



CONTACT INFORMATION

Mining Records Curator
Arizona Geological Survey
1520 West Adams St.
Phoenix, AZ 85007
602-771-1601
<http://www.azgs.az.gov>
inquiries@azgs.az.gov

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PRINTED: 06/21/2002

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: ROB ROY

ALTERNATE NAMES:

KATTIE ROSS GROUP
CHICAGO GROUP
CHARLIE SAM GROUP

YUMA COUNTY MILS NUMBER: 100

LOCATION: TOWNSHIP 2 S RANGE 17 W SECTION 12 QUARTER C
LATITUDE: N 33DEG 16MIN 20SEC LONGITUDE: W 113DEG 57MIN 55SEC
TOPO MAP NAME: KOFA BUTTE - 15 MIN

CURRENT STATUS: PAST PRODUCER

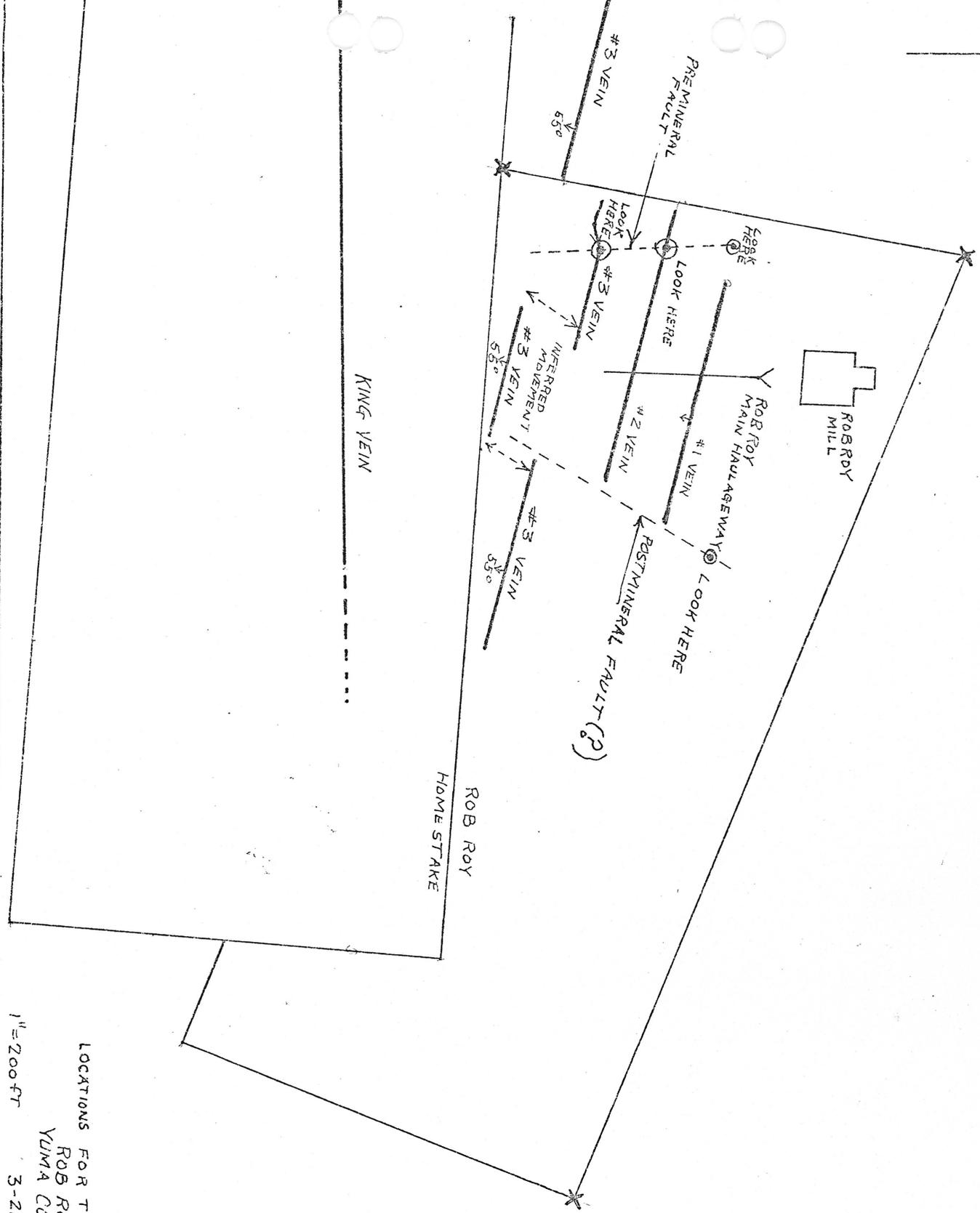
COMMODITY:

GOLD LODE
SILVER

BIBLIOGRAPHY:

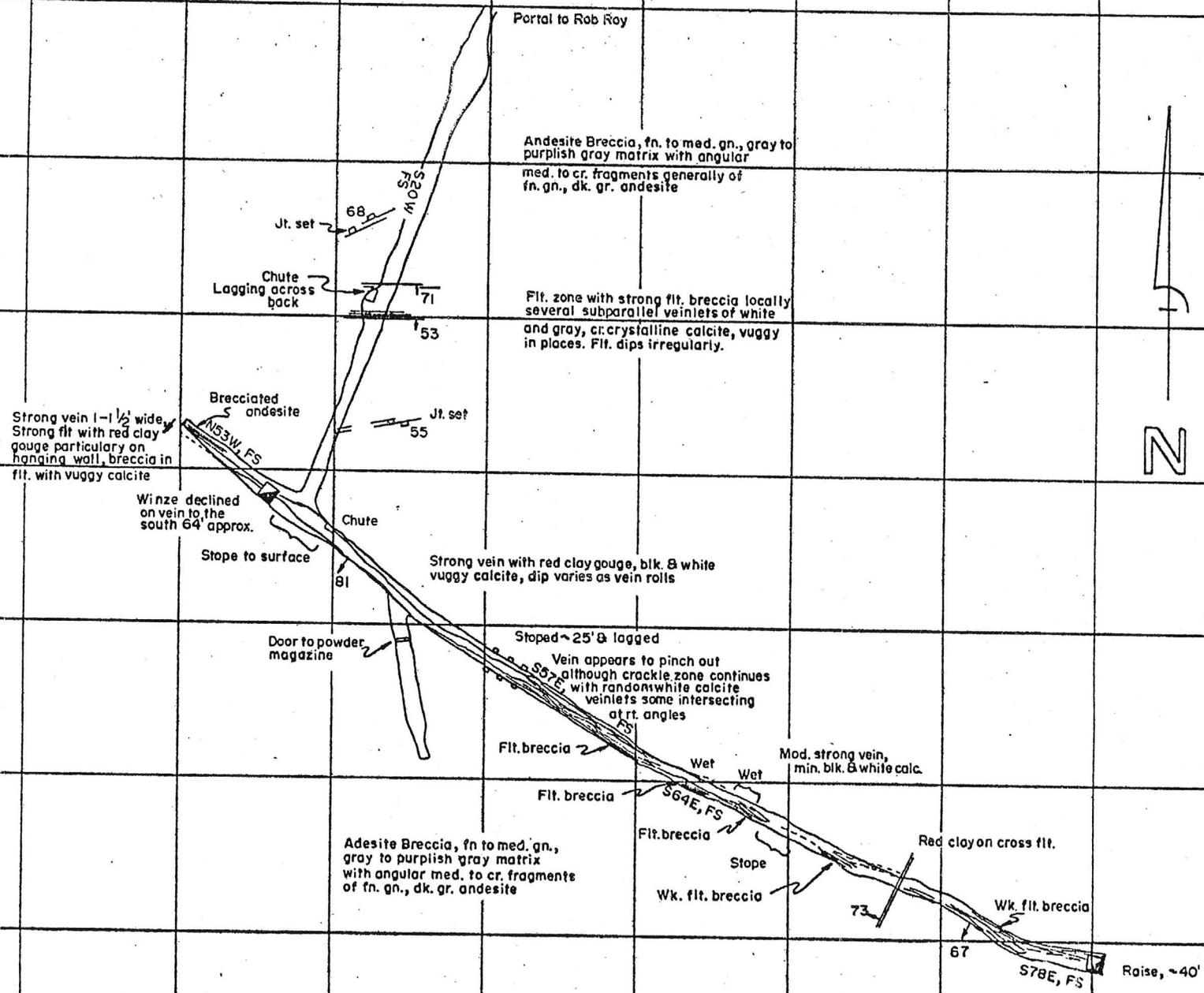
KEITH, S.B., 1978, AZBM BULL. 192, P. 156
ADMMR ROB ROY FILE

AN



LOCATIONS FOR TEST PITS OR BOREHOLES
 ROB ROY MINE
 YUMA COUNTY, ARIZ
 3-21-69 John Critwood

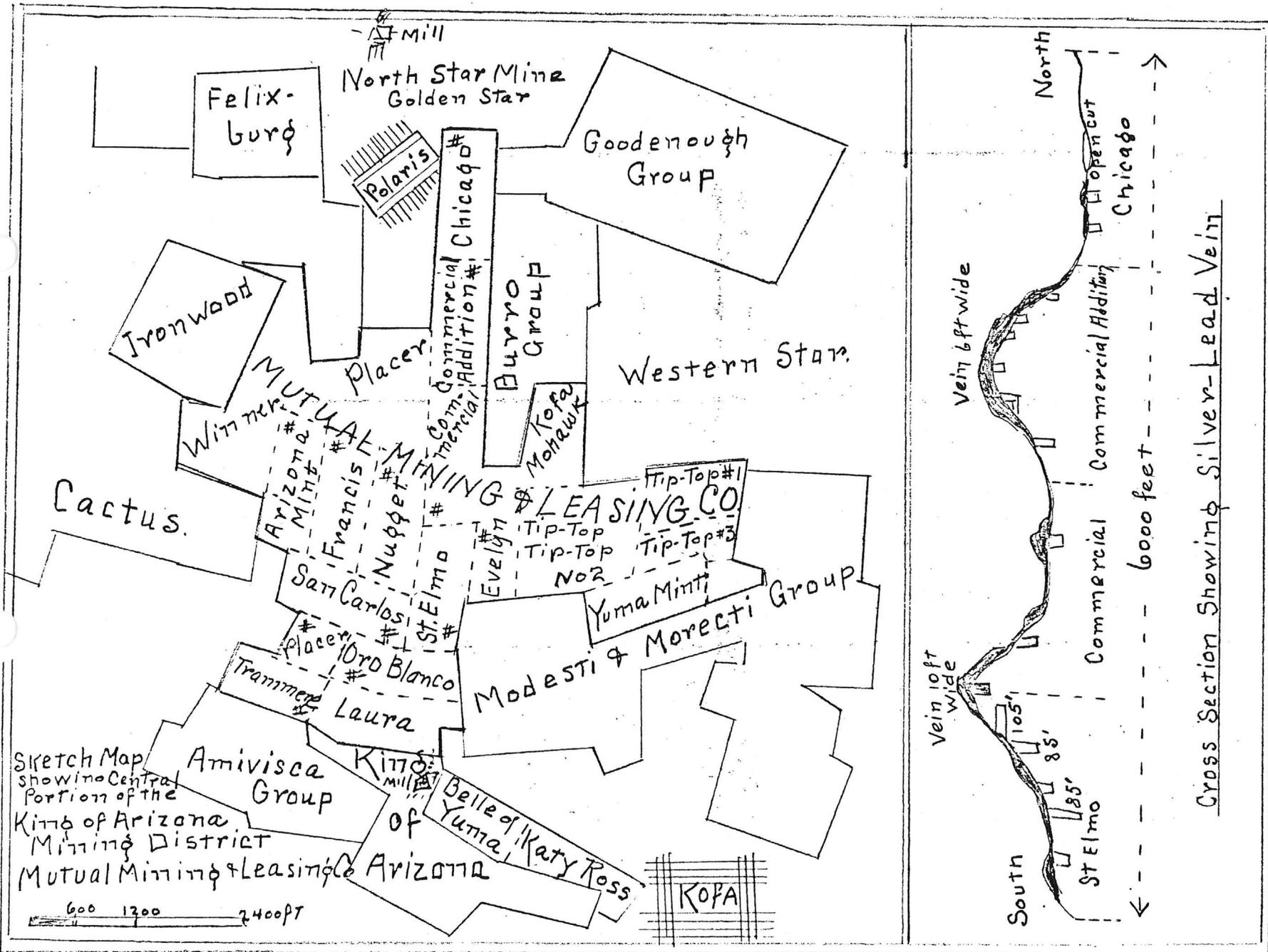
1"=200 FT



MINE ROB ROY
 GEOLOGY BY MIKE N. GREELEY
 SURVEY BY GLENN MILLER
 DRAWN BY LARRY E. DIETZ

DATE 26 APRIL 1979
 SCALE 1" = 50'

COE & VAN LOO PHOENIX ARIZONA
 CONSULTING ENGINEERS INC



#Rob Roy Claims included in Mutual Mining & Leasing Co. Group.

TEMPORARY

COPY, ORIGINALS BEING SCANNED

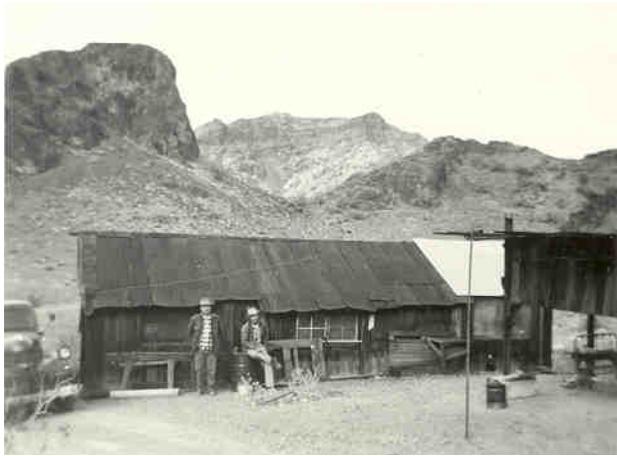
Rob Roy Mine



Art Himebaugh







MUTUAL MINING & LEASING COMPANY
20 BROAD STREET, NEW YORK.

Incorporated in Arizona, capital two millions, fully paid and non-assessable. About 40% of the stock is in the treasury unsold. The Company is free of litigation and debt, excepting ordinary current liabilities.

The Company owns 160 acres of Mining Claims and has a ten year lease on the patented R.M. Group of 240 acres, all combined forming one 400 acre tract, located at Polaris, Yuma County, Arizona.

The combined values consist of an immense silver-lead ledge one mile long, a gold placer property and some gold ledges.

The property is equipped with machine drills, engine compressor, blowers and the usual mining machinery and tools, but no mill.

In addition to the above, the Company owns a Franchise-Grant for Power, Light, Water, Telephone and Telegraph, covering all Yuma County with 20 years to run. Note: The tax valuation of Yuma County increased practically three hundred (300) per cent in one year.

This stock has been listed on the New York Curb. This listing places a substantial O.K. on the bona-fide-ness of the Company, as two Engineers' reports on the property, certified copies of titles and charger, New York representation, certified Maps, references, etc, etc.

Remarks:- What the engineers report about the properties:

Mr. McNaman, 20 year Lead specialist, says: I consider this is the best lead property I ever examined.

Mr. DeLuce, after examination, says: I predict 10 years daily running will not exhaust the ore.

Mr. Morton says: Gold ore on the Southwest corner of the property compares in style, value and classification with the King of Arizona's main ore body.

Mr. Cummings, after examining the Company's property and holdings says: I consider the Company's prospects for permanent dividends are very bright.

PLAN OF OPERATION:

A concentrating mill will be installed on the Silver-Lead ledge as fast as funds will permit. When this mill is installed and in full operation, it will be reasonable to expect large earnings from this source alone. This silver-ledge being a cross vein, the extraction of the values will open up the gold ledge at depth, without cost. Big results are expected from the gold ledges on account of them being hemmed in on five sides by gold proven properties. As soon as the Silver-Lead mill is in full operation, the Gold proven placer property will receive attention. This placer property is the natural basin of the gold district. The estimated values in this basin are fabulous.

MUTUAL MINING & LEASING COMPANY
Charles P. Hall, President.

New York, July 1, 1915.

As far as I can figure, there are at least _____ acres of placer deposits which will warrant operations. It is important to note that the washing of these placers will uncover hidden gold ledges; and it is quite likely that the great "Mother Lode" which has been feeding the main placers, may also be discovered.

SILVER-LEAD:

While under present development, it would hardly be proper to consider the Silver-Lead ledge a proven mine ---yet it would be unfair to consider it simply a prospect. With 14 shafts and tunnels sunk in this ledge, all in ore, running over a distance of three-quarters of a mile, it shows all the ear marks of a big mine.

This ledge is a true fissure vein about one mile long, from two to twelve feet wide. The values opened up are commercially good in lead along. The Silver and gold values carried in this ledge will bring additional profits that will count considerably.

The ore can be cheaply mined and milled and will concentrate very easily; the concentrates always being in great demand by the big smelting interests; as they are necessary for smelter operations. Owing to the lack of hoisting equipment, the principal development has been limited to the depth of windlass works; namely 85 feet. At the bottom of these shafts, the ore is both wider and richer than on the surface--all ore opened up will concentrate at a profit.

In all my estimates, I have entirely eliminated the usual high grade streaks that are found in connection with the mill grade ore, and as work progresses, there will be encountered from time to time, bodies of this high grade ore which can be shipped direct to the smelters, without concentration.

Regarding the permanency of silver-lead deposits in this locality, it may not be out of place to state that the nearest silver-lead property is the Castle Dome, twenty miles away. This mine has been working continuously for the past fifty years and is still shipping.

Mr. Robert DeLuce, manager of the Castle Dome for the past ten years, after thoroughly examining our vein, states in substance that, "You have enough ore in sight to last a 200-ton per day mill over two years; and with such prospects of more that I predict twenty years' daily running will not exhaust the ore."

Mr. Jas. H. McManaman and other engineers have examined this property, all agreeing that development to date warrants the erection of the first unit of a concentrating mill.

EQUIPMENT

The property is equipped with engine, compressor, machine drills and usual mining tools.

WATER:

The water supply in the Valley, two miles away, is practically inexhaustible. The North Star and King of Arizona both have water in their mines in addition to the pumping plants in the Valley. There is also a well 100 feet from the Mutual property.

CLIMATE AND FUEL:

The climate is also perfect; work is carried on continuously all the year around. Distillate, which is used for operating gas engines, can be purchased as low as 7 cents a gallon at railroad points.

It is important to remember in installing a mill on this silver-lead ledge, that the vein has been proven to be in place, commercial ore starts from the surface; and what is more to the point, values are found to increase with depth.

THE NEAREST IMPORTANT NEIGHBORS

As stated, the property lies in the heart of a proven gold district about one mile square. Adjoining on the north is the North Star Mine (Golden Star) which has produced enormously rich gold ore. This mine was originally purchased for \$350,000 with only a 50-foot

REPORT OF THE

MUTUAL MINING AND LEASING COMPANY

By

CHARLES F. HALL.

The Mutual Mining & Leasing Company was organized for the purpose of buying, selling, leasing, owning, operating and exploiting mining properties.

At this time the Company owns the Tip-Top Group, consisting of the Tip-Top #1, 2 & 3, the Kofa-Mohawk and the Yuma Mint, approximately 100 acres, also the Winner Group consisting of Winner #1, 2, & 3, 60 acres. The Company also has a 10 year lease on the R.M. Group of 240 acres.

All the above claims and groups form an unbroken 400 acre tract, comprising the heart, or hub of the gold proven centre, the combined properties being surrounded on the five sides by gold producing properties, situated in the King of Arizona Mining District, Polaris, Arizona.

Polaris is 38 miles by good wagon road, from the Mohawk station on the main lines of the Southern Pacific railroad. The new line now being constructed from Phoenix, through the Gila Valley, will be within a nominal distance of the property when completed.

In addition to their properties, this Company owns a Franchise-Grant covering all over Yuma County, Arizona, for Water, Light, Power, Telephone and Telegraph.

FORMATION

The proven gold district is about one mile square. This Company occupies the very heart or centre of this square mile.

In describing the general formation of the district will say that it is mostly eruptive. Commencing at the King of Arizona mine on the South, the major part of the formation is Rhyolite and hematite with porphyry dykes running through. Then there is a schist belt with a series of large dykes of porphyry, quartz, andesite and diorite cutting through. Reaching the Star on the North, the formation is mostly porphyry, the Star having a schist footwall and a porphyry hanging; all gold dykes run nearly east and west.

VALUES :

Values consist of a number of gold ledges; about 80 acres of placer gold deposits; and an immense lead-silver (galena) ledge. The gold ledges form a series of dykes, running easterly and westerly directions. The Lead-Silver ledge is a cross vein, running north and south, cutting all formations.

GOLD LEDGES:

The work done on the gold ledges, while only nominal, has opened up free gold in several places. The mining and developing of the "silver-lead" cross vein, will open up the gold ledges at a depth without cost; and the silver-lead will yield a handsome profit while doing so.

GOLD PLACER DEPOSITS:

A large portion of the property is covered by deposits of placer gold, fed from ledges on the property and from the five surrounding gold mines. Over a thousand feet of work, consisting of shafts and tunnels, has been done on these placers, proving that operations will be very profitable when the groups are placed on a large producing basis.

According to the estimates of store and saloon-keepers who purchased this gold, over \$100,000 has been taken from these placer beds by dry panning (Mexican) and the ground has hardly been scratched. The principal efforts being directed toward finding nuggets; the fine gold being lost by the crude methods used. The Company has located a dam site in a canyon in the mountains, four miles from the property, which is almost a reservoir, only needing a comparatively small amount of work to give a large water supply for placer operations.

shaft down. It is estimated that over a million dollars of rich gold ore was picked during its early days of development and production. Two years ago, this group was bought by Eastern capitalists and a great many permanent improvements made--but for some reason which I am not familiar--the group was closed down and watchmen placed in charge.

Adjoining on the South is the King of Arizona Mine, which has been operated continuously for 14 years as a close corporation. This mine has produced millions. It is noteworthy to add that this mine has paid about 200% in dividends on its entire capitalization.

Adjoining on the South is also the Amivisca Group, a gold prospect; and to the Southeast, the Katy Ross, and on the East, the M. & M. group. All have opened up good gold values and rich ore; and made some very high grade shipments. And on the West, the Ironwood group, while still in the prospect stage, has also made some valuable shipments of gold ore.

We are, therefore, surrounded by five producing properties; two of which (on the North and South) are well known as very rich mines.

With proven properties on five sides and the values the Company now has in sight, it is reasonable to expect that the Mutual Mining & Leasing Company will join the ranks of the big dividend payers in the no distant future.

Respectfully yours,

C.F. Hall

New York, July 1, 1915.

REPORT OF J.H. McMANAMAN, M.E., ON
THE MUTUAL MINING & LEASING CO.
SILVER-LEAD GROUP

After spending two days on the Company's property, will say that I consider it the best lead proposition I ever examined.

There are fifteen shafts, varying in depth from three to eighty feet, the vein running the entire length of the claim, estimated a little over a mile. Below I give you an itemized description of shafts and their depth and thickness of the veins:

| Shaft No. | 1 | Depth | 4 ft | Vein | Ft. 14 In. |
|-----------|----|-------|------|------|-------------|
| " " | 2 | " | 10 " | " | 4 " 6 " |
| " " | 3 | " | 8 " | " | 5 " 8 " |
| " " | 4 | " | 2 " | " | Just in ore |
| " " | 5 | " | 18 " | " | 6 ft. |
| " " | 6 | " | 20 " | " | 6 " |
| " " | 7 | " | 6 " | " | 2 " |
| " " | 8 | " | 80 " | " | 4 " 6 in |
| " " | 9 | " | 10 " | " | 4 " 6 " |
| " " | 10 | " | 6 " | " | 5 " |
| " " | 11 | " | 6 " | " | 5 " |
| " " | 12 | " | 60 " | " | 5 " |
| " " | 13 | " | 15 " | " | 5 " |
| " " | 14 | " | 3 " | " | Just in ore |
| " " | 15 | " | 3 " | " | " " " |

You have from 225,000 to 250,000 tons ore in sight which will average from 10 to 15%. In this connection will say that the present prices in the Joplin district, where we have dirt that pays us 3% we can make expenses, or at 5% we can make money, and so on.

There is more ore in this claim than the most modern machinery can take out in fifteen years.

Very truly yours,

JAS. H. McMANAMAN

Note: Mr. McManaman who made the above examination, is a twenty-year lead specialist. There has been considerable additional work done on the property since his report.

CASTLE DOME MINING AND MILLING COMPANY

Robert De Luce, Manager

Dome, Yuma County, Arizona.

Mr. C.F. Hall,
Polaris, Arizona.

Dear Sir:

In accordance with your desire that I submit your plans for a concentrating mill for your lead mines near Polaris, Arizona, I made a trip especially for the purpose, a few days ago, and looked over the ground and examined the ore on the dumps and in the vein exposed by the various shafts and drifts. I found that the ore was uniformly of a character that is ideal for concentrating purposes. It consists mainly of galena disseminated through a calcite and fluorite gangue. This material is very soft and easily crushed, in fact, rolls will have about four times the tonnage capacity on that class of ore, this above what the usual quartz ore yields. That is to say, if you had a crushing plant similar to your neighbors, the North Star and the King, you could handle four times as much tonnage.

A further advantage that your ore possesses is that minerals contained have much large differences of specific gravity that they are easily separated by the usual concentrating devices.

A brief outline of the mill required would be as follows: Suitable ore bins of 250 tons capacity, one Blake ore crusher, say 15 x 9 jaw opening, 2 standard rolls 19 x 30, one Hancock jig, four double compartment Hartz jigs for finishing work, 2 standard concentrating tables, 2 elevators, screens, belts, shafting, pulleys, according to blue prints.

For power plant one distillate engine of 150 normal horse power would be found satisfactory.

Such a plant as mentioned above would have an actual capacity of at least 200 tons of ore per 24 hours; only a trifling percentage of your ore would need to be ground finer than would pass a 4 mesh screen. Hence large capacity mentioned above. If you wish I will forward you complete plan and specifications for the mill.

After a thorough examination of your property, I can guarantee that the mill I recommend above will do the work as represented; furthermore, you need not hesitate about putting up a mill of that capacity, as you have enough ore in sight now to run such a mill for two years at least, with such good prospects of more with future developments, that I would venture to predict that twenty years could still see your mill running with proper management.

There should be no difficulty with a properly designed mill in treating your ore for 75 cents a ton, so that with the silver contents the same as they are on the surface, and the present price of lead ore carrying 5% of lead would pay to mine and concentrate your ore ought to mill over 20% of lead.

I have handled that class of ore for the last 10 years and my experience with the same gives me confidence in recommending the above style of mill.

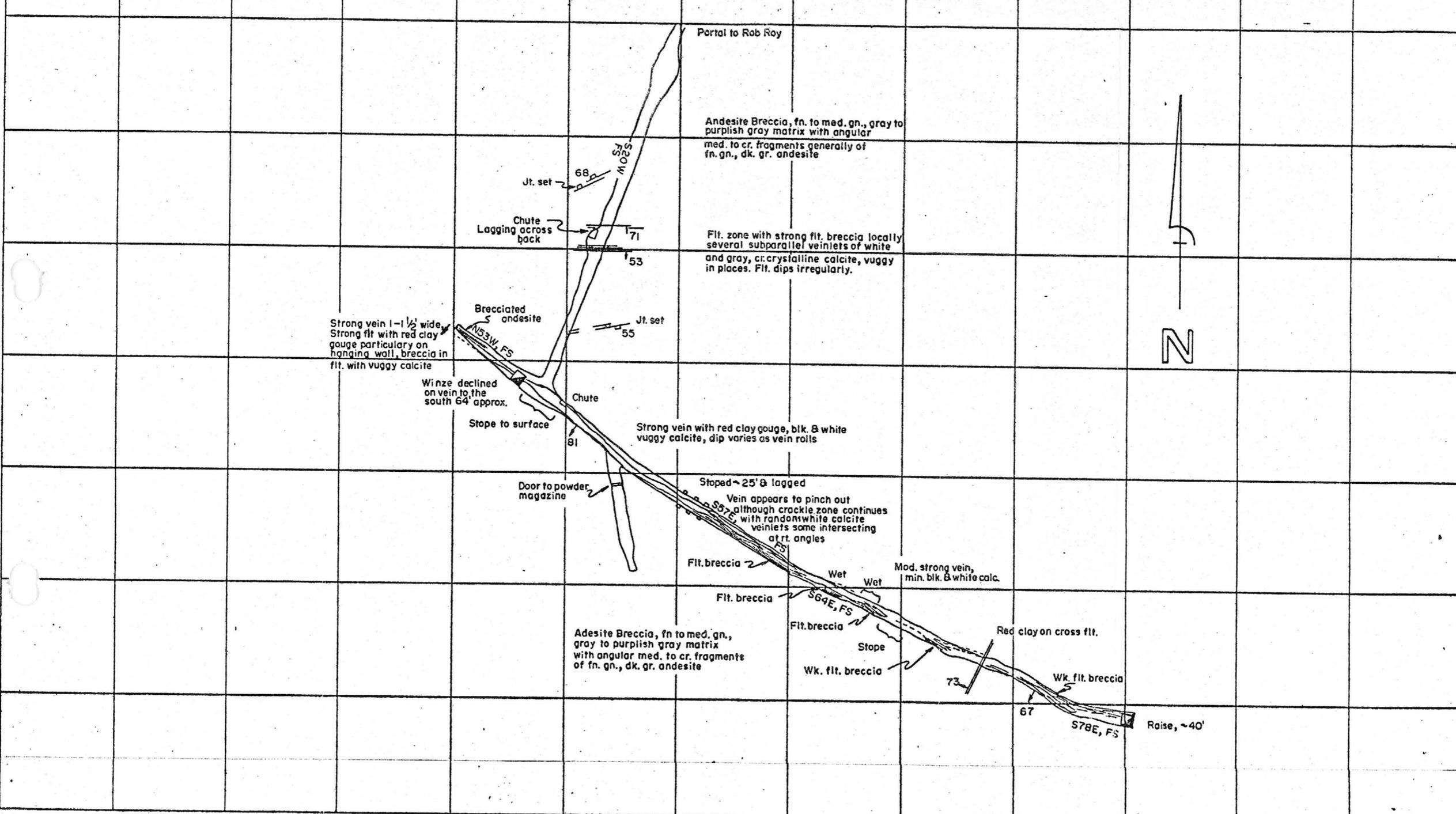
Yours truly,
(Signed) ROBERT DE LUCE

Portland Maine.

To the Mutual Mining and Leasing Company of Arizona.

Gentlemen: This is to certify that I, J.L. Cummings, of Portland, Maine, in the month of April of this year, visited and carefully examined your Company's property and holdings at Polaris, Arizona, and after an inspection of the same I was so well pleased with what I found that I not only purchased a good block of stock myself for personal investment, but am recommending the purchase of this stock to my friends and relations. In my judgment, this company's prospects for speedy and permanent dividends are especially bright.

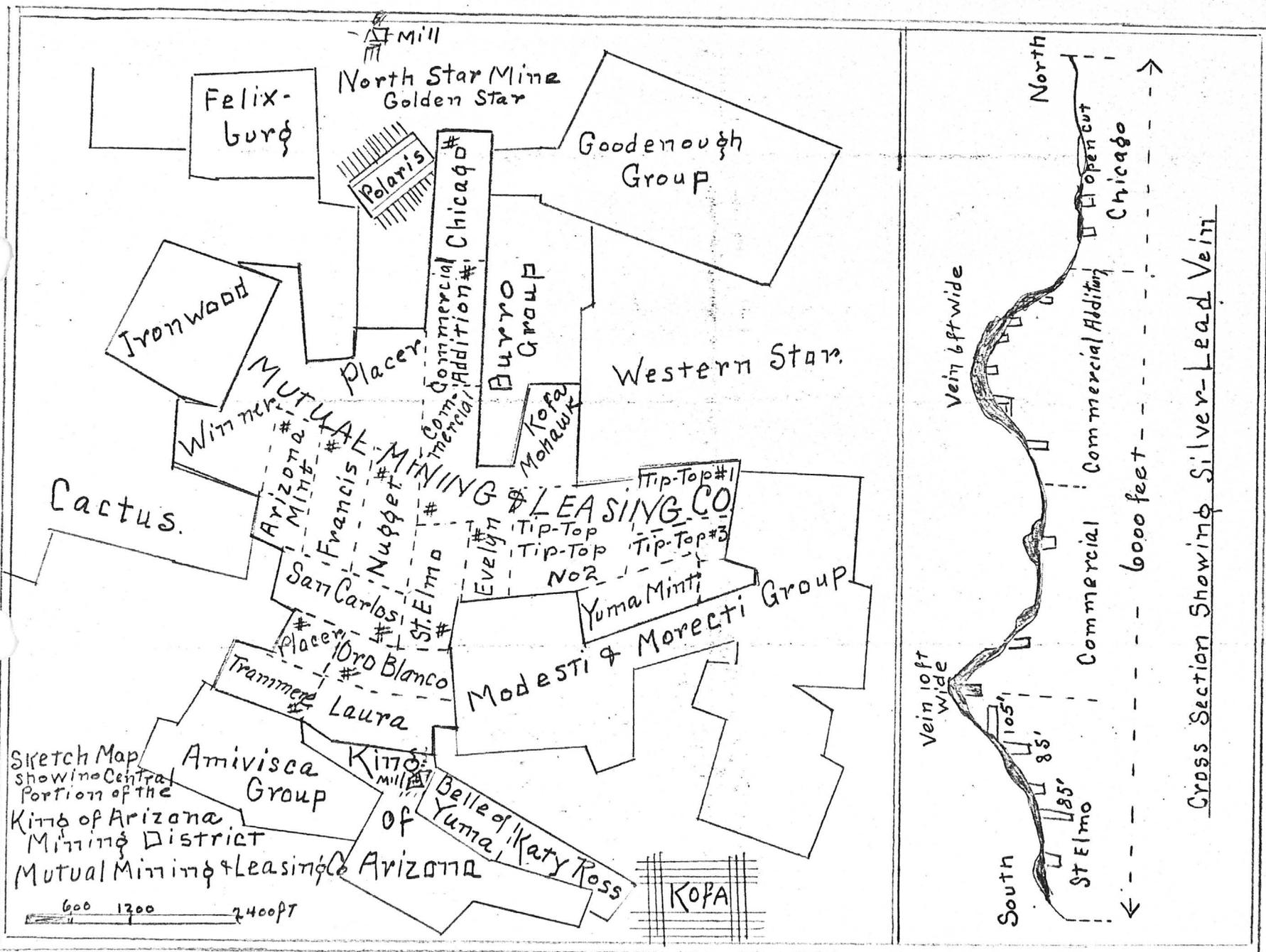
Yours truly, J.L. CUMMINGS.



MINE ROB ROY
 GEOLOGY BY MIKE N. GREELEY
 SURVEY BY GLENN MILLER
 DRAWN BY LARRY E. DIETZ

DATE 26 APRIL 1979
 SCALE 1" = 50'

COE & VAN LOO
 CONSULTING ENGINEERS INC. PHOENIX ARIZONA



Rob Roy Claims included in Mutual Mining & Leasing Co. Group.

ROB ROY

Yuma County

KAP WR 3/13/81: P.E. Birdick (Doc) still plans to refurbish the Rob Roy Mill to make a free milling gold mill to process high grade ores. It was suggested they run a test lot thru Rubr-Tech Mill and also contact ASARCO as a potential concentrate buyer, prior to making a large investment of time and money in the Rob Roy Mill.

T2S R17W Sec. 12 C

RT

ROB ROY

Do Not Copy

YUMA

Mine visit - King of Arizona mine and Rob Roy Mill. The visit was to include a complete tour of the underground workings of the King of Arizona. However, due to the delayed arrival of the geology class and mine owner which we were to accompany, we were only able to tour the haulage ways of a single level. Neither the geology instructor or the mine owner were familiar with the geology of the deposit or the mining methods. I did not accompany the group on the final portion of the tour due to unsafe conditions which the mine owners apparently neither observed nor understood. These conditions involved a false floor that had been established across the mined vein by piling palo verde branches across timbering that was used to hold open the stope. This false floor was then used as a floor to shrinkage stope to the surface. All of the ore had been drawn off the floor and the branch lagging has rotted. There were a number of places where the floor had given way and one could see down dip several hundred feet. KAP WR 12/8/74

Bob Langeth, Phoenix, called for information on a Mrs. Morre of Yuma who is supposed to be part owner of the Rob Roy Mine in the Kofa Mountains. I had no knowledge of her; I thought Dr. Budick was the owner. WR GW 7-6-77

ROB ROY PLACERS

Do Not Copy

YUMA COUNTY

Active - Oct. 1961

Active - Feb. 1962

Active - Oct. 1962 - 2 men working

Conference with Carl Lindner at Yuma

Blacky Miller and Al are still working with the construction of a gold gravity concentration mill. No production is reported.

Walter Parker, caretaker for the Rob Roy property, is seriously ill in the Yuma hospital.

Memo LAS 6-5-63

Conference with Blacky Miller at Stone Cabin

Mr. Miller said that his partner had secured a job in California and that he had done a little placering in Rob Roy Gulch. No one else is active since both Walter Parker and William Findley were both in poor health and had retired to Yuma. He said that they had not yet finished the small mill that was begun some time back.

Memo LAS 2-6-64

Carl Lindner stated that P. A. Birdick, optometrist, Yuma, had purchased the Rob Roy claims at Kofa, but so far as he knew no work had yet been done. LAS Conf. Yuma 10-7-64

RECORDING BY

AND WHEN RECORDED MAIL TO

Name: JEANNETTE YVONNE GLENN
Street Address: 1870 E 16th St (L-215)
City & State: Newport Beach California 92663

File
AMC never heard of these

(SPACE FOR RECORDER'S USE)

PROOF OF ANNUAL LABOR

STATE OF ARIZONA }
COUNTY OF Yuma } ss.

BEFORE ME, personally appeared Jeannette Yvonne Glenn

(Please print name in full)

who, being duly sworn, says: My current mailing address is 1870 E 16th St (L-215 Apt.,)

(Number, Street, City, State, Zip Code Number)

Newport Beach, Calif. 92663, my current residence is 1870 E 16th St (L-215) Newport Beach

(Number, Street, City, State, Zip Code Number)

California 92663. Certain labor and/or improvements required by law were performed or made on or for the benefit of the following mining claim(s), (which together comprise a group of contiguous claims) located in Quartzsite Township Yuma County, New Water & Plomosa Mts. ARIZ. in the mining assessment work year ending on September 1, 19 , as follows:-

| Name of Claim(s) (in full) | Mining Records | | Mining Records | |
|--------------------------------|-------------------|------|----------------|--------------------------|
| | Original Location | Book | Last Amendment | MICROFILM |
| <u>ROB ROY MINE</u> | | | <u>1163</u> | <u>Page 682-3 #12253</u> |
| <u>R & R BROTHERS MINE</u> | | | <u>1162</u> | <u>25-27 #11452</u> |

LABOR AND IMPROVEMENTS. Specify (for example, state depth of shaft sunk; feet of tunnel, drift, adit or crosscut driven; size of exploration cut of trench; or refer to separate document, filed as required by PL 876, describing geological, geochemical or geophysical survey). Give value for each item and dates on which, or periods of time within which the same was performed or made; and total value.

Semi-quantitative Spectrographic Analysis of Ore Samples from above Mines. (GEOCHEMICAL ANALYSIS included).

The total fair and reasonable value thereof was \$ 185.00 & \$125.00 and the amount and value thereof on or for the benefit of each claim was \$100 or more. The name and address of the person who performed the labor or made the improvements, as known to me, was: Reed Engineering - 2166 College Ave., Costa Mesa, Calif 92627 April 3, 1980 and completed by September 1981

The owner(s) of the mining claim(s) (is) (are):

| Name | Current Mailing Address | Current Residence Address |
|------------------------------|--|---------------------------|
| <u>Jeannette Y. Glenn</u> | <u>1870 E 16th St (L-215) Newport Beach, Calif 92663</u> | <u>(same)</u> |
| <u>Richard D. Duncan</u> | <u>9903 Channel Dr., Olympia, Wash 98502</u> | <u>(same)</u> |
| <u>Yvonne Elaine Clift</u> | <u>8435 Winding Way, Fair Oaks, Calif., 95628</u> | <u>(same)</u> |
| <u>Antoinette L. Espland</u> | <u>9687 Benevente St., San Diego, Calif 92129</u> | <u>(same)</u> |
| <u>Margaret M. Rondeau</u> | <u>8921 Driftwood St., Riverside, Calif 92503</u> | |

All monuments required by law to have been erected, and all notices required by law have been posted, on each claim or copies of such notices were in place on the claim on (date) May 13, 1980 from March 1980, also on that date each corner monument bore or contained marking sufficient to designate the corner of the mining claim to which it pertained and the name of the claim.

The above listed claim(s) is (are) held and claimed by the owner(s) or the undersigned (if he is entitled to possession thereof) for the valuable mineral contained therein.

Subscribed and Sworn to before me

26 day of 1981

Jeannette Yvonne Glenn
(Signature)

Notary Public in and for said State



HARDING-LAWSON ASSOCIATES

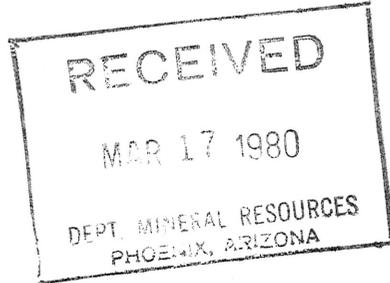
ENGINEERS, GEOLOGISTS AND GEOPHYSICISTS

7655 REDWOOD BOULEVARD
P.O. BOX 578
NOVATO, CALIFORNIA 94947 415/892-0821

ALASKA
CALIFORNIA
HAWAII
ILLINOIS
NEVADA
TEXAS
WASHINGTON, D.C.
SAUDI ARABIA
NIGERIA

*K JH
MB*

*Mr Hicks
Encl. info for
my file in your
office. PAB.*



March 10, 1980

10,020,001.01

Dr. P. A. Birdick
P. O. Box 231
Yuma, Arizona 85364

Dear Dr. Birdick:

Harding-Lawson Associates (HLA) is researching reclamation of inactive tailings ponds and dams in the western United States. The study involves determination of present technology for reclaiming or restoring tailings pond sites and on-site investigations to determine the individual characteristics at about 20 selected sites. The investigation is being conducted under U.S. Bureau of Mines, Contract No. J019917, "Development of Methods for Reclaiming Abandoned Tailings Ponds and Dams".

We are presently in the site selection process. The tailings ponds area at the Rob Roy Mine and the King Mine appears to be a good prospective study area. We would greatly appreciate your cooperation in allowing us to conduct a brief field visit there. To give you a better idea of what this would involve, we have outlined who we are and pertinent facts about the project below.

HLA is a consulting geotechnical engineering firm founded in 1957 and our total staff now numbers about 175 individuals. Our main office is in Novato, with other California offices in San Francisco, Santa Rosa, Concord and Tustin, plus Reno, Houston, Chicago, Anchorage and Honolulu. The disciplines practiced by HLA deal primarily with the materials of the earth--soil, rock and water--and with the function of these materials in construction and as natural resources. We work on many projects for the mining industry, including many involving design of tailings dams.

This present study will evaluate reclamation and remining potential for several tailings pond sites located in two climatic regions of the western United States. The criteria for study site selection are:

Dr. P. E. Birdick
Page 2 - March '10, 1980

- Status: inactive
- Mine type: no coal, uranium, sand and gravel or mercury
- Restriction: must have tailings ponds

We will visit sites in the arid climates of Arizona, Nevada, New Mexico, Utah and/or California in the early spring. Sites located in the mountain to semi-arid climates of eastern Washington, Oregon, Idaho and/or western Montana, will be visited in the late spring and early summer.

We will send a three-member team composed of an engineer, a geologist, and a revegetation specialist to each site for one to three days. During the visit we would:

1. Reconnoiter the tailings ponds area for engineering, geologic, hydrologic, soils and revegetation characteristics
2. Determine the surface area and volume of tailings material
3. Study the structural characteristics of the tailings pond and dam
4. Sample the tailings material for subsequent testing and assaying
5. Sample the ground water and surface water for subsequent quality testing

Each of the last three items will involve drilling of shallow test borings (up to 30 feet) with a small pickup-mounted auger.

From the field data and background information we will determine:

1. The present environment and characteristics of the tailings area
2. Feasibility for reclamation
3. Preliminary evaluation of the economic feasibility of re-mining the tailings

Dr. P. E. Birdick
Page 3 - March 10, 1980

Three of the sites determined inactive and uneconomical for remining will be recommended as possible sites for reclamation demonstrations. Of the three sites, one may be chosen for a hands-on demonstration project to be performed by the U.S. Bureau of Mines.

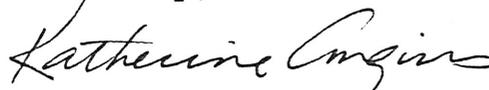
The final report will consist of data collected during the field visits, water and mineral analyses, summary analysis and interpretation of the data for each site and bibliographic references. This report will be produced in two separate volumes. The body of the report, Volume I, will designate each tailings site by a code letter. To insure anonymity, the tailings sites and their designated code letters will be cross indexed in an appendix, Volume II. The section of Volume I pertaining to your site will be sent to you for review before the completed report is placed on U.S.B.M. open file. Volume II will be restricted and available only within the U.S.B.M. Copies of all data collected on the Rob Roy Mine and the King Mine will be sent to you on completion of the project.

A large portion of our effort will be compiling background data. Your assistance in locating pertinent information for your site would also be greatly appreciated. Please send us copies of any information pertinent to the items requested in the attached list.

We would appreciate any help you could give us in expediting this request. Please sign the attached letter acknowledging your permission for access to this site and return it to us in the enclosed envelope at your earliest convenience.

Thank you for your cooperation and assistance. If you have any questions concerning this project, please feel free to contact Jim Davies, Richard Weiss or myself at 415/892-0821.

Sincerely,



Katherine Angius,
Project Geologist

KMA/RBW/jd

Date

Harding-Lawson Associates
7655 Redwood Boulevard, P.O. Box 578
Novato, California 94947

To Whom It May Concern:

This letter authorizes Harding-Lawson Associates and/or their designated representatives access to the Rob Roy Mine and the King Mine in order to complete studies for U.S. Bureau of Mines Contract J019917, "Development of Methods for Reclaiming Abandoned Tailings Ponds and Dams," as outlined in the letter to Dr. P. E. Birdick dated March 10, 1980.

Signature

Name and Title

Firm

Address

City, State, Zip Code

LIST OF DESIRED DATA

Data concerning mine operations:

1. Mine History
 - a. Status of mine: inactive, abandoned, or producing and any plans for reactivation involving use of tailings ponds or dams
 - b. Approximate dates of operation
 - c. Type of material recovered, ore grade and assays
 - d. Recovery process used
 - e. Volume of tailings produced
2. In-house mine reports and maps
3. Published data concerning mine
4. Engineering for tailings area
 - a. Original topographic maps
 - b. Pre- and postconstruction drawings or topographic maps
5. Air photos (history if possible)

Note: We are planning the field work for spring and would appreciate information pertaining to limited access due to unfavorable weather or bad roads.

ARIZONA DEPARTMENT OF MINERAL RESOURCES

Mineral Building, Fairgrounds

Phoenix, Arizona

- 1. Information from: Dr. P.A. (Doc) Birdick at mine site on April 26, 1979.
Address: _____
- 2. Mine: Rob Roy 3. No. of Claims - Patented _____
Unpatented _____
- 4. Location: Kofa Mountains, Yuma County, Arizona
- 5. Sec _____ Tp _____ Range _____ 6. Mining District _____
- 7. Owner: Dr. P.A. (Doc) Birdick
- 8. Address: P.O. Box 231, Yuma, Arizona 85364, phone (602) 783-5012
- 9. Operating Co.: _____
- 10. Address: _____
- 11. President: _____ 12. Gen. Mgr.: _____
- 13. Principal Metals: _____ 14. No. Employed: _____
- 15. Mill, Type & Capacity: _____
- 16. Present Operations: (a) Down (b) Assessment work (c) Exploration
(d) Production (e) Rate _____ tpd.
- 17. New Work Planned: _____

18. Misc. Notes: See previous reports.
Glenn Miller, H. Mason Coggin of Coe & Van Loo, and I
surveyed, mapped, and sampled mine. See attached mine map and sample
location sheet and assay results.
Mine consisting of one crosscut and one drift is in good
condition. It is generally dry except for a couple of seeps. Dr. Birdick
has stored a lot of materials in the mine. There are several houses on the
property and Birdick keeps a full-time custodian on the unpatented property.
Directly in front of the portal is a mill building and mill
equipment that appear to be in good condition.

Birdick is desperately trying to keep the property from being taken over by the Federal Government.

Date: May 16, 1979

 (Signature) Michael N. Greeley
 (Field Engineer)

RECEIVED

MAY 21 1979

DEPT. MINERAL RESOURCES
PHOENIX, ARIZONA

ARIZONA DEPARTMENT OF MINERAL RESOURCES

Mineral Building, Fairgrounds

Phoenix, Arizona

1. Information from: Dr. P.A. (Doc) Birdick at mine site on 4-26-79

Address: _____

2. Mine: Rob Roy

3. No. of Claims - Patented _____

Unpatented _____

4. Location: Kosa Mtns, Yuma Co., Az

5. Sec _____ Tp _____ Range _____ 6. Mining District _____

7. Owner: Dr. P.A. (Doc) Birdick

8. Address: P.O. Box 231, Yuma, Az 85364; phone 783-5012

9. Operating Co.: _____

10. Address: _____

11. President: _____

12. Gen. Mgr.: _____

13. Principal Metals: _____

14. No. Employed: _____

15. Mill, Type & Capacity: _____

16. Present Operations: (a) Down (b) Assessment work (c) Exploration
(d) Production (e) Rate _____ tpd.

17. New Work Planned: _____

18. Miscl. Notes: See previous reports.

Glenn Miller, H. Mason Coggin of Coe & Vanhook, and I surveyed, mapped, and sampled mine. See attached mine map and sample location sheet and assay results.

Mine consisting of one adit and one drift is in good condition. It is generally dry except for a couple of seeps. Dr. Birdick has stored a lot of materials in the mine. There are several houses on the property and Birdick keeps a full-time custodian on the unpatented property.

Directly in front of the portal is a mill building and mill equipment that appears to be in good condition. Birdick is desperately trying to keep the property from being taken over by the Federal Government.

Date: 5-16-79

(Signature)

Michael W. Crowley

(Field Engineer)

a
5-10-79 / left

Mr. H. Mason Coggin
Coe & Vanhook
4550 North 12th St.
Phoenix, Az. 85014

RECEIVED
MAY 14 1979
DEPT. MINERAL RESOURCES
PHOENIX, ARIZONA

Dear Mason,

Here's map that your Mr. Dietz drafted for us.
Have him make corrections as marked - or anything else
that will make Glenn and me look good.

Enjoyed working with you. Hope to see you
again.

Sincerely,
Mike Greeley

Michael N. Greeley
Az. Dept. of Mineral Resources
415 W. Congress
Tucson, Az. 85712

to be filed Rob Roy mine
Yuma Co.



COE & VAN LOO
CONSULTING ENGINEERS INC.
ENGINEERING · PLANNING

April 30, 1979

OF COUNSEL
P. E. COE, P. E. (1915-1977)
H. W. VAN LOO, P. E.
ALBERT B. CUTLER, JR., P. E.

J. E. COE, P. E., PRESIDENT
HENRY L. LEGGE, P. E.
RALPH B. NUNNELLEY, P. E., L.S.
U. S. MINERAL SURVEYOR
H. MASON COGGIN, P. E., L.S.
RONALD J. MLNARIK, R. L. A.
PLANNING
JOHN B. NELSON, P. E., L.S.
RONALD C. FISHER, P. E.
RAMESH I. PATEL, P. E.
PAUL SIDERS, P. E.
WESLEY K. ZICKER, P. E.

Glenn Miller
Mike Grealoy
ADMR-Mineral Museum
Fairgrounds
Phoenix, Arizona

Gentlemen:

Attached map and sample descriptions of Rob Roy
Yuma County Arizona.

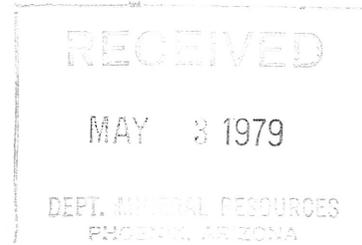
Please revise if required.

Very truly yours,

COE AND VAN LOO
Consulting Engineers, Inc.

H. Mason Coggin, P.E. & L.S.

HMC:jp
Encl.



KING OF ARIZONA

April 26, 1979

Sample No. 1

The best I could find in a tub full of selected material from a small cut or a vein at the top of flag pole hill southwest of new house, about 100' N 50 E of Glory hole vein bears N 57 W, flag pole bears N 45 W SW corner of house bears N 85 E.

Rob Roy

Sample No. 3+00 5' chip channel in andesite prophyry at most a conglomerate andesite.

Raise 3+00 to 3+05 about 35' with 75° dip toward north in vein material.

Sample No. 2+75 E 5' chip sample as before in andesite braccia with some $\text{CaCO}_3 + \text{FeO}$.

Sample No. 2+50 E 5' chip sample as before with some black CaCO_3 veinlets and hemitite.

Sample No. 2+25 E 5' chip sample as before in more broken material with CaCO_3 stringers.

Sample No. 2+00 E same as before but highly crushed.

Sample No. 1+75 E same as before.

Sample N. 1+50 E 5' chip sample.

Sample No. 1+25 E as before

Sample 1-00 E as before

increasingly more CaCO_3 veinlets about 1/2" or so parallel and fairly coarse with the main fissure. Red limonite on joints and coming in stronger going to Sta. 0+00.

Sample No. 0+75 E as before.

Sample No. 0+25 E well defined vein material about 30" wide mined to surface about 75 to 100.

Sample No. 0+25 W as before vein faint.

Sample No. 0+48 W as before vein faint.

Gordons best, I asked one of the men on the property to fill a sack with his choice of specimen.

Calculate reserve on basis of 100' of backs less 10% for mining.

Winze at Sta. 0 +15 W to depth of 75'± at 70-75° dip to south follows vein. No samples If chip channels on 25' c/c/ provide viable 2nd phase sampling at 5' c/c



King of Arizona

Rob Roy

Continued

page 2

required with chipping hammer and channel cut.

Openings require little support, also some cross fissuring with black CaCO_3

vein filling. Color may be due to mud and may be after rain pulse of Au mineralization since no recovery problems were encountered in the KOFA.



ARIZONA DEPARTMENT OF MINERAL RESOURCES

Mineral Building, Fairgrounds

Phoenix, Arizona

- 1. Information from: P. A. Birdick
Address: 48 Second Street, Yuma, Arizona 85364
- 2. Mine: King of Arizona (Kofa) 3. No. of Claims - Patented _____
Rob Roy Unpatented _____
- 4. Location: _____
- 5. Sec 12 Tp 2 S Range 17 W 6. Mining District Kofa
- 7. Owner: P. A. Birdick
- 8. Address: 48 Second Street, Yuma, Arizona 85364
- 9. Operating Co.: _____
- 10. Address: _____
- 11. President: _____ 12. Gen. Mgr.: _____
- 13. Principal Metals: Gold 14. No. Employed: _____
- 15. Mill, Type & Capacity: _____
- 16. Present Operations: (a) Down (b) Assessment work (c) Exploration
(d) Production (e) Rate _____ tpd.
- 17. New Work Planned: _____

18. Misc. Notes: On December 8, a visit was made to the Rob Roy Mill and King of Arizona Mine with "Doc" Birdick and a class of Arizona Western College geology students. We first toured the Rob Roy Mill, a nearly complete 50 tpd amalgamation mill consisting of a jaw crusher, ball mill, rake classifier, amalgamation cells, slime and sand cyaniding plant, with the necessary diesel power plant. According to Birdick the mill was constructed by the Rob Roy Development Co. to process ore that would be found by new "development" work directed toward finding ore in suspected continuation of the King vein. Little or no ore was found and mill operated on only a small quantity of ore from the King of Arizona. We then toured the

(CONTINUED ON REVERSE SIDE)

Date: December 8, 1974

Ken A. Phillips
(Signature)

Ken A. Phillips
(Field Engineer)

KAP

Mine : Rob Roy
District: Kofa
County : Yuma

Engineer: Ken Phillips
Date: December 8, 1974

Subject : Tour of Idle Property and Mill

A tour of the Rob Roy Mill and Mine was made in the company of the property owner, P.A. Birdick, 48 West Second Street, Yuma, Arizona 85364, phone 783-5012.

This epithermal gold vein deposit was explored and developed by the Rob Roy Development Company. The vein, or vein system, runs parallel and to the northwest of the King of Arizona vein. At the most, a couple of hundred tons of ore were produced and milled.

The 50 ton per day mill consists of crushing, grinding, amalgamation, tabling and cyaniding equipment. Ore trammed from the mine is dumped across a 3/4-inch grizzly. The +3/4 is fed to a 12X24 inch jaw crusher which dumps into a 50 ton fine ore storage bin. The fine ore is fed by a belt ore feeder to a 5' by 8' Denver C.I.W. ball mill. Oversize is returned to the ball mill by a rake classifier. Sands are passed over amalgamation plates, then to a sand cyanidation plant. Classifier slimes are cyanided in a agitation cyanide plant. The plant has not been run since about 1941 but is in reasonable condition and generally intact.

A number of winter residents occupy various small bungalows at the Rob Roy property. The property is occupied by a year-round caretaker-watchman.

KAP:mw



STATE OF ARIZONA
DEPARTMENT OF MINERAL RESOURCES
MINERAL BUILDING, FAIRGROUNDS
PHOENIX, ARIZONA 85007



March 6, 1968

TO: FRANK P. KNIGHT, Director
FROM: C.L.Hoyt, Field Engineer
Re: North Star and Rob Roy Mines - Kofa district.

Dr. P A. Burdick (Birdick?) Drawer 1430, Yuma, Ariz., phone 783-5012, owner of the Rob Roy mine in the Kofa Mountains phoned from Yuma to say that Mr. Harold Fenix and Mr. Homer Brown are moving equipment on to the North Star mine adjoining his Rob Roy mine for the purpose of reworking the North Star tailings. The claims now held by Fenix are the North Star Nos. 4,5,6, & 7.

Equipment reported as being moved in are a 100 KW generator set, a D8 Caterpillar Tractor, 2 loaders and a 5 or 10 ton truck with rotating drum. This equipment was reported as having been moved from a property near the Vulture Mine. Fenix and Brown claims the tailings contain values of \$5.00 per ton Au.

Dr. Burdick said Fenix and Brown want to get water from his well. He was advised that if he let them have water under a contract stating definite amounts and a definite termination date he would probably not endanger his rights but that he should obtain legal advice.

Data in the Mineral Resources Department files show:

Mr. Harold Fenix of Wickenburg held an option on the Bullard mine in Secs. 10 & 11, T8N R10W about 12-1/2 miles north west of Aguila, in the Pierce Mining District from 1965 to 1967. He did some drilling on the property.

An assay report by the Arizona Assay Office - July 24, 1948 labeled "North Star Tailings" shows 0.11 Oz of Ag and 0.15 Oz Au with a value of \$5.25. This is in the file on the North Star Mine.

DEPARTMENT OF MINERAL RESOURCES

**STATE OF ARIZONA
FIELD ENGINEERS REPORT**

Mine ROB ROY PLACER

Date 6/7/67

District Kofa District, Yuma Arizona

Engineer Lewis A. Smith

Subject: Conference with Dr. P. A. Burdick, Drawer 1430, Yuma 6/7/67.

Dr. Burdick reported that no further developments had occurred in the area; no further contact was had with the Kofa Game Preserve people. Burdick felt that the Conference (reported for February) may have caused them to back off, at least for awhile. Meanwhile, he and others in the area have placed their land problems in the hands of an attorney. Burdick felt that the original demands may have been partly "bluff".

FILED

ROB ROY - BAKER AND FINLEY CLAIMS

MAR 17 1967

YUMA COUNTY
KOFA DISTRICT

Conference with Dr. P. A. Birdick, owner of Rob Roy; Earl Burnett, representing Wm. Finley; Willard Julian, consulting geologist; Alan Lochotzski, Julian's assistant; and Nick Yushkevich, at Burdicks' office and later at the Yuma Conference.

The claims are in Sec. 12, T. 2 S., R. 17 W., and all but five are patented. In all, there are about 27 or 28 claims owned by Birdick, Finley, Baker and Yushkevich. Birdick will send us a print of the claims and 3 aerial photos.

The conference evolved from a threat made by Kofa Game Range Officials to run all mining off of the Preserve, patented or unpatented claims being no exception. This is believed by the persons listed above to be a decided violation of their rights. The apparent mode of attack will evidently be based upon the fact that the claims are not now producing commercial ore (have we heard this before?) The people concerned have hired a lawyer to handle their case.

Julian and Lochotzski have been doing a reconnaissance of the area and have like me, recommended that the claims be surveyed and accurately mapped as to structure and surface geology. Don McCarthy started to do this but ^{did not} was unable to finish. This could be followed possibly by geophysics, but this is not believed to be generally too good on deep and highly oxidized material as seen in places here. Sulphides are not too prevalent.

The area including the King of Arizona, Rob Roy, and other bordering claims is composed essentially of andesitic flow rocks which, here appear to overlie Precambrian granites, gneisses, and schists. However, the area has been intruded by dikes which are generally considered to be acidic with a few andisite porphyry(?) ones. The andesite flows are part of the Kofa Valcanic series classed on the Yuma County Geological map as Cretaceous or Mesozonic. To the North the andesite series, andesite flows, rhyolite-andesite breccias, andesitic tuffs, etc., is overlain at times unconformably by the rhyolites and dacites that form great piles locally and do not appear to mineralize and could be post-mineral. Some places in Arizona, lithologically similar acidic flows have been regarded as considerably later than the Andesitic Group, and other than barite-lead-silver veins these flows are generally barren. Part of the rhyolitic-dacitic series is overlain by quaternary basalt.

The andesites are, in the area that we are concerned with, mineralized mainly along a series of E-W to N. 75° W. trending vein fractures or shears, really part of an extensive shear pattern. These are all roughly parallel. However, according to Don McCarthy's map the vein or shear structure plates dip 52-55° South on the Rob Roy, but the King vein plane dips 62° South. As close as these divergent dips are, there could easily be an inferred fault separating the King vein to the South from the Rob Roy ones on the North. Similarly, the North Star fault fracture to the North two miles, is flatter than the others. According to ~~some~~ ^{some}, the King and Rob Roy veins were apparently cut off by faults on both the East and West, the East being far more evident.

Both where observed contained appreciable manganese. Another transverse fault contains lead values and this trends generally N-S. Minor traverse faults are, in many cases indicated by the topography. A few of these were mapped by McCarthy and so some others were seen by several observers and by me. Part of these could be prospectable as they seem to be pre-mineral.

According to Yushkivich there is a very strong shear West of the King of Arizona that extends up to the N-NW toward the Evening Star. This, he said, in places showed appreciable iron and manganese oxides. This is only exposed intermittently.

To summarize, it can be reasonably inferred that the "rift" area is very well fractured and andesite is generally a good gold-silver host rock and has in the main shears shown oxidized cappings which are not entirely negative. The severe fracturing could, however, have so opened the ground as to have dispersed values laterally as well as deeply, but with area of tightening which could cause ore shoots.

Possibly the "rift" area was at least in part dropped (south side) and in part raised (north half) so as to expose older precambrian rocks, especially to the NE, although few faults observed in the area appear to have large throws. It is, therefore suggested that the rift interior be prospected to a good depth before ground is withdrawn, if for no other reason than to see if primary mineralization is appreciable or whether the prospect is too low grade for further exploration.

The presence of some scattered oxide copper with relict sulphides might infer that in depth copper possibly might be important if sufficiently concentrated. The indicated possible down-dip convergence of the Rob Roy fractures 52-55° with the King Vein 62° S. might also be reasonably prospectable with primary copper-pyrite-gold mineralization in mind. The King vein has been developed to over 1,000 feet down-dip in one place.

Birdick promised to sent us copies of McCarthy's map, a claim map, and 3 very good aerial photos. According to the claim map the following claims comprise the immediate area in question:

- Birdick - Patented claim
- Birdick - Nuggett patented claim
- Birdick - St. Elmo patented claim
- Birdick - Evelyn patented claim
- Birdick - San Carlos patented claim
- Baker - Trammere patented lode
- Baker - E. Trammere placer unpatented
- Baker - Triangle lode
- Finley - Kingtal - new discovery 3
- Finley - Gold Rock - new discovery 2
- Finley - Belle of Yuma (old Bluebird) patented
- Birdick - Gateway, Hub, Moscow, Queen of Arizona - unpatented
- Birdick - Homestake patented
- The Midnight claims - East part of the area owned by Jake Gibson of Roll.

There are others in this area which carry tungsten values.

DEPARTMENT OF MINERAL RESOURCES

**STATE OF ARIZONA
FIELD ENGINEERS REPORT**

Mine Parker-Ramsey Placer-Rob Roy Placer Date September 7, 1960
District Kofa District - Yuma County Engineer Lewis A. Smith
Subject: Conference with H. E. Lindner at Yuma

Mr. Lindner reported that Walter Parker, Box 711, Yuma and Clay Ramsey were prospecting a placer gold deposit in the Kofas. The area is along a deep wash which separates the Rob Roy mine from "Schist Hill." The gold is coarse and subangular indicating that it is not far from the source which could be the tungsten veins on Schist Hill or the quartz veins on the Rob Roy. The "gravels" contain much subangular andesite, granite, schist, and other fragments. None are much rounded and some of the gold is still detrititic. So far the partners have cut a part trench-part adit into the gravel to a depth of around 30 feet. A few good nuggets have been found. Lindner felt that the placer would necessarily be limited since the gravels are narrow and pockety and the good part of the draw is less than a mile long.

MUTUAL MINING & LEASING COMPANY
20 BROAD STREET, NEW YORK.

Incorporated in Arizona, capital two millions, fully paid and non-assessable. About 40% of the stock is in the treasury unsold. The Company is free of litigation and debt, excepting ordinary current liabilities.

The Company owns 160 acres of Mining Claims and has a ten year lease on the patented R.M. Group of 240 acres, all combined forming one 400 acre tract, located at Polaris, Yuma County, Arizona.

The combined values consist of an immense silver-lead ledge one mile long, a gold placer property and some gold ledges.

The property is equipped with machine drills, engine compressor, blowers and the usual mining machinery and tools, but no mill.

In addition to the above, the Company owns a Franchise-Grant for Power, Light, Water, Telephone and Telegraph, covering all Yuma County with 20 years to run. Note: The tax valuation of Yuma County increased practically three hundred (300) per cent in one year.

This stock has been listed on the New York Curb. This listing places a substantial O.K. on the bona-fide-ness of the Company, as two Engineers' reports on the property, certified copies of titles and charger, New York representation, certified Maps, references, etc, etc.

Remarks:- What the engineers report about the properties:

Mr. McNaman, 20 year Lead specialist, says: I consider this is the best lead property I ever examined.

Mr. DeLuce, after examination, says: I predict 20 years daily running will not exhaust the ore.

Mr. Morton says: Gold ore on the Southwest corner of the property compares in style, value and classification with the King of Arizona's main ore body.

Mr. Cummings, after examining the Company's property and holdings says: I consider the Company's prospects for permanent dividends are very bright.

PLAN OF OPERATION:

A concentrating mill will be installed on the Silver-Lead ledge as fast as funds will permit. When this mill is installed and in full operation, it will be reasonable to expect large earnings from this source alone. This silver-ledge being a cross vein, the extraction of the values will open up the gold ledge at depth, without cost. Big results are expected from the gold ledges on account of them being hemmed in on five sides by gold proven properties. As soon as the Silver-Lead mill is in full operation, the Gold proven placer property will receive attention. This placer property is the natural basin of the gold district. The estimated values in this basin are fabulous.

MUTUAL MINING & LEASING COMPANY
Charles P. Hall, President.

New York, July 1, 1915.

As near as I can figure, there are at least 80 acres of placer deposits which will warrant operations. It is important to note that the washing of these placers will uncover hidden gold ledges; and it is quite likely that the great "Mother Lode" which has been feeding the main placers, may also be discovered.

SILVER-LEAD:

While under present development, it would hardly be proper to consider the Silver-Lead ledge a proven mine ---yet it would be unfair to consider it simply a prospect. With 14 shafts and tunnels sunk in this ledge, all in ore, running over a distance of three-quarters of a mile, it shows all the ear marks of a big mine.

This ledge is a true fissure vein about one mile long, from two to twelve feet wide. The values opened up are commercially good in lead along. The Silver and gold values carried in this ledge will bring additional profits that will count considerably.

The ore can be cheaply mined and milled and will concentrate very easily; the concentrates always being in great demand by the big smelting interests; as they are necessary for smelter operations. Owing to the lack of hoisting equipment, the principal development has been limited to the depth of windlass works; namely 85 feet. At the bottom of these shafts, the ore is both wider and richer than on the surface--all ore opened up will concentrate at a profit.

In all my estimates, I have entirely eliminated the usual high grade streaks that are found in connection with the mill grade ore, and as work progresses, there will be encountered from time to time, bodies of this high grade ore which can be shipped direct to the smelters, without concentration.

Regarding the permanency of silver-lead deposits in this locality, it may not be out of place to state that the nearest silver-lead property is the Castle Dome, twenty miles away. This mine has been working continuously for the past fifty years and is still shipping.

Mr. Robert DeLuce, manager of the Castle Dome for the past ten years, after thoroughly examining our vein, states in substance that, "You have enough ore in sight to last a 200-ton per day mill over two years; and with such prospects of more that I predict twenty years' daily running will not exhaust the ore."

Mr. Jas. H. McManaman and other engineers have examined this property, all agreeing that development to date warrants the erection of the first unit of a concentrating mill.

EQUIPMENT

The property is equipped with engine, compressor, machine drills and usual mining tools.

WATER:

The water supply in the Valley, two miles away, is practically inexhaustible. The North Star and King of Arizona both have water in their mines in addition to the pumping plants in the Valley. There is also a well 100 feet from the Mutual property.

CLIMATE AND FUEL:

The climate is also perfect; work is carried on continuously all the year around. Distillate, which is used for operating gas engines, can be purchased as low as 7 cents a gallon at railroad points.

It is important to remember in installing a mill on this silver-lead ledge, that the vein has been proven to be in place, commercial ore starts from the surface; and what is more to the point, values are found to increase with depth.

THE NEAREST IMPORTANT NEIGHBORS

As stated, the property lies in the heart of a proven gold district about one mile square. Adjoining on the north is the North Star Mine (Golden Star) which has produced enormously rich gold ore. This mine was originally purchased for \$50,000 with only a 50-foot

REPORT OF THE

MUTUAL MINING AND LEASING COMPANY

By

CHARLES F. HALL.

The Mutual Mining & Leasing Company was organized for the purpose of buying, selling, leasing, owning, operating and exploiting mining properties.

At this time the Company owns the Tip-Top Group, consisting of the Tip-Top #1, 2 & 3, the Kofa-Mohawk and the Yuma Mint, approximately 100 acres, also the Winner Group consisting of Winner #1, 2, & 3, 60 acres. The Company also has a 10 year lease on the R.M. Group of 240 acres.

All the above claims and groups form an unbroken 400 acre tract, comprising the heart, or hub of the gold proven centre, the combined properties being surrounded on the five sides by gold producing properties, situated in the King of Arizona Mining District, Polaris, Arizona.

Polaris is 38 miles by good wagon road, from the Mohawk station on the main lines of the Southern Pacific railroad. The new line now being constructed from Phoenix, through the Gila Valley, will be within a nominal distance of the property when completed.

In addition to their properties, this Company owns a Franchise-Grant covering all over Yuma County, Arizona, for Water, Light, Power, Telephone and Telegraph.

FORMATION

The proven gold district is about one mile square. This Company occupies the very heart or centre of this square mile.

In describing the general formation of the district will say that it is mostly eruptive. Commencing at the King of Arizona mine on the South, the major part of the formation is Rhyolite and hematite with porphyry dykes running through. Then there is a schist belt with a series of large dykes of porphyry, quartz, andesite and diorite cutting through. Reaching the Star on the North, the formation is mostly porphyry, the Star having a schist footwall and a porphyry hanging; all gold dykes run nearly east and west.

VALUES :

Values consist of a number of gold ledges; about 80 acres of placer gold deposits; and an immense lead-silver (galena) ledge. The gold ledges form a series of dykes, running easterly and westerly directions. The Lead-Silver ledge is a cross vein, running north and south, cutting all formations.

GOLD LEDGES:

The work done on the gold ledges, while only nominal, has opened up free gold in several places. The mining and developing of the "silver-lead" cross vein, will open up the gold ledges at a depth without cost; and the silver-lead will yield a handsome profit while doing so.

GOLD PLACIER DEPOSITS:

A large portion of the property is covered by deposits of placer gold, fed from ledges on the property and from the five surrounding gold mines. Over a thousand feet of work, consisting of shafts and tunnels, has been done on these placers, proving that operations will be very profitable when the groups are placed on a large producing basis.

According to the estimates of store and saloon-keepers who purchased this gold, over \$100,000 has been taken from these placer beds by dry panning (Mexican) and the ground has hardly been scratched. The principal efforts being directed toward finding nuggets; the fine gold being lost by the crude methods used. The Company has located a dam site in a canyon in the mountains, four miles from the property, which is almost a reservoir, only needing a comparatively small amount of work to give a large water supply for placer operations.

shaft down. It is estimated that over a million dollars of rich gold ore was picked during its early days of development and production. Two years ago, this group was bought by Eastern capitalists and a great many permanent improvements made--but for some reason which I am not familiar--the group was closed down and watchmen placed in charge.

Adjoining on the South is the King of Arizona Mine, which has been operated continuously for 14 years as a close corporation. This mine has produced millions. It is noteworthy to add that this mine has paid about 200% in dividends on its entire capitalization.

Adjoining on the South is also the Amivisca Group, a gold prospect; and to the Southeast, the Katy Ross, and on the East, the M. & M. group. All have opened up good gold values and rich ore; and made some very high grade shipments. And on the West, the Ironwood group, while still in the prospect stage, has also made some valuable shipments of gold ore.

We are, therefore, surrounded by five producing properties; two of which (on the North and South) are well known as very rich mines.

With proven properties on five sides and the values the Company now has in sight, it is reasonable to expect that the Mutual Mining & Leasing Company will join the ranks of the big dividend payers in the no distant future.

Respectfully yours,

C.F. Hall

New York, July 1, 1915.

REPORT OF J.H. McMANAMAN, M.E., ON
THE MUTUAL MINING & LEASING CO.
SILVER-LEAD GROUP

After spending two days on the Company's property, will say that I consider it the best lead proposition I ever examined.

There are fifteen shafts, varying in depth from three to eighty feet, the vein running the entire length of the claim, estimated a little over a mile. Below I give you an itemized description of shafts and their depth and thickness of the veins:

| Shaft No. | 1 | Depth | 4 ft | Vein | Ft. | 14 In. |
|-----------|----|-------|------|------|-------------|--------|
| " " | 2 | " | 10 " | " | 4 " | 6 " |
| " " | 3 | " | 8 " | " | 5 " | 6 " |
| " " | 4 | " | 2 " | " | Just in ore | |
| " " | 5 | " | 18 " | " | 6 ft. | |
| " " | 6 | " | 20 " | " | 6 " | |
| " " | 7 | " | 6 " | " | 2 " | |
| " " | 8 | " | 80 " | " | 4 " | 6 in |
| " " | 9 | " | 10 " | " | 4 " | 6 " |
| " " | 10 | " | 6 " | " | 5 " | |
| " " | 11 | " | 6 " | " | 5 " | |
| " " | 12 | " | 60 " | " | 5 " | |
| " " | 13 | " | 15 " | " | 5 " | |
| " " | 14 | " | 3 " | " | Just in ore | |
| " " | 15 | " | 3 " | " | " | " " |

You have from 225,000 to 250,000 tons ore in sight which will average from 10 to 15%. In this connection will say that the present prices in the Joplin district, where we have dirt that pays us 3% we can make expenses, or at 5% we can make money, and so on.

There is more ore in this claim than the most modern machinery can take out in fifteen years.

Very truly yours,

JAS. H. McMANAMAN

Note: Mr. McManaman who made the above examination, is a twenty-year lead specialist. There has been considerable additional work done on the property since his report.

CASTLE DOME MINING AND MILLING COMPANY

Robert De Luce, Manager.

Dome, Yuma County, Arizona.

Mr. C.F. Hall,
Polaris, Arizona.

Dear Sir:

In accordance with your desire that I submit your plans for a concentrating mill for your lead mines near Polaris, Arizona, I made a trip especially for the purpose, a few days ago, and looked over the ground and examined the ore on the dumps and in the vein exposed by the various shafts and drifts. I found that the ore was uniformly of a character that is ideal for concentrating purposes. It consists mainly of galena disseminated through a calcite and fluorite gangue. This material is very soft and easily crushed, in fact, rolls will have about four times the tonnage capacity on that class of ore, this above what the usual quartz ore yields. That is to say, if you had a crushing plant similar to your neighbors, the North Star and the King, you could handle four times as much tonnage.

A further advantage that your ore possesses is that minerals contained have much large differences of specific gravity that they are easily separated by the usual concentrating devices.

A brief outline of the mill required would be as follows: Suitable ore bins of 250 tons capacity, one Blake ore crusher, say 15 x 9 jaw opening, 2 standard rolls 19 x 30, one Hancock jig, four double compartment Hartz jigs for finishing work, 2 standard concentrating tables, 2 elevators, screens, belts, shafting, pulleys, according to blue prints.

For power plant one distillate engine of 150 normal horse power would be found satisfactory.

Such a plant as mentioned above would have an actual capacity of at least 200 tons of ore per 24 hours; only a trifling percentage of your ore would need to be ground finer than would pass a 4 mesh screen. Hence large capacity mentioned above. If you wish I will forward you complete plan and specifications for the mill.

After a thorough examination of your property, I can guarantee that the mill I recommend above will do the work as represented; furthermore, you need not hesitate about putting up a mill of that capacity, as you have enough ore in sight now to run such a mill for two years at least, with such good prospects or more with future developments, that I would venture to predict that twenty years would still see your mill running with proper management.

There should be no difficulty with a properly designed mill in treating your ore for 75 cents a ton, so that with the silver contents the same as they are on the surface, and the present price of lead ore carrying 5% of lead would pay to mine and concentrate your ore ought to mill over 20% of lead.

I have handled that class of ore for the last 10 years and my experience with the same gives me confidence in recommending the above style of mill.

Yours truly,
(Signed) ROBERT DE LUCE

Portland Maine.

To the Mutual Mining and Leasing Company of Arizona.

Gentlemen: This is to certify that I, J.L. Cummings, of Portland, Maine, in the month of April of this year, visited and carefully examined your Company's property and holdings at Polaris, Arizona, and after an inspection of the same I was so well pleased with what I found that I not only purchased a good block of stock myself for personal investment, but am recommending the purchase of this stock to my friends and relations. In my judgment, this company's prospects for speedy and permanent dividends are especially bright.

Yours truly, J.L. CUMMINGS.

RECORDING REQU. BY

AND WHEN RECORDED MAIL TO

Name JEANNETTE YVONNE GLENN
Street Address 1870 E 16th St (L-215)
City & State Newport Beach California 92663

File
AMC never heard of these

(SPACE FOR RECORDER'S USE)

PROOF OF ANNUAL LABOR

STATE OF ARIZONA
COUNTY OF Yuma } ss.

BEFORE ME, personally appeared Jeannette Yvonne Glenn

(Please print name in full)

who, being duly sworn, says: My current mailing address is 1870 E 16th St (L-215 Apt.,)

(Number, Street, City, State, Zip Code Number)

Newport Beach, Calif. 92663, my current residence is 1870 E 16th St (L-215) Newport Beach California 92663

(Number, Street, City, State, Zip Code Number)

Certain labor and/or improvements required by law were performed or made on or for the benefit of the following mining claim(s), (which together comprise a group of contiguous claims) located in Quartzsite Township Yuma County, New Water & Plomosa Mts. ARIZ. in the mining assessment work year ending on September 1, 19____, as follows:

| Name of Claim(s) (in full) | Mining Records | | MICROFILM | |
|----------------------------|-----------------------|----------------------|-----------|--------|
| | Original Location | Last Amendment | Book | Page |
| ROB ROY MINE | Book _____ Page _____ | Book 1163 Page 682-3 | | #12253 |
| R & R BROTHERS MINE | Book _____ Page _____ | Book 1162 Page 25-27 | | #11452 |

LABOR AND IMPROVEMENTS. Specify (for example, state depth of shaft sunk; feet of tunnel, drift, adit or crosscut driven; size of exploration cut of trench; or refer to separate document, filed as required by PL 876, describing geological, geochemical or geophysical survey). Give value for each item and dates on which, or periods of time within which the same was performed or made; and total value.

Semi-quantitative Spectrographic Analysis of Ore Samples from above Mines. (GEOCHEMICAL ANALYSIS included).

The total fair and reasonable value thereof was \$ 185.00 & \$125.00, and the amount and value thereof on or for the benefit of each claim was \$100 or more. The name and address of the person who performed the labor or made the improvements, as known to me, was: Reed Engineering - 2166 College Ave., Costa Mesa, Calif 92627 April 3, 1980 and completed by September 1981

The owner(s) of the mining claim(s) (is) (are):

| Name | Current Mailing Address | Current Residence Address |
|-----------------------|--|---------------------------|
| Jeannette Y. Glenn | 1870 E 16th St (L-215) Newport Beach, Calif 92663 (same) | |
| Richard D. Duncan | 9903 Channel Dr., Olympia, Wash 98502 (same) | |
| Yvonne Elaine Clift | 8435 Winding Way, Fair Oaks, Calif., 95628 (same) | |
| Antoinette L. Espland | 9687 Benevente St., San Diego, Calif 92129 (same) | |
| Margaret M. Rondeau | 8921 Driftwood St., Riverside, Calif 92503 | |

All monuments required by law to have been erected, and all notices required by law have been posted, on each claim or copies of such notices were in place on the claim on (date) May 13, 1980 from March 1980, also on that date each corner monument bore or contained marking sufficient to designate the corner of the mining claim to which it pertained and the name of the claim.

The above listed claim(s) is (are) held and claimed by the owner(s) or the undersigned (if he is entitled to possession thereof) for the valuable mineral contained therein.

Subscribed and Sworn to before me

Jeannette Yvonne Glenn
(Signature)

26 day of 1981

Notary Public in and for said State

KING OF ARIZONA

April 26, 1979

Samples taken
by H. Mason Coggin
of Col & Van Loo and
Glenn Miller of
DMR

Sample No. 1

① The best I could find in a tub full of selected material from a small cut or a vein at the top of flag pole hill southwest of new house, about 100' N 50 E of Glory hole vein bears N 57 W, flag pole bears N 45 W SW corner of house bears N 85 E.

Rob Roy

← should be 0+50E

② Sample No. 3+00 5' chip channel in andesite prophyry at most a conglomerate andesite.

③ Raise 3+00 to 3+05 about 35' with 75° dip toward north in vein material.

④ Sample No. 2+75 E 5' chip sample as before in andesite braccia with some $\text{CaCO}_3 + \text{FeO}$.

5 Sample No. 2+50 E 5' chip sample as before with some black CaCO_3 veinlets and hematite.

6 Sample No. 2+25 E 5' chip sample as before in more broken material with CaCO_3 stringers.

7 Sample No. 2+00 E same as before but highly crushed.

8 Sample No. 1+75 E same as before.

9 Sample N. 1+50 E 5' chip sample.

10 Sample No. 1+25 E as before

11 Sample 1-00 E as before

increasingly more CaCO_3 veinlets about 1/2" or so parallel and fairly coarse with the main fissure. Red limonite on joints and coming in stronger going to Sta. 0+00.

12 Sample No. 0+75 E as before.

13 Sample No. 0+25 E well defined vein material about 30" wide mined to surface about 75 to 100.

14 Sample No. 0+25 W as before vein faint.

15 Sample No. 0+48 W as before vein faint.

16 Gordons best, I asked one of the men on the property to fill a sack with his choice of specimen.

Calculate reserve on basis of 100' of backs less 10% for mining.

Winze at Sta. 0 +15 W to depth of 75'± at 70-75° dip to south follows vein. No samples If chip channels on 25' c/c/ provide viable 2nd phase sampling at 5' c/c



King of Arizona

Rob Roy

Continued

page 2

required with chipping hammer and channel cut.

Openings require little support, also some cross fissuring with black CaCO_3 vein filling. Color may be due to mud and may be after rain pulse of Au mineralization since no recovery problems were encountered in the KOFA.

