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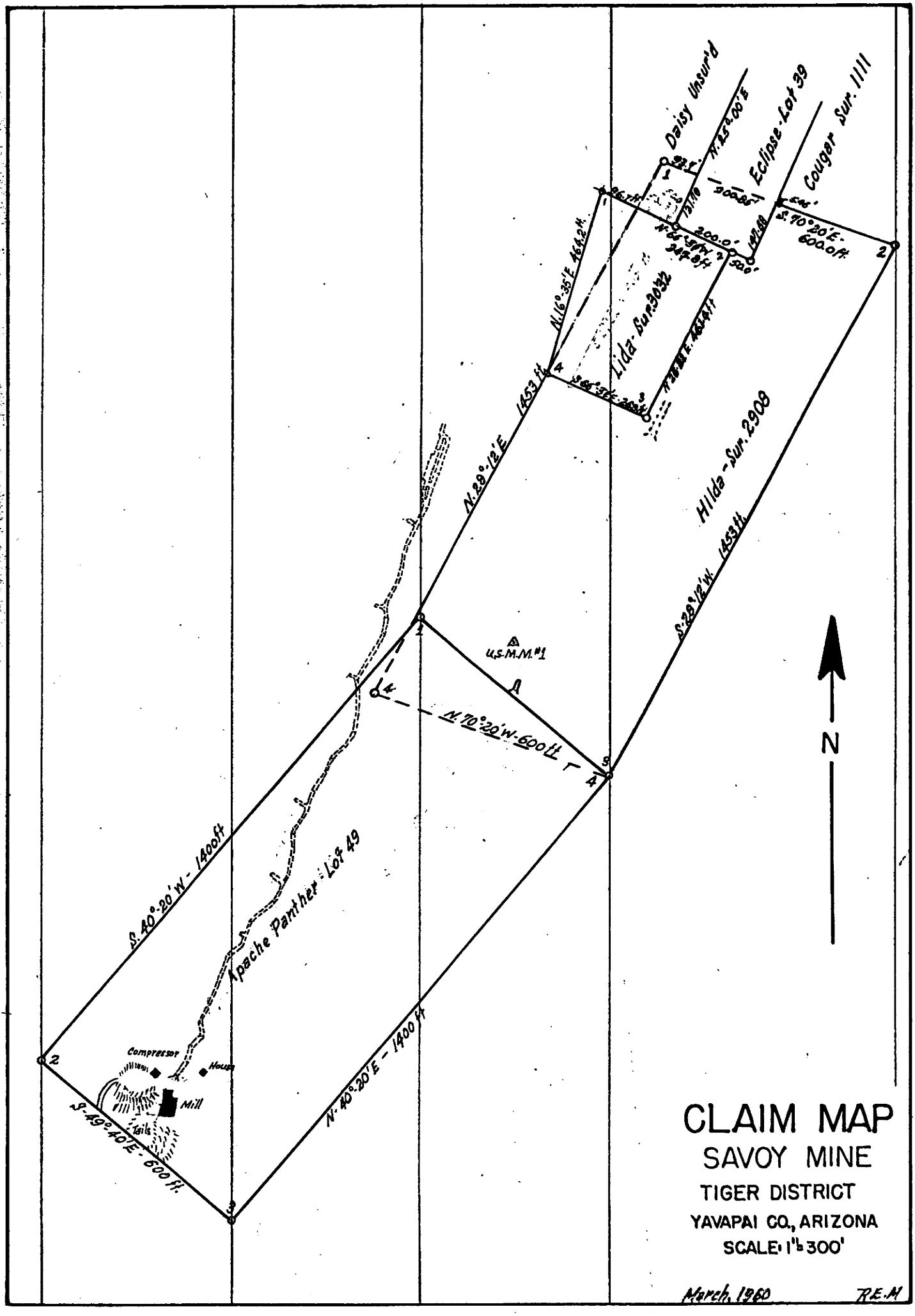


CLAIM MAP

SAVOY MINE

TIGER DISTRICT

YAVAPAI CO., ARIZONA

SCALE: 1" = 300'

March, 1960 R.E.M


Registered Professional Engineer (Mining)
CERTIFICATE EXPIRES
RICHARD
E. MIERITZ
DEC. 31, 1942
ARIZONA, U.S.A.

A

GEOLOGIC and ENGINEERING

REPORT

of the

SAVOY MINE & NORTH TIGER MINE

Tiger Mining District

Yavapai County, Arizona

by

Richard E. Mieritz

Mining Consultant

Phoenix, Arizona

March 29, 1960

TABLE OF CONTENTS

INTRODUCTION

A two day field examination of the property known as the Savoy Mine and the North Tiger Mine, Tiger Mining District, Yavapai County, Arizona, was completed on March 24th and 25th, 1960. This examination was completed at the request of Mr. E. W. Mercer, 932 W. Hazelwood, Phoenix, Arizona.

The examination was made by the writer to evaluate the possible potential of the property as a fore-runner and guide to the client to enable him and his associates to make the proper decision as to the purchase of the lease on the Savoy Mine and the purchase of the North Tiger property as a single package.

Field work was limited to a brief review of the surface geologic conditions and a more extensive observation of the accessible workings on the Savoy Mine property, this being the present producing mine and as such, becomes the primary basis on which future potential must be determined to guide the client in the right decision. A brief review of the surface geologic conditions was also made of the North Tiger property. Inaccessible workings did not permit underground examination.

It is upon the results and data obtained from the field examination, the writers personal knowledge of mineralization of this and other nearby districts and past historical statistics that the following report has been prepared and written.

CONCLUSIONS

The following conclusions, specifically applying to the Savoy Mine property, must however, reflect the conditions for both properties as a unit.

(1)-The gold, silver, copper and lead mineralization exhibited in the Savoy Mine (North Tiger mine workings not accessable) is typical of the common wide-spread mineralization encountered in the Bradshaw mountains, the zone of which extends from Wittmann through Crown King and Humbolt to Jerome, Arizona.

(2)-Dollar-wise, upwards of a half million dollars in gold, silver, copper and lead values is represented by the $30.00 ore indicated and inferred in the Savoy Mine.

(3)-Controlled mine development should indicate additional ore of equal value or better, which could double the present indicated worth.

(4)-Use of improved and selective mill methods should provide products more readily acceptable by the smelters.

(5)-A profit of approximately $5.00 per ton of crude ore is indicated after all costs including production, milling, smelting, royalty and return of property purchase price as well as return of capital for equipment purchases.

(6)-An initial investment of $150,000.00 will be required to finance a property purchase and proceed with a planned program of development, production and expansion.

(7)-Rehabilitation work will be necessary on the North Tiger property in order to evaluate same.

(8)-The entire district holds promising potential which if considered and unified could easily support a 200 to 300 ton capacity mill. Similarity of ores in the district present no milling difficulties.

THE PROPERTY

Two separate properties are considered herewith as a single package "deal". The Savoy Mine (two patented claims) are under lease from the Savoy Mining Co. of St Petersburg, Florida to Mr. J. L. Wilkerson of Phoenix, Arizona. The North Tiger Mine, approximately one mile west of the Savoy, consists of five unpatented claims which adjoin the Tiger mine on the north.

The two claims of the Savoy Mine are the Apache Panther, Lot #49 and the Hilda Claim. Patent of the Apache Panther was in 1881 and is 100 feet short of being a standard 600 by 1500 foot claim. The Hilda claim is also short, being 1453 feet long instead of 1500 feet. This claim is in conflict withthe Apache Panther, the Lida Claim, the Eclipse and the Cougar, all patented claims. It is also in conflict with the Daisy claim, an unpatented claim.

The North Tiger group consists of five unpatented claims which in most instances cover fractions left by the patenting of nearby claims. The group comprises the North Tiger No. 1, Union, Northwest Tiger Wedge, Triangle and the West Califonia. In all, probably a total of 70 acres.

See both claim maps for conflicts mentioned.

LOCATION

Both groups of claims lie in Sections 22, 26 and 27 of T. 10 N., R. 1 W., Gila and Salt River Base and Meridian, Yavapai County, Arizona. They are also located in the Prescott National Forest.

Travel to the property is north over paved State Highway 69

to what is known as the Bumble Bee road. A left tunn on this County maintained gravel road through Bumble Bee, Cleator and Crown King for a distance of 26 miles. The gravel road continues south to the Mine for a distance of six miles. This route from Phoenix covers approximately 90 miles. There is no entry to this area from the south. Refer to index map.

FACILITIES

Three phase, 440 Volt (100 HP Transformers) electric power is available on the Savoy Mine property. Mill water is available from the mine in limited quantities. Domestic water and additional mill water could be obtained from a small spring on the property as well as another larger spring south of the claims.

No natural gas is available on or near the property.

The present access road from Crown King to the property is passable but improvements should be made.

REGIONAL GEOLOGY

Geology of the Tiger Mining district-(see Geologic Map) is simple and stright forward, consisting of Pre-Cambrian Schist and the Pre-Cambrian Granite.

All mines of important production in the district are confined to ore bodies in the schist. At times the ore zones are near the contact between the two rock types, other times quite a distance away.

MINERALIZATION

Mineralization in the Tiger Mining District is considered as the pyritic replacement type as defined by Lindgren in U. S. G. S. Bulletin #782. Development of these ore deposits followed the intrusion of the granite into the schist, occuring primarily as short strike-length, narrow shoots, the dip lengths of which are exceedingly long. (see Underground Map). The value carrying minerals are pyrite, chalcopyrite, galena and sphalerite, all of which usually carry minute quantities of gold and silver.

Minerals encountered in the Savoy mine are pyrite, chalcopyrite and galena. Percentage content of the latter two minerals is minutely small as noted by samples 4 through 6 and the bulk of the ore value is derived from the gold and silver content.

DEVELOPMENT

The Savoy Mine, in the early days, had been developed from what is known as the Main adit level to a depth of 300 feet and to a height of 60 to 70 feet above the adit level. These work-

ings are now inaccessible but old maps (1908) indicate the outline of the stopes as well as assays of samples, at least the gold and silver values. For simplicity, the writer has averaged the sample values for particular areas and indicated such averages on the Underground Map.

Development by the present operator consists of what the writer has called the Wilkerson Level--approximately 100 feet below the lowest old working. The portal of this adit level is near the south end line of the Apache Panther Claim and is approximately 1700 feet in length. This level has intersected the ore shoot of the upper workings. Three raises have followed the fault fissure to the level above but have been bulk-headed such that entry is not possible. The miners advised the middle raise was in ore all the way. This raise is not completely lagged and the writer was able to examine same. Stope preparations are now in progress as shown on the Underground Map.

The two ore shoots in the upper workings have different rakes to their dip and has caused them to join and become one ore shoot on the Wilkerson level. The length of the ore shoot on this level is approximately 100 feet and the width at the level is indicated to be approximately 20 feet plus, from foot to hanging walls of the fault fissure. Mineralization over this width is somewhat spotty.

ORE RESERVE

The writer believes two clases of ore, indicated and inferred, exist between the Wilkerson level and the Main Adit (old) level, the total of which will approximate 20,000 tons of ore which will have a mineral content of approximately 0.06 ozs gold, 25 ozs silver and about 0.3% copper with about the same amount of lead. Such ore would have a value of $28.00.

Indicated ore approximates 5000 tons in a block between the Wilkerson level and the 300 level (old workings) and a distance of 100 feet on both levels. The average width was taken as six feet. Inferred ore approximates 15,000 tons in the two ore shoot blocks from the 300 level to the Main Adit level, a distance of 100 feet on the levels and an average width of 6 feet.

Samples 1, 4, 5 and 6 indicate that the silver values have dropped considerably from the 300 level to the 400 level. Apparent also is the fact that the gold values have remained about the same and samples 4, 5 and 6 indicate that copper values may increase with depth below the 400 level, however, it is thought the increase in copper values will not off-set the loss in silver values, thus, for all practical purposes economic ore cannot be anticipated below the 400 level.

Additional potential may possible exist in an area some 250 to 300 feet closer to the portal of the Wilkerson level as indicated by the appearance of moderate quartz, pyrite and some chalcopyrite mineralization.

The following samples were taken in the stope and raise of the exposed ore shoot above the Wilkerson level.

Samp. #	Width	Ozs Gold	Ozs. Silver	% Copper	% Lead	
4	6.5'	0.13	0.10	0.75	0.50	Normal to dip of ore shoot close to footwall, 25'up dip from 400 level in raise above sub-drift.
5	6.0	0.04	3.00	0.35		Normal to dip of ore shoot, near footwall 62' up dip from 400 level in raise.
6	5.0	0.18	Tr.	0.60		Normal to dip of ore shoot across back of small stope near north end of ore shoot.

These three samples average out to 0.12 oz gold, 1.0 oz silver and 0.57% copper, not a very attractive ore. A smaller width sample could improve the situation, thus, a smaller or narrower mining width is indicated.

MINING

The 55° dip of the ore zones makes for a nice stoping method however, because of the nature of the ground, more than the average amount of support will be required. It may therefor be advisable to go to a cut and fill method of stoping.

Stope preparation for the ore block between the Wilkerson level and the 300 level is currently in the process. Several chutes have been installed and two manways completed.

MILLING

Ore from the Savoy mine is currently milled by a simple gravity process, namely, primary and secondary crushing, classification and tabling. A pyritic concentrate is obtained. Some base metal as copper is also concentrated, however, the tabling is not the most efficient type of concentration for this type ore, as can be seen by the results of the following samples.

Sample #	Type	Ozs Gold	Ozs Silver	% Copper	% Lead.	
1	Heads	0.03	0.40	0.39	0.30	Grab from feeder after pri. crush.
2	Conc.	1.44	3.80	1.45		Average grab, several days run.
3	Tails	0.05	0.90	0.34	0.50	Avg. grab from tailing pond of material milled previous day.

Heads to the mill apparently vary considerably because the concentrate assay does not correlate with the head assay, similarly the tail assay.

The mill operator advised that the mill usually collects about a 1000 pounds of concentrate in an eight hour day from 6 to 7 tons of crude ore, thus a concentration ratio of 12 to 14 to one. The pyrite content is therefor approximately 8 to 9% of the total weight, allowing some as going with the tails.

Comparing the head assay with that of the tails, it appears that no concentration has been made as to the values except that the pyrite has been removed.

The writer believes that a metallurgical test on this type ore would suggest the use of flotation which would produce three concentrate products, a pyrite, a copper concentrate and a lead concentrate. The Iron King Mine, north of Mayer, or some 30 miles north of the Savoy Mine has a similar type ore which is also complicated by the presence of sphalerite. Here a copper concentrate, a lead concentrate and a zinc concentrate is made. The pyrite accompanies the copper concentrate.

Present capacity of the mill is approximately 25 tons. The limiting factor of its capacity is the secondary crushing unit as well as the single table. The primary crusher would handle 50 tons a day.

PRODUCT VALUE

Five ton shipments to the Miami Plant of International Smelting and Refining Co. usually contain 1.75% copper, 35 ozs silver and 2 to 3 ozs of gold. Copper is paid for at 29.375 ¢ for the full value or content less 10 pounds; silver at 91.375¢ for the full content less 5 ounces and gold for the full content at $32.20 per ounce.

Smelter and excess metal deductions average approximately $20.00 per ton of concentrate.

Royalty payments to the Savoy Mining Company are 15% of the Smelter net. With a 13 to one ratio, the royalty per ton of crude ore would be approximately a 7% rate.

The below par mine production rate of tons per man shift, the limited capacity of the mill and the limited operation of the mill total to the fact that the present operation is not a profit maker.

Improvments along these lines can be made but the necessary financing must be available. Great improvements can be made in the mill operation and efficiency.

A suggested mill capacity is 50 tons per day on a three shift basis.

ESTIMATED OUTCOME

The writer states under "Ore Reserves" that the grade for the indicated and inferred blocks of ore will approximately $28.00 per ton. The 20,000 tons therefor represents a $560,000 in place Value.

The following estimated outcome is based on the fact that 50 tons of crude ore will be mined and milled each 25 days per month; that mill will be operated 24 hours a day; that the mine will operate one shift, not more than two per day and that a total of ten men, not more than twelve men, will produce the required daily tonnage.

Direct and indirect costs have been used to determine the possible profit from the operation. The profit thus indicated is before taxes.

Direct Costs

Mining (labor, supplies, etc)	$ 8.00	
Milling (labor, chemicals etc)	$ 2.00	
Smelting and Freight	$ 1.50	
Stope preparation & Development	$ 1.00	
Royalty (Savoy Mining Co.)	$ 2.00	
		$ 14.50

Indirect Costs

Property Purchase $150,000	$ 7.50	
Equipment Purchase $25,000	$ 1.25	
		$ 8.75
Total costs before including taxes		$ 23.25
Value of ore in place		$ 28.00
Profit per ton before taxes		$ 4.75

Life of the operation based on the reserve of 20,000 will be 16 months. A $95,000 profit is estimated for this period.

CAPITAL INVESTMENT

A capital investment of $150,000 will be required to acquire the property, purchase necessary equipment, accomplish some development and to expand the operation to a 50 ton per production.

The following indicates the suggested distribution of the

$150,000 required.

Property purchase (down payment)	$ 50,000.00
(reserve for payments)	$ 30,000.00
Equipment purchase (mill and some mine)	$ 25,000.00
Stope preparation and Development	$ 20,000.00
Operating Capital	$ 25,000.00
Total	$ 150,000.00

EQUIPMENT on PROPERTY

Mine equipment consists of the usual drilling equipment, machines, hoses, air lines, etc. There are two antique compressors which are in good operating condition, one an Ingersol Rand, the other a Chicago Pnuematic, a 50 Hp electric motor drives either one. Installed at the portal is a large electric driven blower for ventilation with 12 inch pipe to the working faces. The Wilkerson Adit is well lighted from Portal to stopes. Ore transportation to the mill is with two one ton mine cars. Miscellaneous shovels, picks, timber saws etc are in ample supply.

Equipment in the mill consists of the coarse 8" by 14" jaw type crusher driven by a 20 HP, 52 Amp induction type motor, a 5' by 5' ball mill using a 30HP, 43.4 amp electric motor, a home made 12" by 10' spiral classifier electrically driven and a 5' by 12' Dyster table driven by a 5 HP electric motor.

Transformers on the 3 phase power supply are rated at 100HP.

Structures include the mill building which houses a 20 ton coarse ore bin, a five ton fine ore bin and the concentrating section. A combination Compressor-change house is located near the portal. A one room cabin with two screened porches is currently being used as a bunk house. All structures are of wood f frame and galvanized sheeting for walls and roof.

A replacement value would probably approach $50,000.00, however, a used equipment sale price would not bring very much.

DISTRICT POSSIBILITIES

Sporadic leasor operations have continued in the Tiger Mining District for the past 35 years. Such operations usually provided days wages for the operators. Because of the low tenor of the ore and distance away from most smelters, the district has been forgotten. The writer believes a moderate sized operation can be realized were a single operator able to obtain leases on several of the mines in the district, unitize same and operate under one management.

Such mines as the Oro Belle, Pacific, Mascot, Old Tiger, Gazelle and the like should be checked into. Ores from the various mines in the district vary little consequently there would be no great milling problem. A choice mill location

could well serve all mines to great advantage.

RECOMMENDATIONS

Purchase of the Savoy Mine lease and North Tiger property proper is recommended providing more favorable and lienient terms of purchase can be obtained over a longer period of time and providing also that the indicated profit would satisfy the personal requirements of the interested party.

Assuming purchase has been completed, revamping and equiping of the mill should be accomplished as indicated by the suggested flow sheet, to produce a copper concentrate, a lead concentrate, and possibly a pyrite concentrate if test work indicates that such should be made.

Stope preparation must move ahead to permit the production of 50 tons a day.

Some rehabilitation must proceed in the upper levels to prepare this block of ore for stoping.

Exploratory work must be done on the area 250 feet nearer the portal of the Wilerson adit at the indicated mineralization at this point.

More thorough geologic studies must be made to attempt to locate more ore shoots within the property.

Consider a milling operation which will serve the entire district.

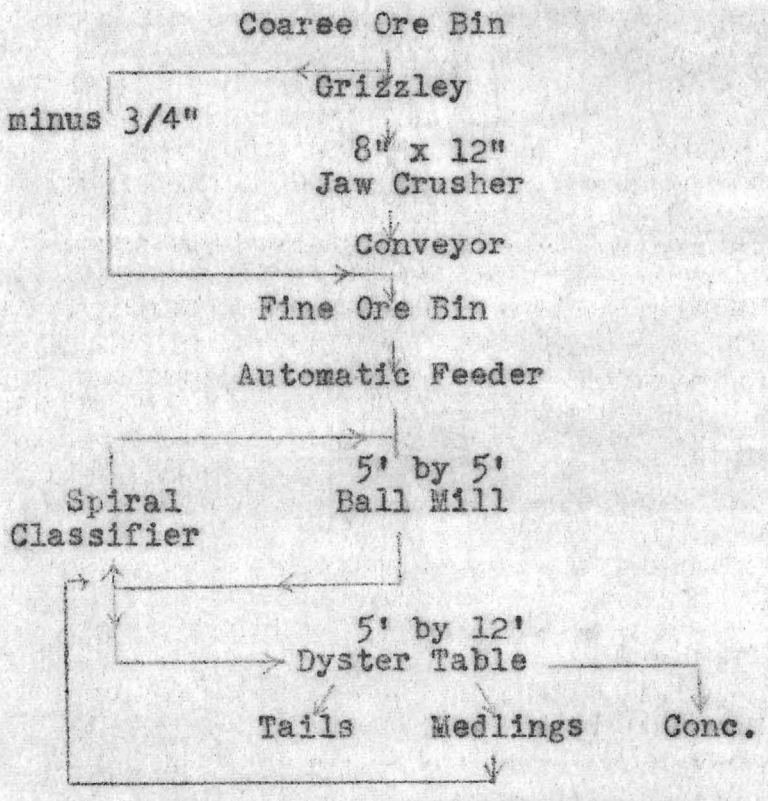
Obtain the necessary professional guidance which is a definite requirement to successful operation of ores in this class.

Respectfully submitted,

Richard E. Mieritz, P. E.
Mining Consultant
Phoenix, Arizona

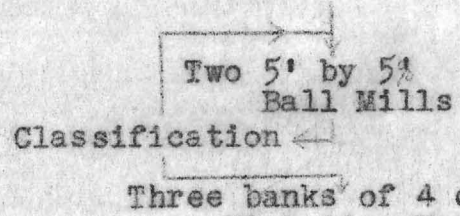
March, 29, 1960

Present Mill Flow Sheet



Suggested Mill Flow Sheet

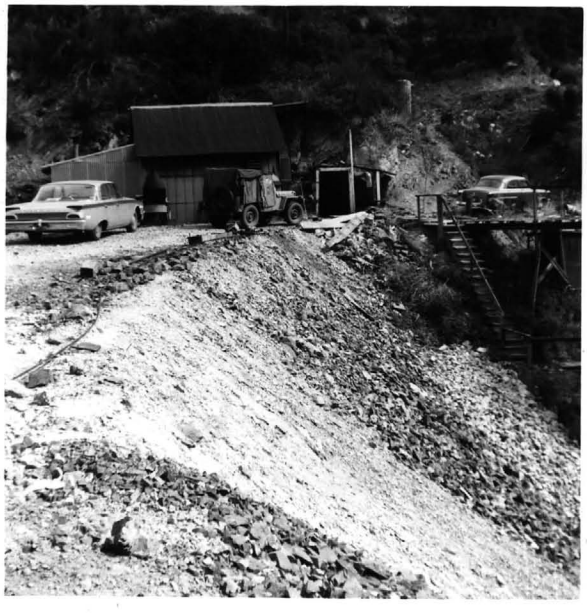
The flow sheet from the Coarse Ore bin through the automatic feeder below the Fine ore bin will properly handle 50 tons of material. It is from this point however that the flow of material must be changed--to wit-- as follows:



First bank - - - Copper concentrate
Second Bank - - Lead Concentrate
Third Bank - - Pyrite (?) Concentrate

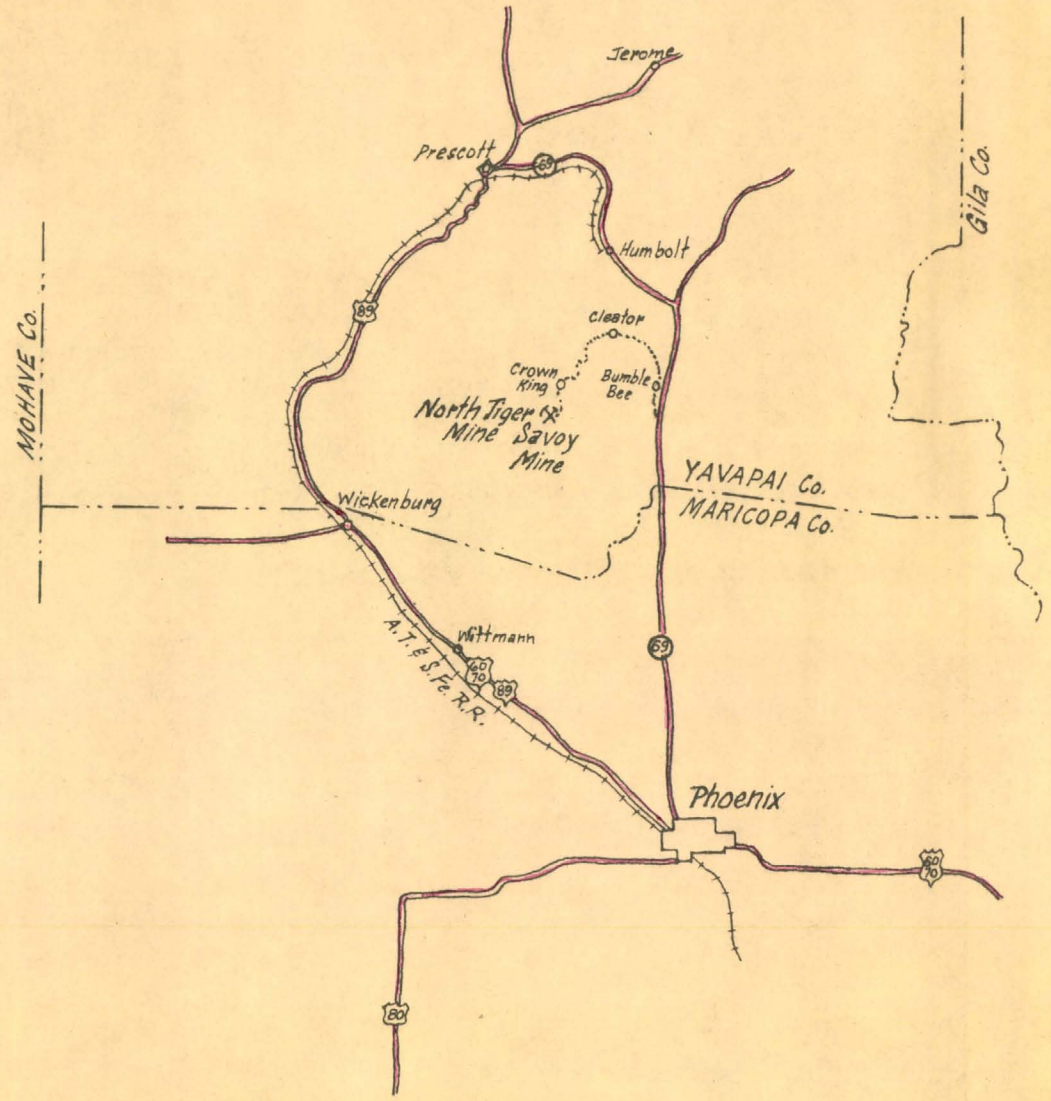
Filters to follow Flotation Units

Left: General view looking north along strike of vein. Shows Wilkerson portal, dump of main adit level (old) and other dumps above.



Right: Portal of Wilkerson Adit and Compressor-Change room house.

Left: Looking West toward Mill (lower floor has picture window) showing crude ore bin, primary crushing floor and tabling floor. Upper right shows water storage tanks.

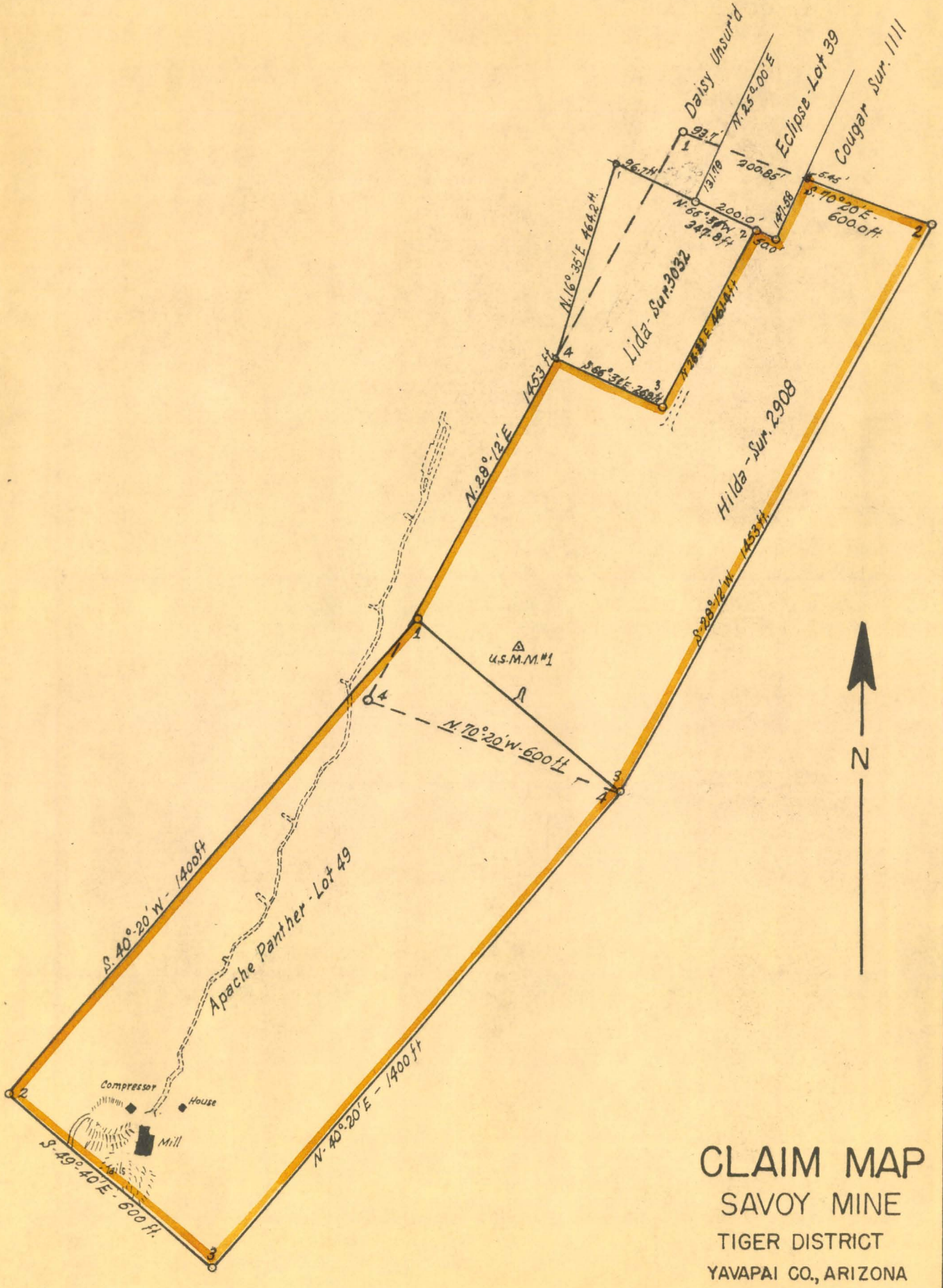


INDEX MAP

CENTRAL ARIZONA

SCALE: 1" = 21 MILES

March, 1960 R.E.M.



CLAIM MAP

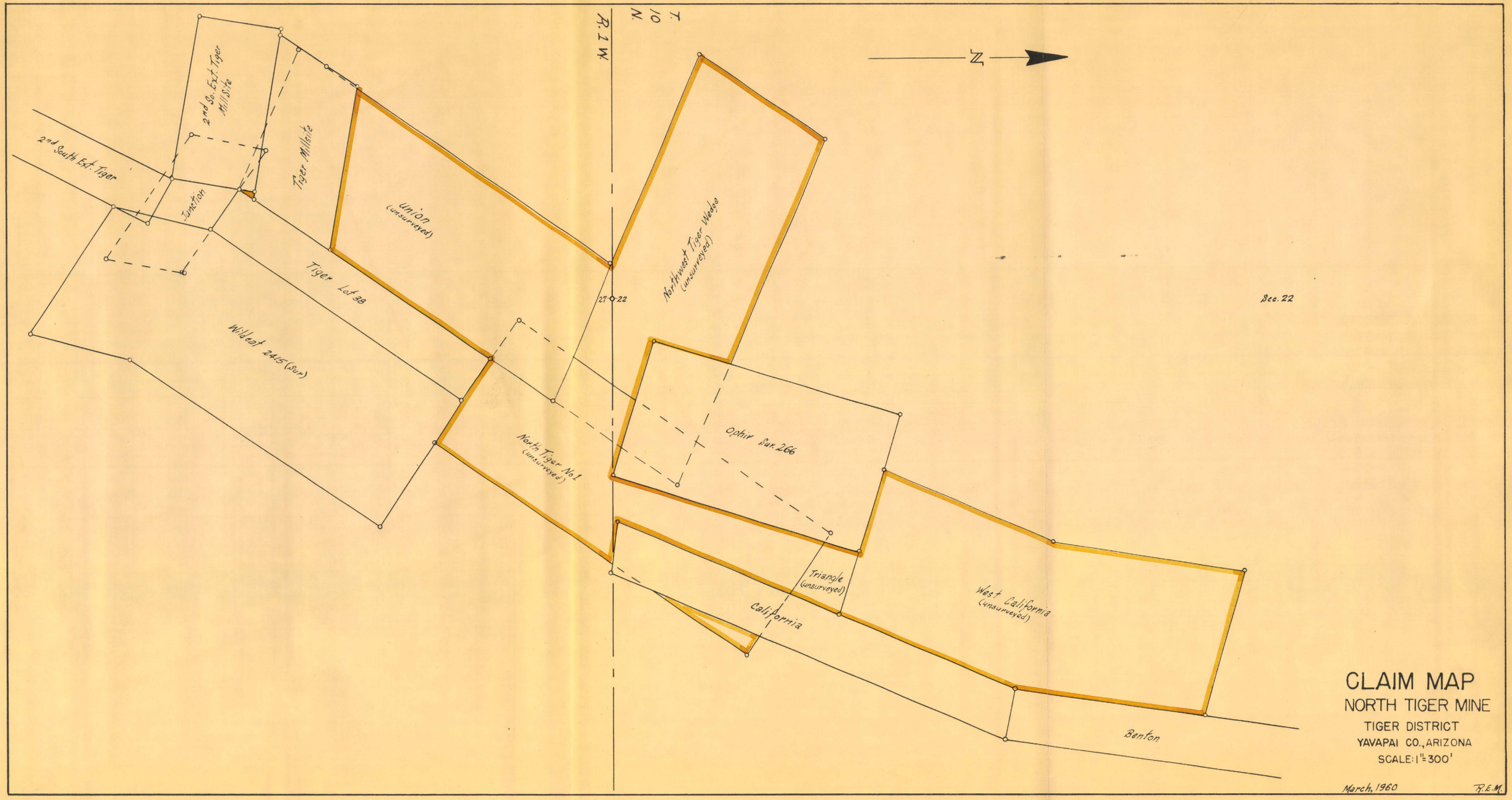
SAVOY MINE

TIGER DISTRICT

YAVAPAI CO., ARIZONA

SCALE: 1" = 300'

March, 1960 R.E.M



CLAIM MAP

NORTH TIGER MINE

TIGER DISTRICT

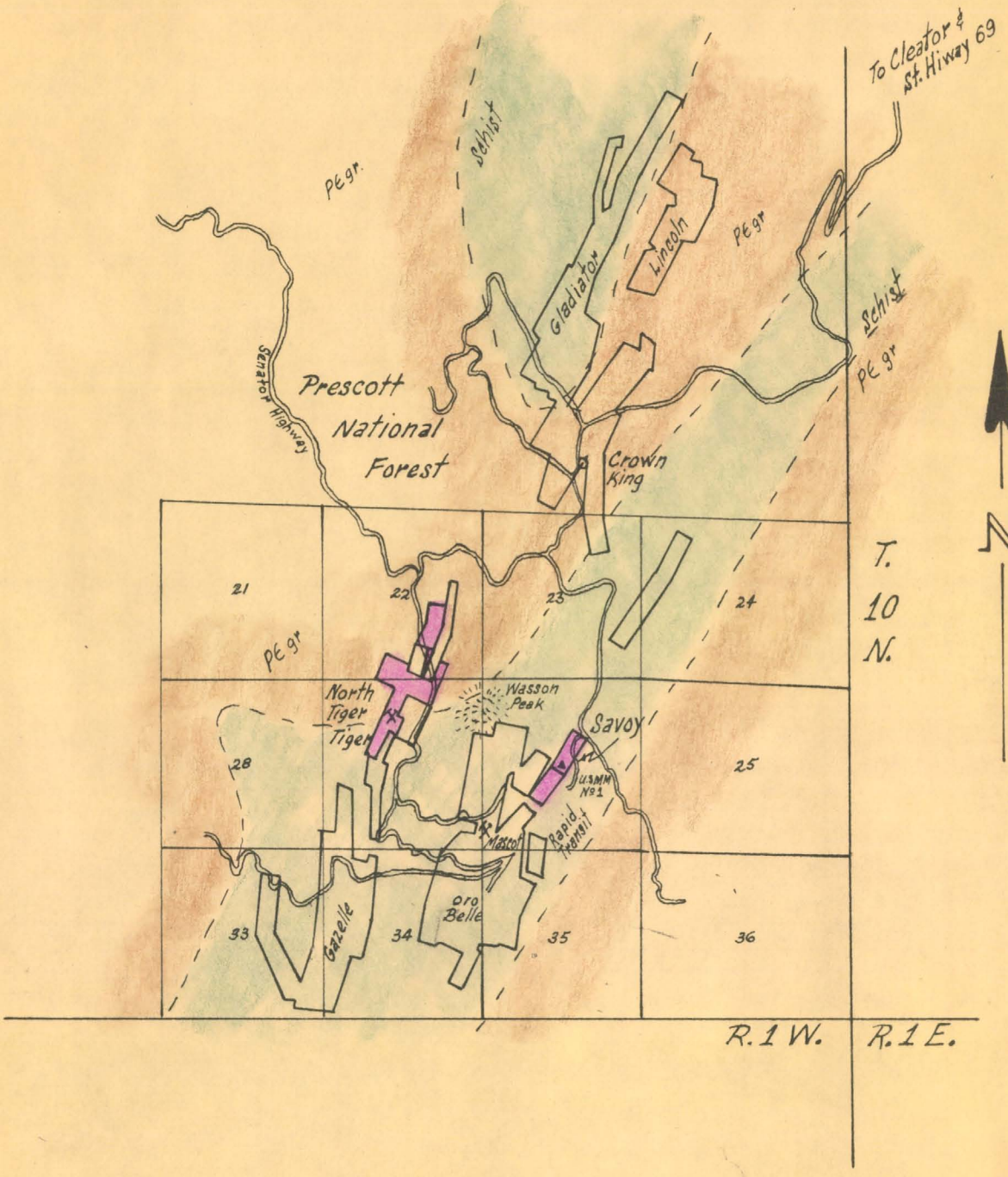
YAVAPAI CO., ARIZONA

SCALE: 1" = 300'

March, 1960

R.E.M.


Portal
Geologic Map
Wilkerson Level
Scale 1" = 40 ft
continued
ore shoot on
Wilkerson Lv. (400)
Adit Level
50' Lv.
100 Lv.
300 Lv.
Wilkerson Lv. (400)
Workings above
300 Lv. from old
map of 1905.
Vertical Projection
Looking WNW
Scale 1" = 100 ft
Hilda claim
Approximate position of NW
side line-Hilda claim.
Surface
Adit Lv.
Section thru Workings
Looking N.N.E.
Scale 1" = 100 ft
UNDERGROUND MAPS
SAVOY MINE
YAVAPAI COUNTY, ARIZ.
March, 1960



GEOLOGIC MAP

TIGER MINING DISTRICT

YAVAPAI CO., ARIZONA

SCALE: 1" = 1 MILE

March, 1960 R.E.M

August 7, 1975

Mine Management Corporation
P. O. Box 7277
Phoenix, Arizona 85011

Att: Mr. Dennis K. Pickens:

Re: Savoy Mine
Tiger Mining District
Yavapai County, Arizona

At your request and authorization, I have reviewed and studied all the information Mine Management Corporation has gathered and assembled into its Summary Report - Evaluation Savoy Mine, as revised of July 15, 1975.

The presentation of historical facts and figures, as well as the presentation of M.M.C.'s recent work and analysis of a potential project, has been extremely well prepared.

As you well know, (a copy of my March 1960 Report being included in the above mentioned Report), the writer examined the Savoy Mine on March 24 & 25, 1960, for a client with a view to determine and advise the client whether the property should be purchased. Considerable detail and study of the available factual data was warranted and necessary to economically appraise the writer's 20,000 ton indicated and inferred ore reserve of an estimated 0.06 oz/ton gold, 25 oz/ton silver and 0.3% copper content (about $28.00/ton value at the 1960 metal prices). The end result was the writer's advice to purchase the property for $150,000.- since the writer determined a small profit could be realized at the then operating costs.

On February 25, 1975, the Savoy Mine was again visited by the writer, in your company, to inspect or examine the recent work by M.M.C. and to check on the advance completed, after the writer's first visit in 1960, by the then lessee Wilkerson. Unfortunately, Wilkerson's operation has rendered some ore reserve as "lost" to any immediate operation (might be recovered after area depleted of the existing ore reserve). Time permitted but a brief examination of the added work completed by Wilkerson, over and above that observed by the writer in March 1960, as well as a brief examination of the recent sampling work by M.M.C. and the operation work by Childs. Based on the writer's review of authenticated factual data of these programs, the writer can agree - after physical calculations - that the ore reserves and grade, as presented in M.M.C.'s revised Report, are adequately and geologically justified and calculated correctly. Where the writer used a strike length of 100 feet in March 1960, the sampling and operation by Childs now indicates a longer strike length - and the 250 foot length used by

M.M.C. can be considered reasonable and justified - and not objected to by the writer, particularly since this figure is used in the "probable" ore classification.

As you are aware, projection of ore reserves - and/or mineralization beyond the last known observable point is a supposition based on visible geologic evidence at that point. Important also are the depths reached by other mines of similar mineralization and geologic conditions which thus provide a "criteria" that can be utilized as a guide for one's own property, the depth of which may be considered shallow as compared to other mines in the district. The Blue Bell Mine could be a good example with its 1500 foot depth, however, the Oro Belle Mine, one mile south-southwest of the Savoy, not only in the same Mining District, but on the same geologic structure as the Savoy, was developed to a depth of 1200 to 1300 feet below its highest surface outcropping. M.M.C.'s projection of probable ore below the Wilkerson Adit - or 400 level - is quite reasonable and geologically justified. The writer finds no objection to such calculations as part of M.M.C.'s "Ore Reserve" and grade. With proper development depth-wise, the writer believes that a greater depth of mineralization than what is shown on your Map I (Savoy Mine Plan & Profile) is very possible.

In year 1960, a water source for the Wilkerson mill was a problem. At this writing, it still is a problem, consequently treatment of the Savoy ore at/on the property is the limiting factor as to tons/day mined. Mill improvements, as recommended by the writer in year 1960, were apparently completed because the concentrate shipments made by Wilkerson after the writer's examination, as well as the shipments by Childs, showed very good contents of gold, silver and copper, all at an apparent good recovery.

This thus demonstrates that the Savoy ore is very much amenable to flotation at a good recovery rate. Your revised report indicates the Savoy ore is amenable to the cyanide process at about the same recovery rate. The property being in the National Forest - and recreational area, it is feared there would be much "static" from this agency through the ecology route. We are aware what it has cost the mining and smelting companies in the past - thus - were the cyanide method used, your capital investment here could be an additional $150,000.-.

Your plan to treat the Savoy ore at the Blue Bell mill (with slight equipment additions) is basically sound and feasible and should eliminate "static" from the Forest agency - the Blue Bell Mine being in the National Forest but "out of way" for the normal recreationists. A "static" free operation in this situation is well worth the transportation cost to truck the ore from Savoy to Blue Bell. Moreover, you have demonstrated an ample water source and supply at the Blue Bell Mine which eliminates a critical problem.

The writer firmly believes that M.M.C.'s knowledge, experience and technology know-how as regards milling techniques could certainly increase the Savoy ore milling recovery from the indicated 85% to at least 92% or better - particularly by utilizing the necessary, useful mill equipment from both mines to establish an efficient mill operation to handle the

Savoy ore. Your Schedule III, page 15 of the Revised report - appears to have included the necessary expenses for such revamping of the present Blue Bell mill.

A review of "Summary of Economics" schedule, as well as Schedules II and III indicate that the figures used are within reason and justified, particularly in this day of extreme fluctuations and variance.

Respectfully submitted,

R. E. Mieritz
Mining Consultant
Phoenix, Arizona

REM/cm