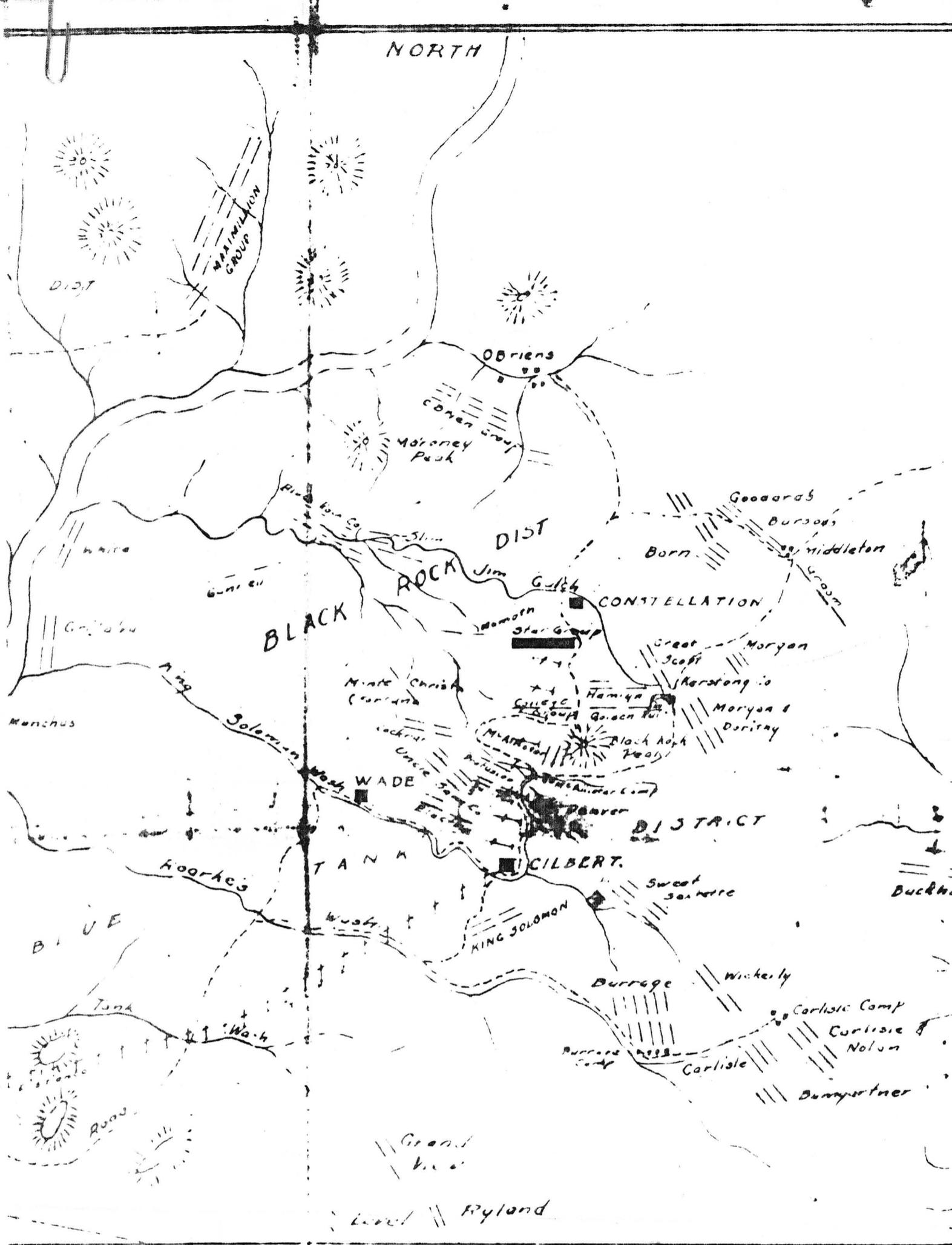
MILL

The first plans were to mine the better grade ore and send it to Hillside for milling. Later it was decided to build a mill on the property. The mill has been installed in the past three months. It consists of Crusher, two sets of Rolls, Ball Mill, Tables and Flotaion cells, all electric driven with power from the Public Service Co. The installation looks very good. The mill is about ready to turnover.

COMMENTS

This company seems to well financed. They have first class equipment for the mining planned, such as compressors, bulldozers, loaders, trucks etc. The operation so far represents a sizable investment. It is hoped that the calculations on which it was made prove to be sound.

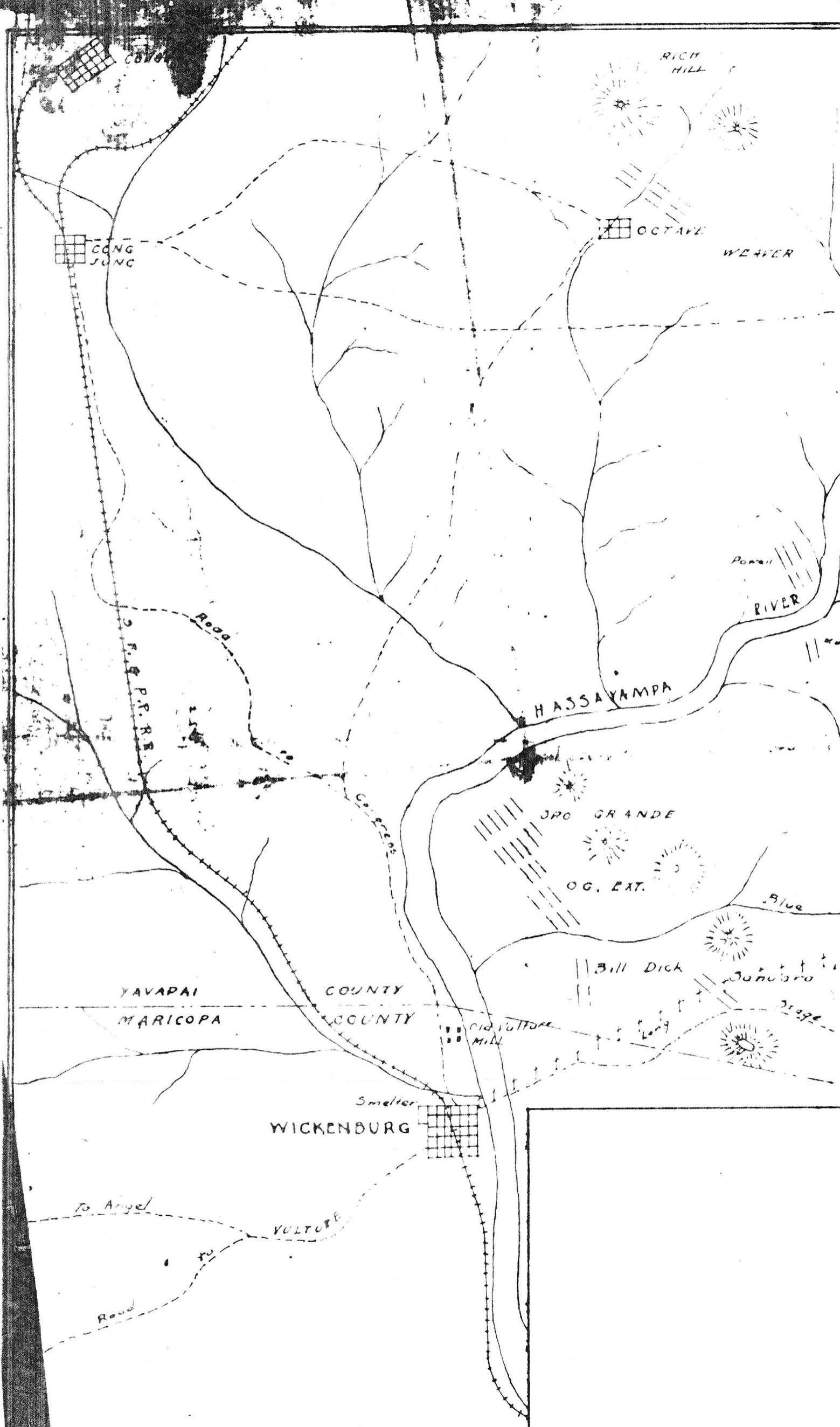
Mark Gemmill



SKETCH
 OF
 STAR GROUP OF MINES
 BLACK ROCK DIST.
 ARIZONA

UNIVERSITY OF ARIZONA SCALE MILE 1 INCH

Constellation
 W



RICH HILL

OCTAVE

WEAVER

CONG JUNG

Powell

RIVER

HASSAYAMPA

JPO GRANDE

OG. EXT.

Blue

Bill Dick

Johnston

Old Vulture Mill

YAVAPAI COUNTY
MARICOPA COUNTY

YAVAPAI COUNTY
MARICOPA COUNTY

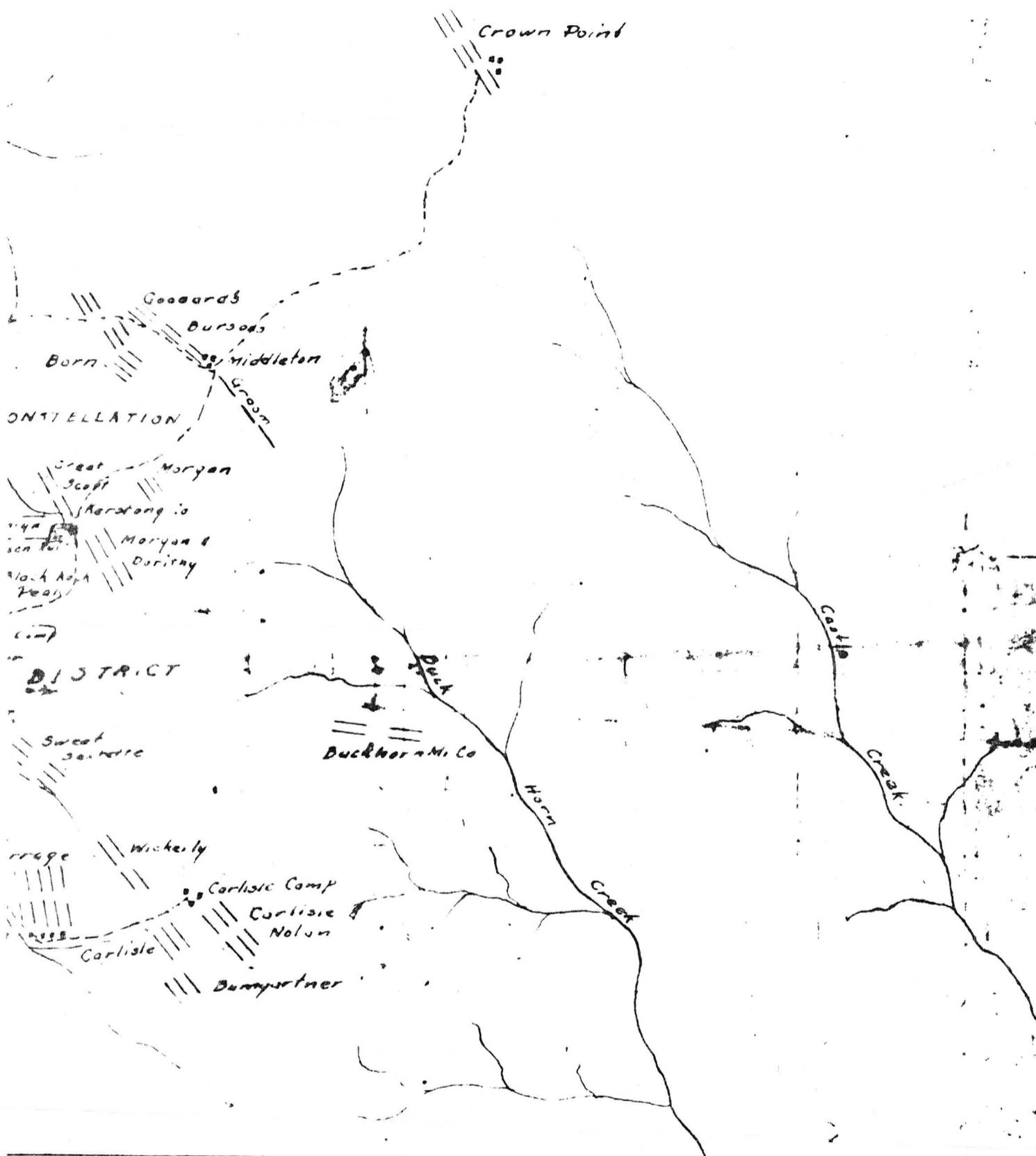
Smelter

WICKENBURG

To Angel

VULTURE

Road



Constellation
 Wickenburg, Az

