



CONTACT INFORMATION
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3550 N. Central Ave, 2nd floor
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inquiries@azgs.az.gov

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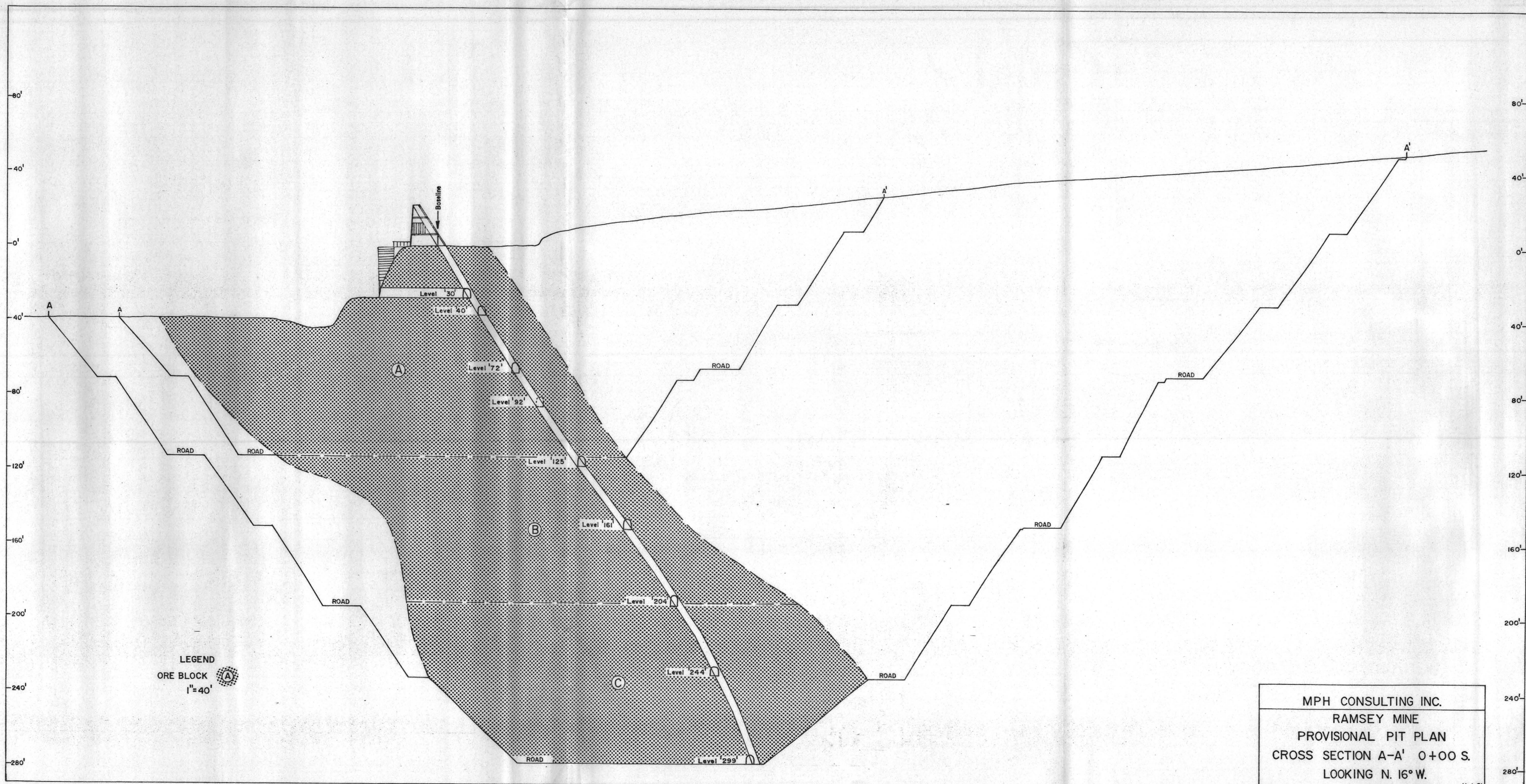
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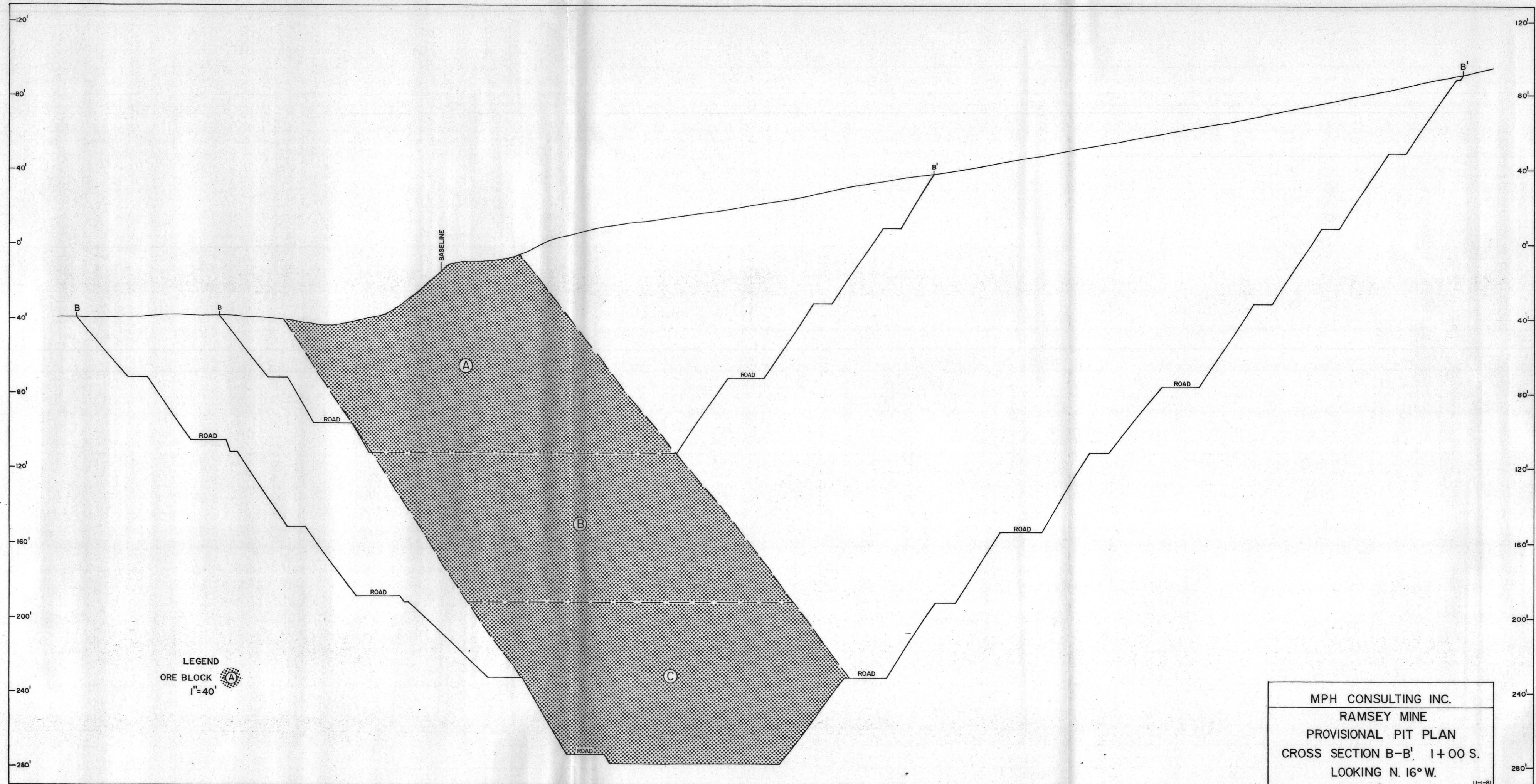
QUALITY STATEMENT

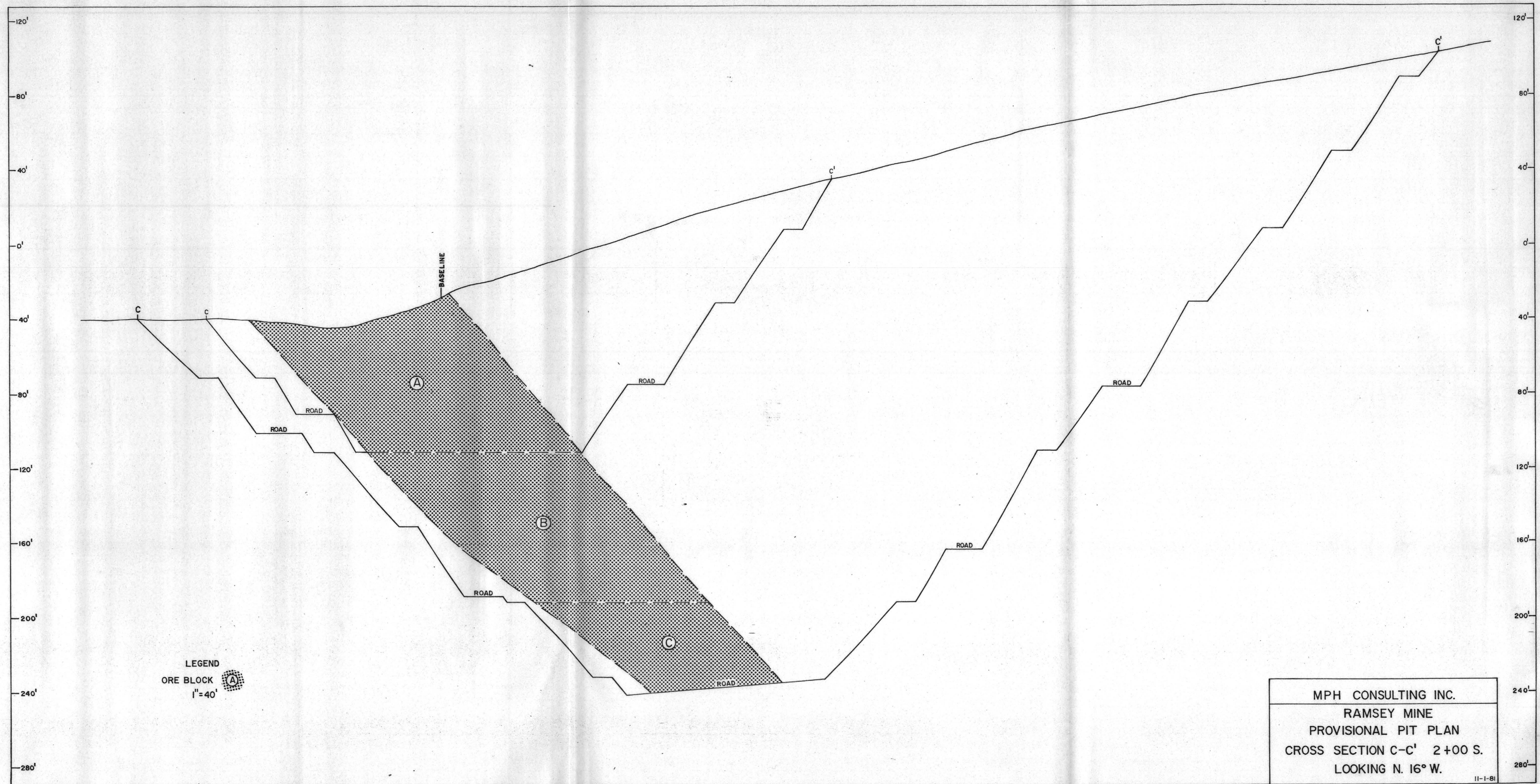
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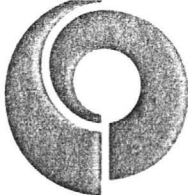


LEGEND
ORE BLOCK (A)
1"=40'

MPH CONSULTING INC.
RAMSEY MINE
PROVISIONAL PIT PLAN
CROSS SECTION A-A' 0+00 S.
LOOKING N. 16° W.
11-1-81







One of the NICOR
basic energy companies

NICOR MINERAL VENTURES

2659-G Pan American Freeway, N.E.

Albuquerque, New Mexico 87107

Phone 505 344 7803

April 12, 1984

Mr. John B. Hite
Exploration Ventures Co., Inc.
Suite B, North 9516 Division St.
Spokane, Washington 99218

Dear Mr. Hite,

Paul Taylor has forwarded for my evaluation the information you sent to him regarding the Ramsey Mine, La Paz County, Arizona. You have done an excellent job compiling the older information and defining drill targets.

Based on the information presented to us it appears that the Ramsey Mine potential is probably too small to be of interest to NICOR Mineral Ventures. The property may be attractive to a smaller company. Thank you for bringing this property to NICOR for our evaluation and the best of luck in your continued work with the property.

Sincerely yours,

Gary A. Parkison
District Geologist

cc: Paul Taylor

4/10/84

2:1 strip, one

60% recov. Ave grade ~ 2%T

\$2.50/tn

$$= 3 \text{ tons} \times 2.50 = \$7.50$$

effect. min. cost = \$7.50

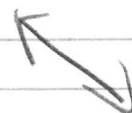
milling cost = 3.50

\$11.00/T.

G&A, etc.

2.00

\$13.00/T



$$2\%T \times 16 = 1.2\%T \text{ recov.} \times \$10.00/\text{a} = \$12.00$$

Probably not too attractive, assuming this is as good as it gets, as you believe the is not unverified assay data for the underground drill holes, most of which are below lowest level of proposed pit. ^(all)

prob. too small for NIUB, but could be attractive for smaller outfit. Have done a good job compiling data and defining drill targets.

Re: RAMSEY SILVER MINE, Brenda, Arizona
Status and Plans

Property is being transferred under a lease from International Resource Development Corporation, Cleveland. IRD holds a lease from the owners, Ramsey Mine Property Partnership of Tucson, Arizona.

Terms of Present Lease:

- A. Lease - one year
- B. Royalty - 10% gross
- C. Royalty payments deductible from purchase price
- D. Purchase price: \$2,000,000 with residual royalty of 5% of gross

Terms of E.D. BLACK CONSULTING Lease, Under Negotiation:

- A. Lease - 5-10 years
- B. Royalty - 3% gross at \$9/oz. Ag, plus 0.25% gross per \$1/oz. Ag above \$9/oz Ag
- C. Royalty payments deductible from purchase price
- D. Purchase price: \$2,000,000 with no residual override to owners

We will continue to negotiate the foregoing E.D. BLACK CONSULTING terms. Project advances of approximately \$150,000 have been made by E.D. BLACK CONSULTING and BONN ENERGY CORPORATION.

We recommend a \$300,000 exploration, drilling, testing and feasibility program over 1981-1982 "winter", in anticipation of improving silver prices. Initially, a \$50,000 to \$100,000 drilling and sampling program should take place from now to December 31, 1981.

We suggest a deal whereby "Buyer" can earn an initial 40% working interest and 40% NRI by expending \$300,000 on exploration, testing and feasibility plus repayment to BONN ENERGY CORPORATION-E.D. BLACK CONSULTING of \$50,000 partial advances to the project. A 50% WI and NRI is available to "Buyer" for a commitment to develop the property and payout of the final BONN-EDB CONSULTING \$100,000 project advances. BONN ENERGY-EDB CONSULTING would consider some repayment in free trading securities at an appropriate discount.

PROPOSAL:

<u>PHASE</u>	<u>SCHEDULE</u>	<u>PROJECT</u>	<u>BUYER'S CASH PAYMENT</u>	<u>BUYER'S WORK COMMITMENT</u>	<u>BUYER'S EARNED INTEREST</u>
I	Oct-Dec'81	Exploration Drilling	\$ 12,500	\$ 100,000	-Option-
II	Jan-Mar'82	Open Pit Reserves Drilling	12,500	100,000	- 20% -
III	Apr-Jun'82	Testing & Feasibility	25,000	100,000	- 40% -
IV	Jun-Dec'82	Design & Development	100,000	50% Capitalization	- 50% -

ALTERNATES TO PHASE IV:

IV-a	Jun-Dec'82	Design & Development	250,000	75% Capitalization	- 75% -
IV-b	Jun-Dec'82	Design & Development	250,000	95% Capitalization	- 95% -

E.D. Black,
President-E.D. BLACK CONSULTING

PT
APR - 9 1984

EXPLORATION VENTURES COMPANY, INC.

Suite B, North 9516 Division Street
Spokane, Washington 99218
(509) 489-6763

April 5, 1984

Mr. Paul S. Taylor
Vice President
NICOR, Inc.
Suite 4200
4949 South Syracuse
Denver, Colorado 80237

Dear Mr. Taylor:

Enclosed is our recently completed 1:1200 scale geologic map to accompany the Ramsey mine report. After you have had time to complete your review I would appreciate it if you could call me and we can discuss your conclusions.

I look forward to hearing from you at your earliest convenience.

Sincerely,


John B. Hite

JBH:dh

Enclosure

SANDY:

SEND TO GARY



GARY PAUL WANTS YOU TO
WRITE TO HITE CONCERNING
OUR INTEREST/OR LACK OF IT
IN THIS PROPERTY AND
LIST PAUL AS A CC
ON THE LETTER. THANKS,
SANDY

EXPLORATION VENTURES COMPANY, INC.

Suite B, North 9516 Division Street
Spokane, Washington 99218
(509) 489-6763

March 28, 1984

Mr. Paul S. Taylor, Vice President
Nicor, Inc.
Suite 4200
4949 South Syracuse
Denver, Colorado 80237

Dear Mr. Taylor:

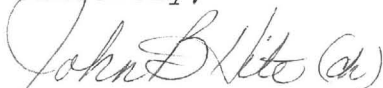
Enclosed are copies of our preliminary studies on the Ramsey Mine, La Paz County, Arizona.

The Ramsey mine represents a significant silver project worthy of an immediate exploration and development program. Underground longhole drilling of previously unexplored footwall sedimentary rocks reveals a broad zone of disseminated or stockwork silver mineralization amenable to bulk mining methods. This drilling indicates a probable tonnage of + 1.5 million tons grading about 3.0 ounces silver per ton. Check samples by EXVENCO show values ranging from 1.0 - 150 oz silver per ton within this target. The target is open-ended to the north, south, and at depth.

We are seeking a venture partner to participate in continuing exploration of the Ramsey project. An approximate expenditure of \$1,000,000 will earn a 50 percent interest in the property. Our 1984 program is estimated to cost about \$200,000.

If this project is of further interest please contact us at your earliest convenience and we will supply additional backup data and can negotiate an agreement which will satisfy our mutual needs.

Sincerely,



John B. Hite
JBH:dh

Enclosures

GARY:

I DON'T THINK THIS IS
OF ANY INTEREST. TOO MANY
UNKNOWN FOR WHAT THEY
ARE ASKING (+) THE BIG PAYMENTS
COMING UP. YOUR GUYS MAY
WANT TO REVIEW THE DATA.
PLEASE LET HITE KNOW
IF WE WANT TO PURSUE THIS
ANY FURTHER



SANDY!

APR - 9 1984

SAND TO GARY

EXPLORATION VENTURE

Suite B, North 9516 Division Street
Spokane, Washington 99218
(509) 489-6763

Paul

GARY/PAUL WANTS YOU TO
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PLEASE LET HITE KNOW
IF WE WANT TO PURSUE THIS
ANY FURTHER



E X V E N C O

Ramsey Project

La Paz County, Arizona

1984

Exploration Ventures Co., Inc.
N. 9516-B Division Street
Spokane, Washington 99218
(509) 489-6763

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RAMSEY MINE
La Paz County, Arizona

Summary and Recommendations

The Ramsey property comprises two patented and four unpatented mining claims. The underlying lease-option calls for \$1,000 per month lease payments beginning in 1985; a four year, \$375,000 cumulative work obligation; a 10% NSR Royalty; and a \$2,000,000 purchase price, less all prior royalty payments.

The area is underlain by Jurassic limestone, shale, arkosic quartzite, and conglomerate intruded by Cretaceous (?) dacite dikes and one small dacite plug. These rocks are overlain to the north by Tertiary rhyolite flows. The Ramsey vein occupies the faulted and brecciated contact between the Jurassic rocks and the rhyolite. The Creosote vein, a parallel structure, lies 500 feet to the northeast, hosted solely by rhyolite.

Underground drilling on the 184 and 299 levels of the Ramsey vein (Table 1 and Figure 3) outlines a zone 200 feet wide by 300 feet long averaging about 3.0 ounces silver per ton. This zone represents a probable 1.5 million ton deposit amenable to an open pit-heap leach mining plan. Mineralization is open at both ends and at depth. The total target potential may be as much as 10 million tons of similar grade.

Fire assay check sampling by EXVENCO (Table 2) verifies that mineable widths and grades extend beyond the limits of development. Two samples at the bottom of the parallel Creosote vein also show mineable values.

EXVENCO is seeking a joint venture partner to explore and develop the property. Our proposal calls for \$40,000 annual lease payments to us over the next three years; a minimum annual work obligation of \$100,000, excess amounts may be applied to subsequent years; and a total expenditure of \$1,000,000 to earn a 50 percent interest.

Our proposed exploration program for 1984 is to complete the surface mapping at a scale of 1:1200, carry out extensive trenching along the strike of the vein, and follow up with 5,000 feet of reverse-circulation rotary drilling. The total program including option payments is budgeted to cost about \$200,000.

Location and Access

The Ramsey mine is located in portions of sections 1, 2, and 12, T. 3 N., R. 17 W. S.R.M. (unsurveyed), La Paz County, Arizona. La Paz is a new county composed of what formerly was the north half of Yuma County, the new county seat is at Parker, Arizona. The project area is located 39 miles east of Blythe, California and about 106 miles west of Phoenix. Figures 1 and 2 show the location and access.

The mine is reached by turning south from U.S. Highway 60-70 one mile west of Brenda, a small hamlet, and following an improved dirt road 3.5 miles southwest to the property. The access road crosses U.S. Interstate Highway 10 several miles south of the turnoff but there is no access to I-10 at this overpass.

Property and Ownership

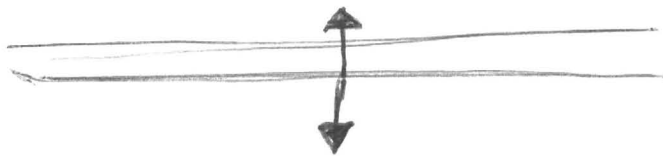
Property comprises two patented claims and four unpatented claims. The surrounding area has been withdrawn from mineral entry for study as an inclusion to the Kofa Game Range. This withdrawal does not impact the rights of operation on the present property but does preclude staking additional claims. It is extremely likely that in the event a commercial operation is established a land trade can be effected with the BLM to enlarge the scope of operations.

File

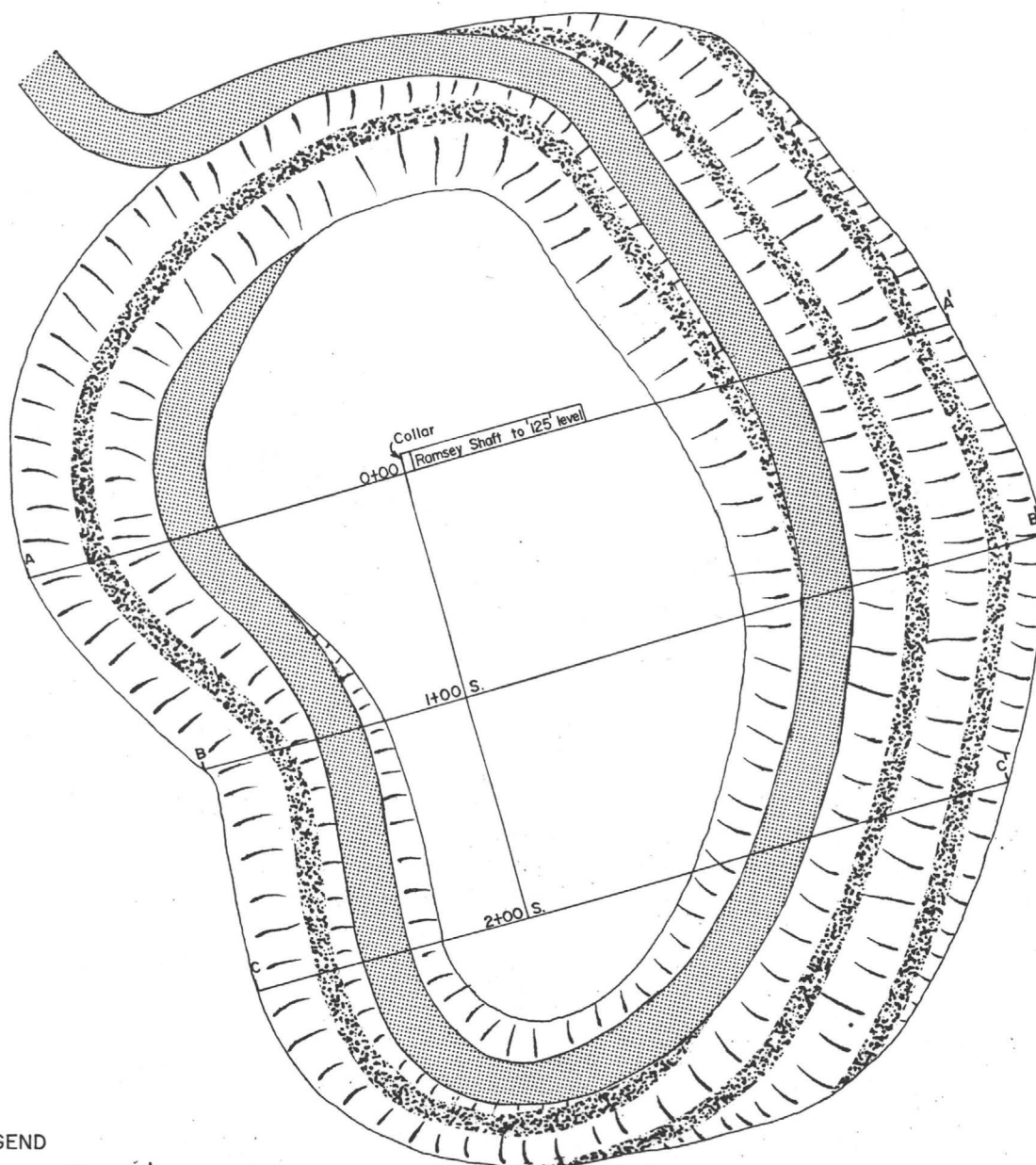
Ramsey Silver Mine

Yuma Co., Ariz

Plomosa Mining Dist



425



LEGEND

CROSS SECTION

MINE HAULAGE ROAD

BENCH BERM

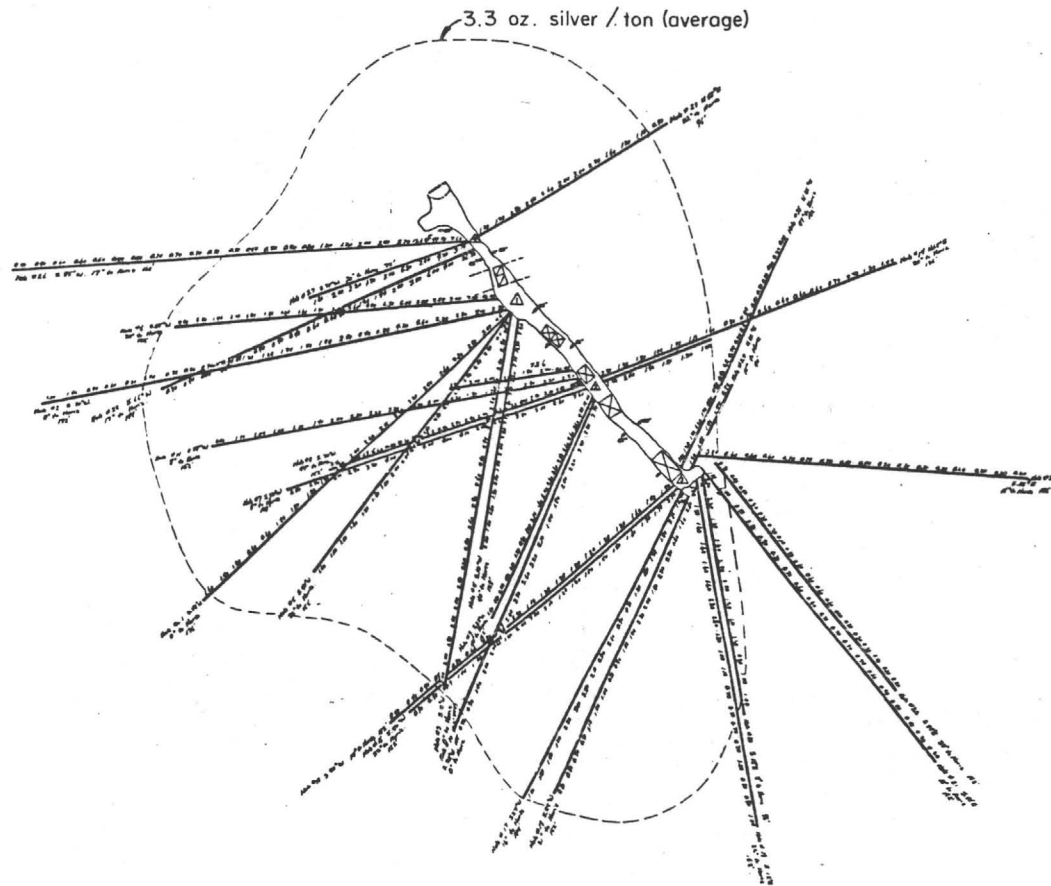
BENCH SLOPE

1" = 80'

MPH CONSULTING INC.

RAMSEY MINE

PROVISIONAL PIT PLAN

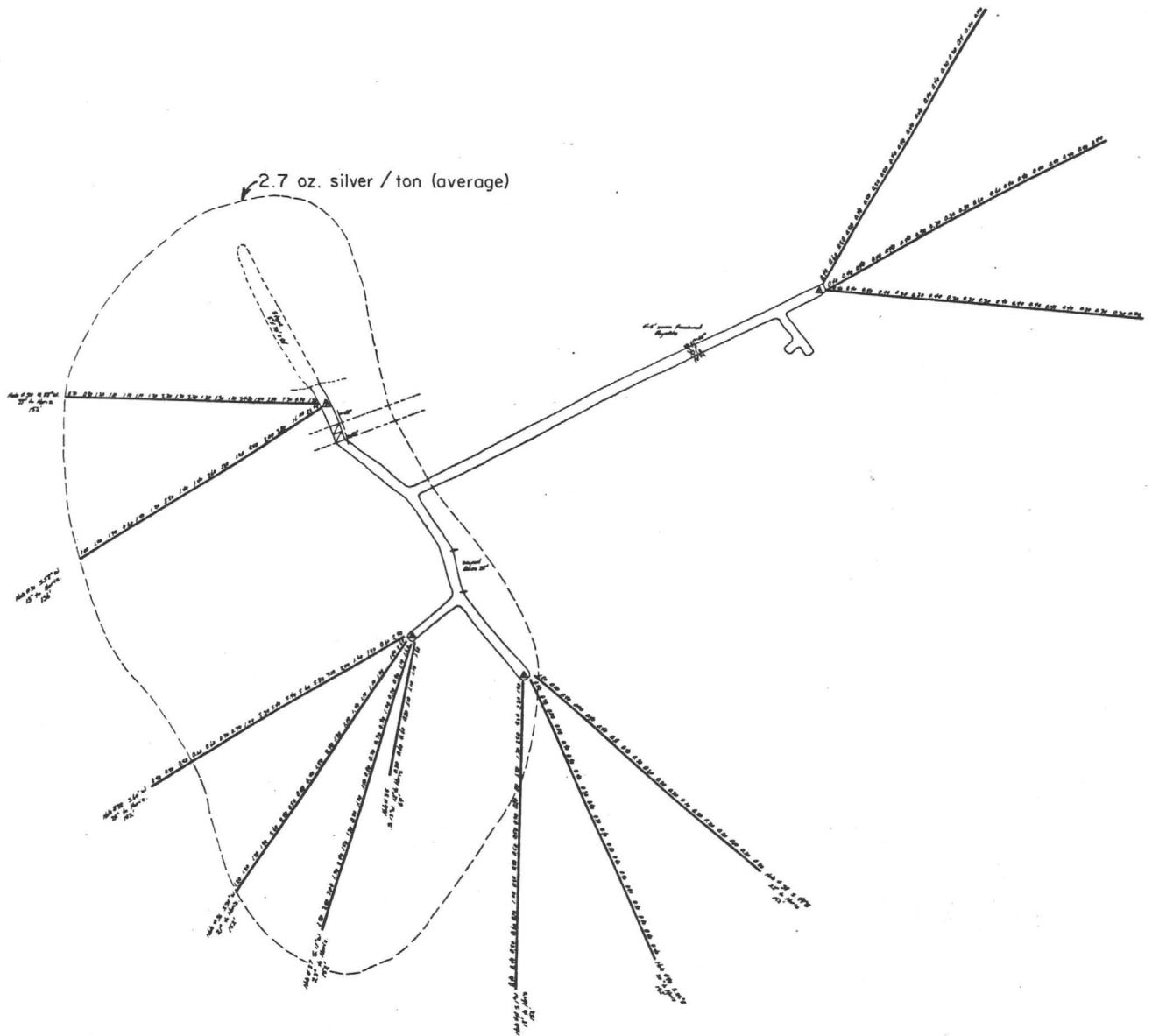


Scale 1" = 80'

MPH CONSULTING INC.

LONG HOLE DRILLING RESULTS
LEVEL '244'

11-1-81



Scale 1" = 80'

MPH CONSULTING INC.

LONG HOLE DRILLING RESULTS
LEVEL '161'

11-1-81



MPH Consulting Inc.
Domestic & International
Exploration & Mining Consultants

ERNIE BLACK

P.O. Box 644, 6559 E. Parker Road, Parker, CO, U.S.A. 80134
Office (303) 841-0139 Residence (303) 841-2053

Ramsey mine

Plomosa mining District
Yuma Co., Arizona

Just outside town of Boulder.

Originally found by Ramsey. Lead to Sunset
Constructors.

~1967 Pat Burney, underground mine, intersected
sulfate in large property.

Went underground & produced 21-1400 tons shipped
to Ispraite smelter @ Idaho

Shipped ~ 16 3/4
per shipments ~ 40 3/4.

Has been a small high grade zone.

All workings & all activity centered in
old Ramsey chute.

Inclined shaft ~ - 55°
Depth to ~ 500 ft to ~ 1500 ft below
to no water - dig to the bottom
then width ~ 8 ft in chute.

Ernie Olsen knew Pat Burney.

Former general partner in Sunset put a partnership
together.

Spring 1980 got a little recovery going

Dilling Dave in 1968.

- Dilling
- Agglomeration / pellets
- Leak test

~ 5,000 ft of air dilling almost gone to 150 ft
to a few holes to 300.

- Leach Pad @ ~ 100,000 tons/heap

- Use Shovel staker & no equipment on heap

- 5⁰⁰ to leach + 2⁵⁰ thru Pulling → 7⁵⁰ /
on ~~100,000~~ 100,000.

Leach live 3-3½ g

Recoverable in battery ~ 1 g per lb.

Agglomeration @ 2 g

Phylite or heavy wall
metasediments or foot wall (gizite)
Secondary silicification

Ex Sundt people are primary property holder
IRD has a lease

Black & Bad bought out IRD

Lease

- 3 yrs \bar{c} ~ 1 yr. to go
- 10% NSR i.e., 10% of gross
- Option to purchase for \$2M & take down to 5% gross override.
- Terms
 - trying to negotiate
 - 3% gross \bar{c} $\frac{1}{4}$ % for each dollar over $\frac{1}{4}$
- May have gone for 5 yrs

Conversation in January 1981.

Bonn financed originally
Patent applied for.

Avg. grade of 3-3 $\frac{1}{2}$ oz.
Acres good

No wells at the property
Closest area where wells have been
produced are @ Breder

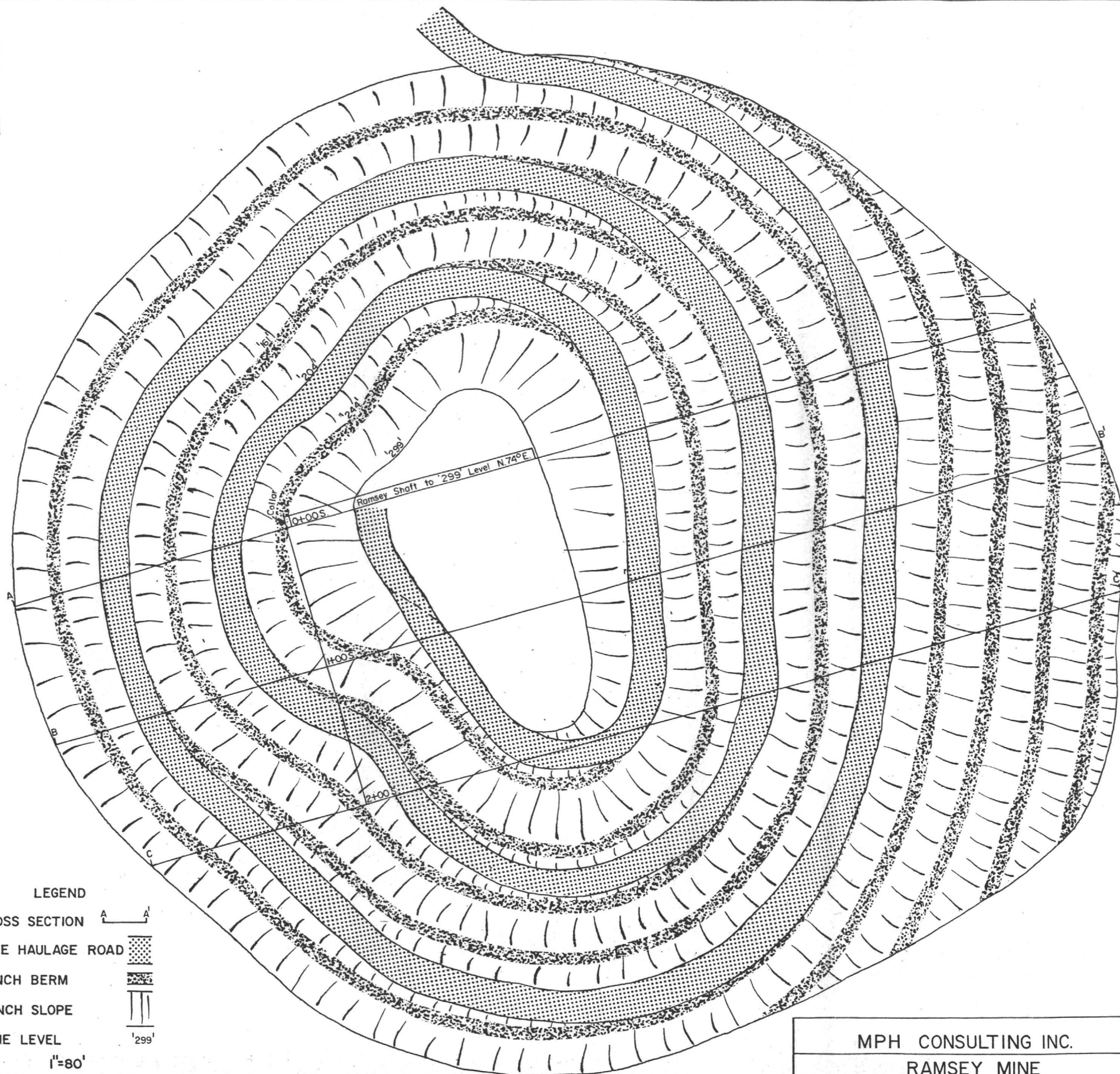
A well drilled to ~ 268' \bar{c} in 1,000
ft of property did not produce.

Deal from Block & Bonn

Staged cash after payments + work commitments
DeKalb's interest would increase to possibly
to 50/51% + Block & Bonn would
retain a working interest @ ~ 49%

~ \$300,000 exploration & test work to be
placed in \$100,000 blocks

10-20K { • 100,000 - prove reserves
↓ • test work or proved reserves
• proved reserves.



MPH CONSULTING INC.
RAMSEY MINE
PROVISIONAL PIT PLAN



MPH Consulting Inc.
Domestic & International
Exploration & Mining Consultants

ERNIE BLACK

P.O. Box 644, 6559 E. Parker Road, Parker, CO, U.S.A. 80134
Office (303) 841-0139 Residence (303) 841-2053

RAMSEY MINE

PROPOSED

SILVER LEACHING OPERATION

Denver, Colorado
August 1, 1981

E.D. BLACK, M.Sc., P.Eng.



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APPENDIX

"Heap Leaching is Small Miner's Golden
Opportunity"

SOCIETY OF MINING ENGINEERING
February, 1979



MAPS

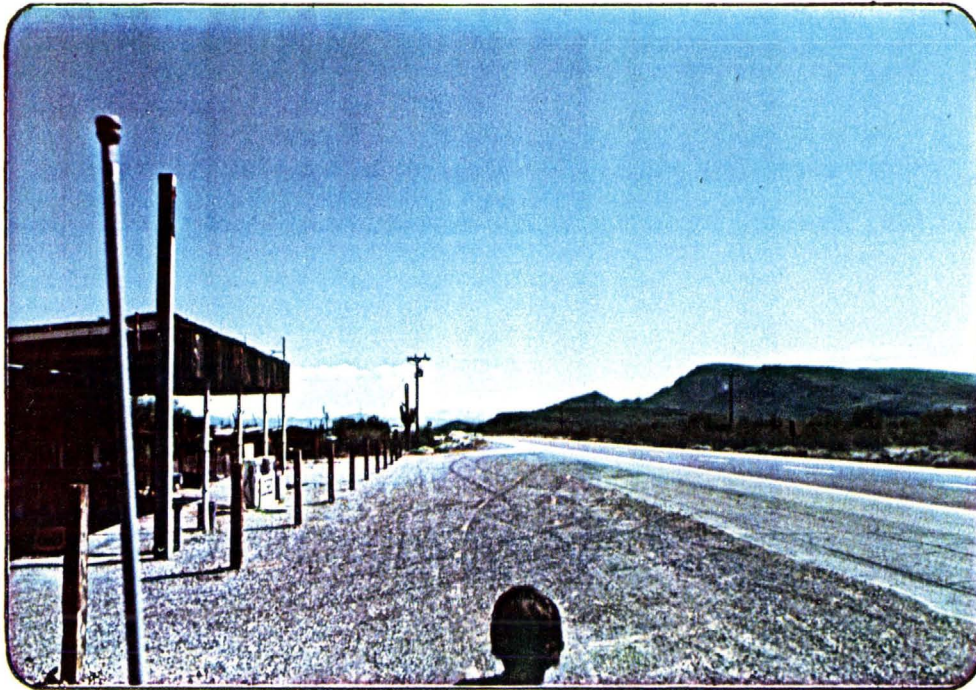
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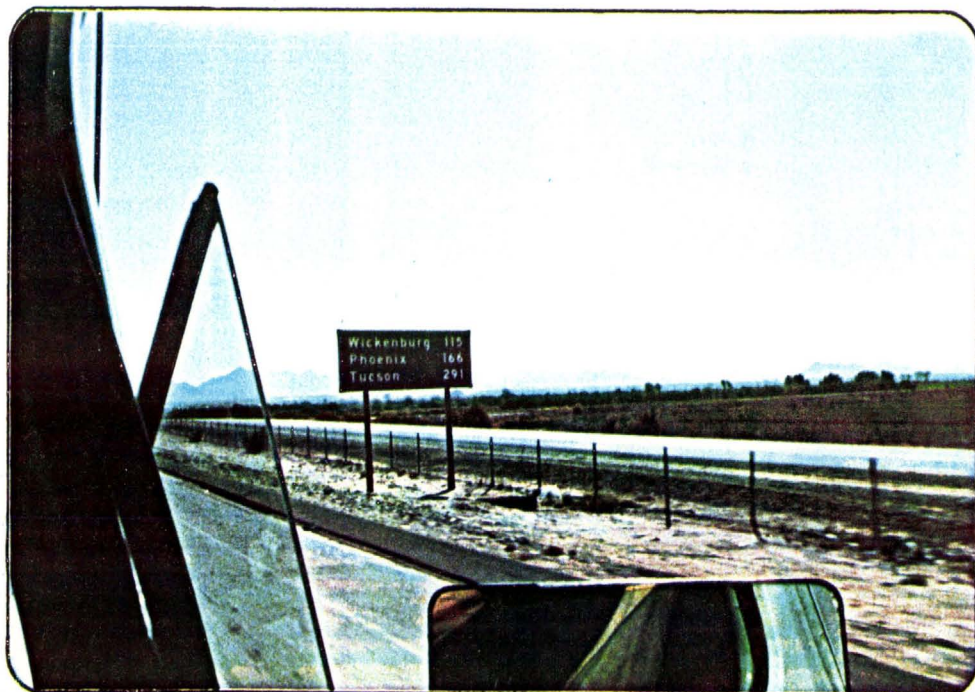
PHOTOGRAPHS



RAMSEY MINE



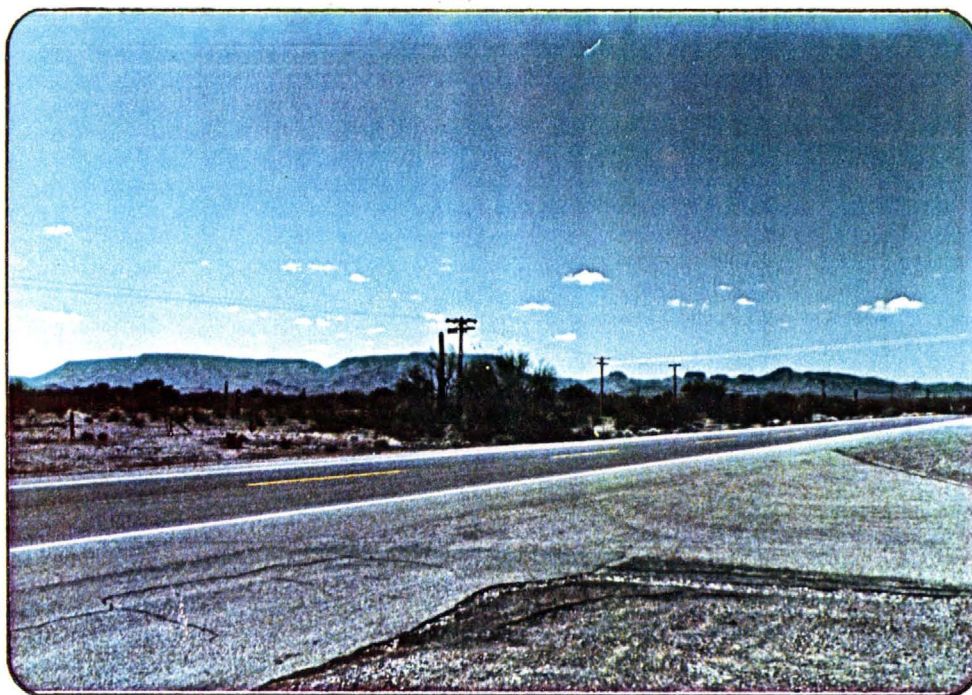
Ramsey truckstop, Highway 60-70



Milepost at Ramsey truckstop



RAMSEY MINE



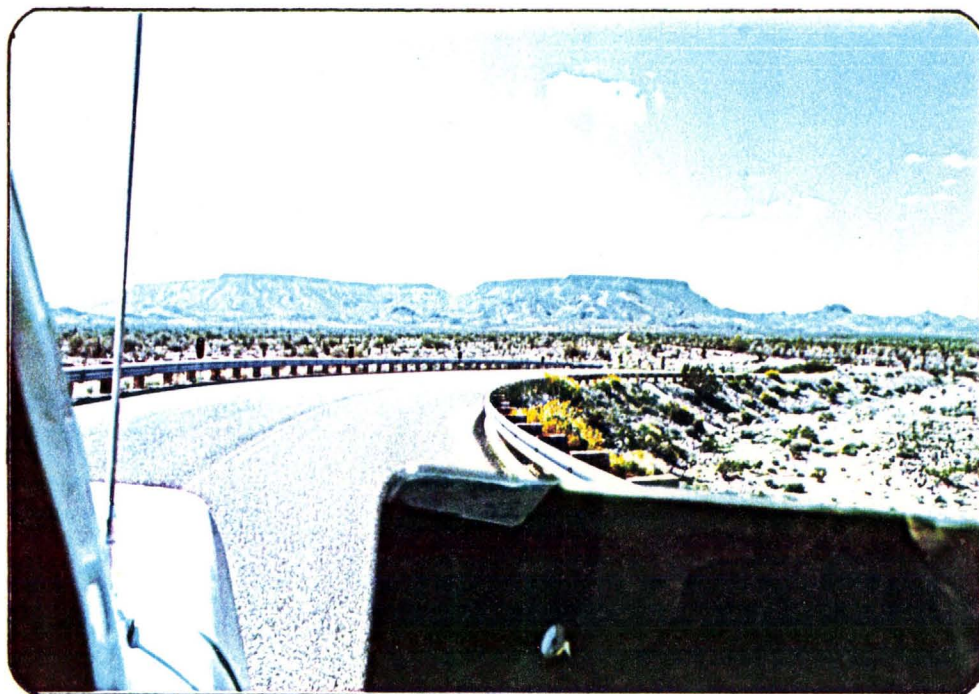
View of New Water Mountains
from Highway 60-70



Ramsey Mine road, access from
Highway 60-70



RAMSEY MINE



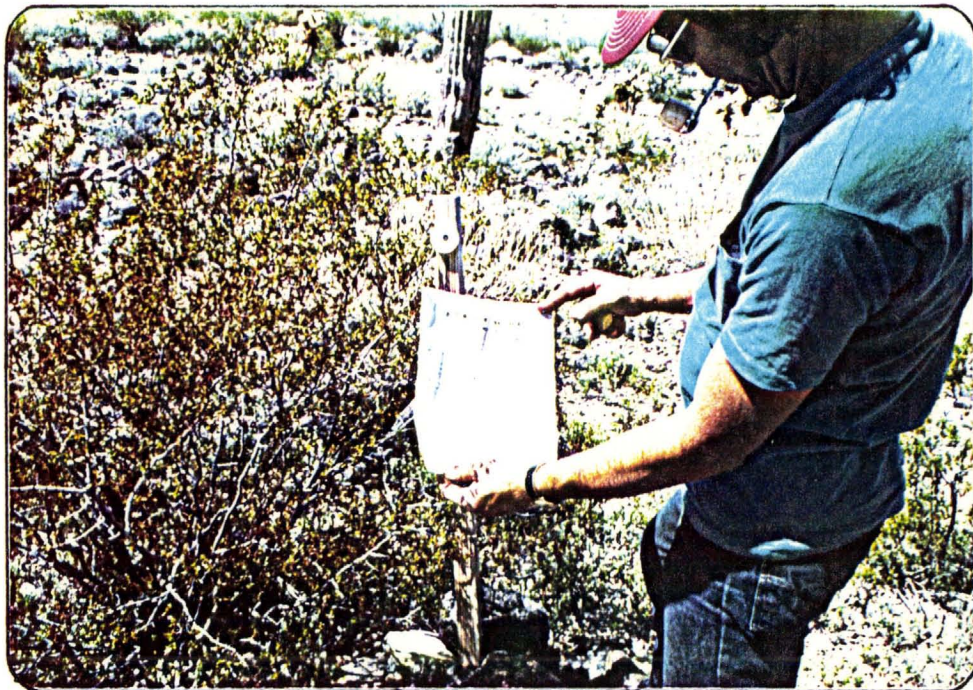
Minesite view from I-10 overpass



Mine access road



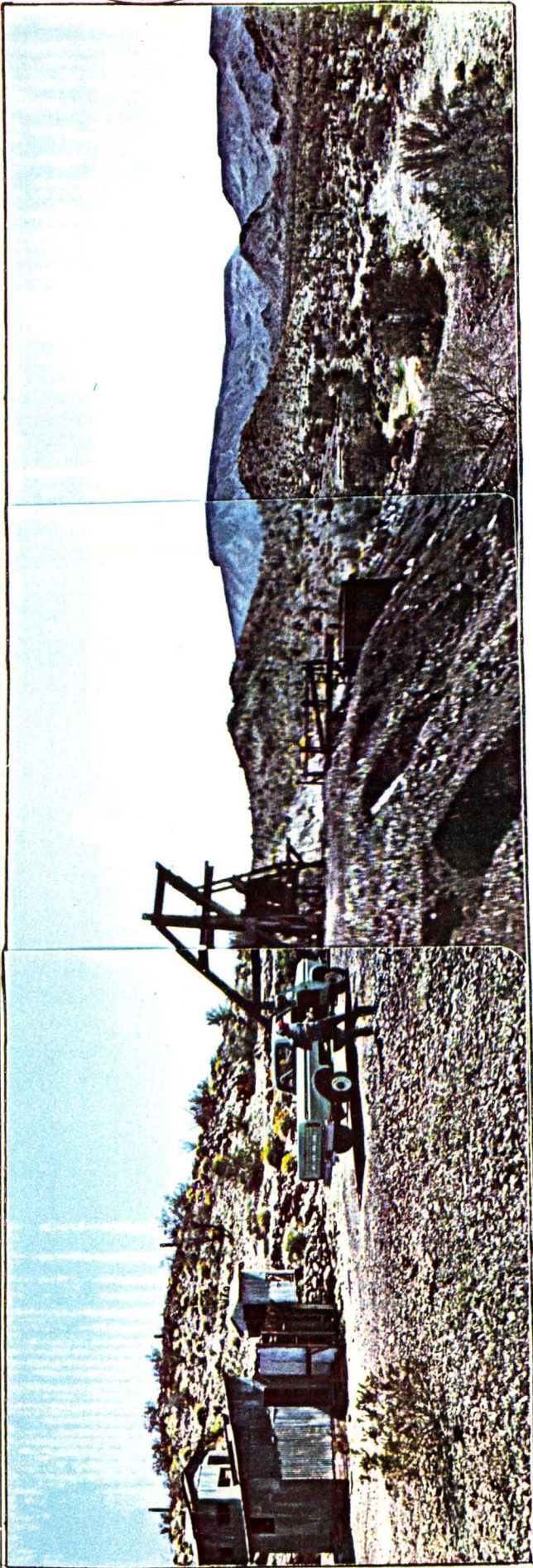
RAMSEY MINE



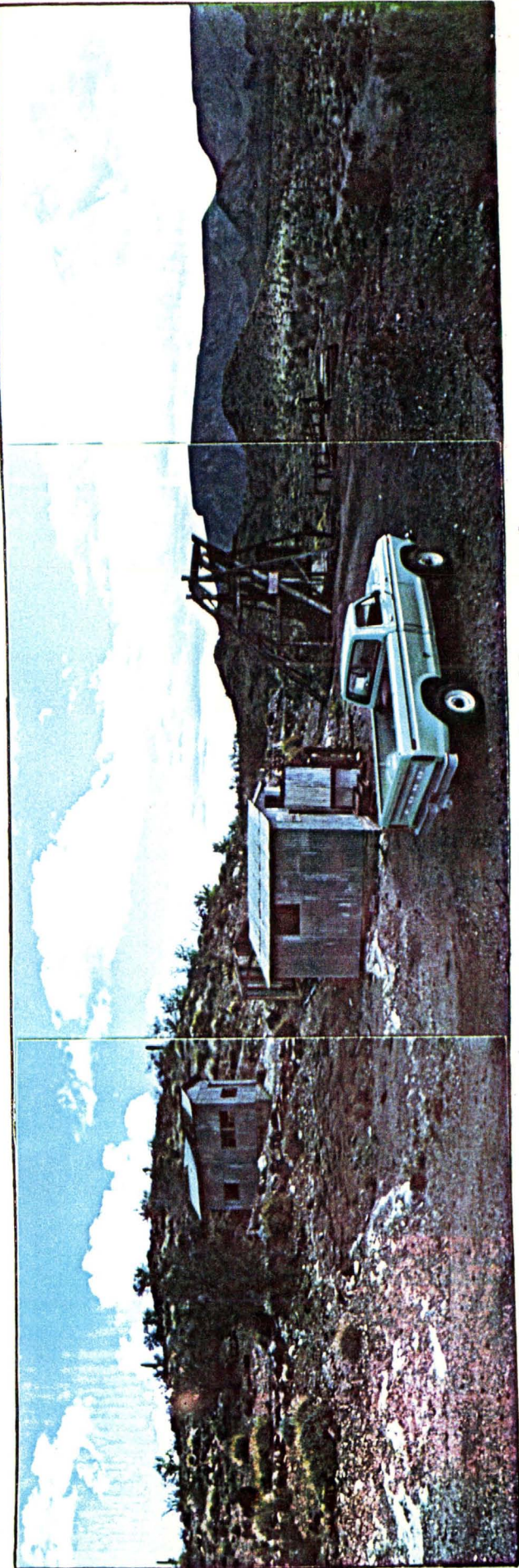
Claim corner post



Lower ore stockpile



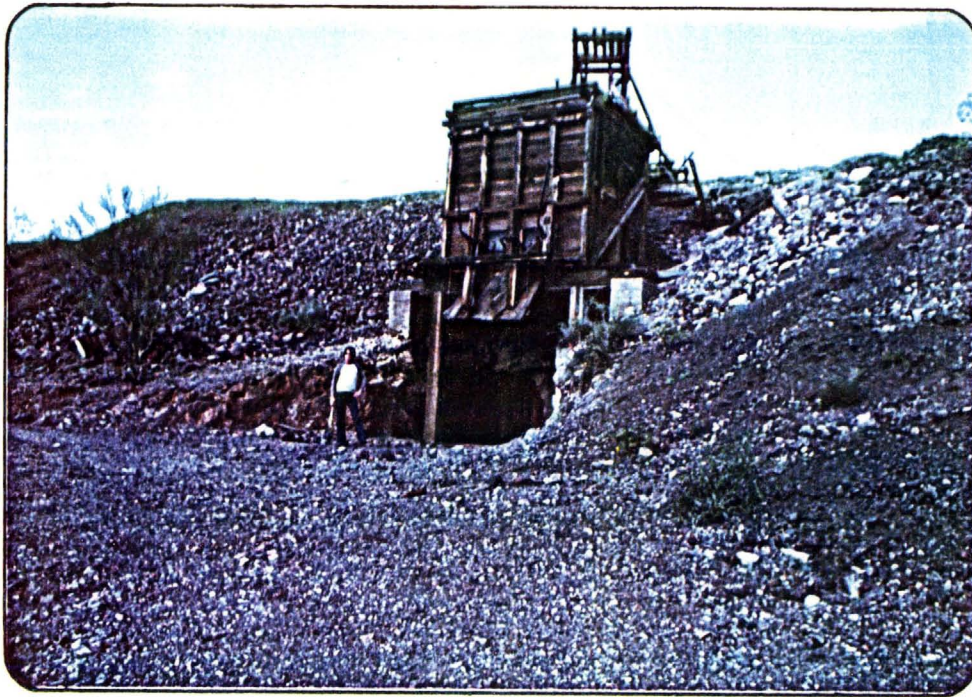
Minesite showing headframe, buildings and mine dumps



Minesite buildings, headframe and upper dump



RAMSEY MINE



View of upper dump, ore bin
and portal



Upper ore stockpile

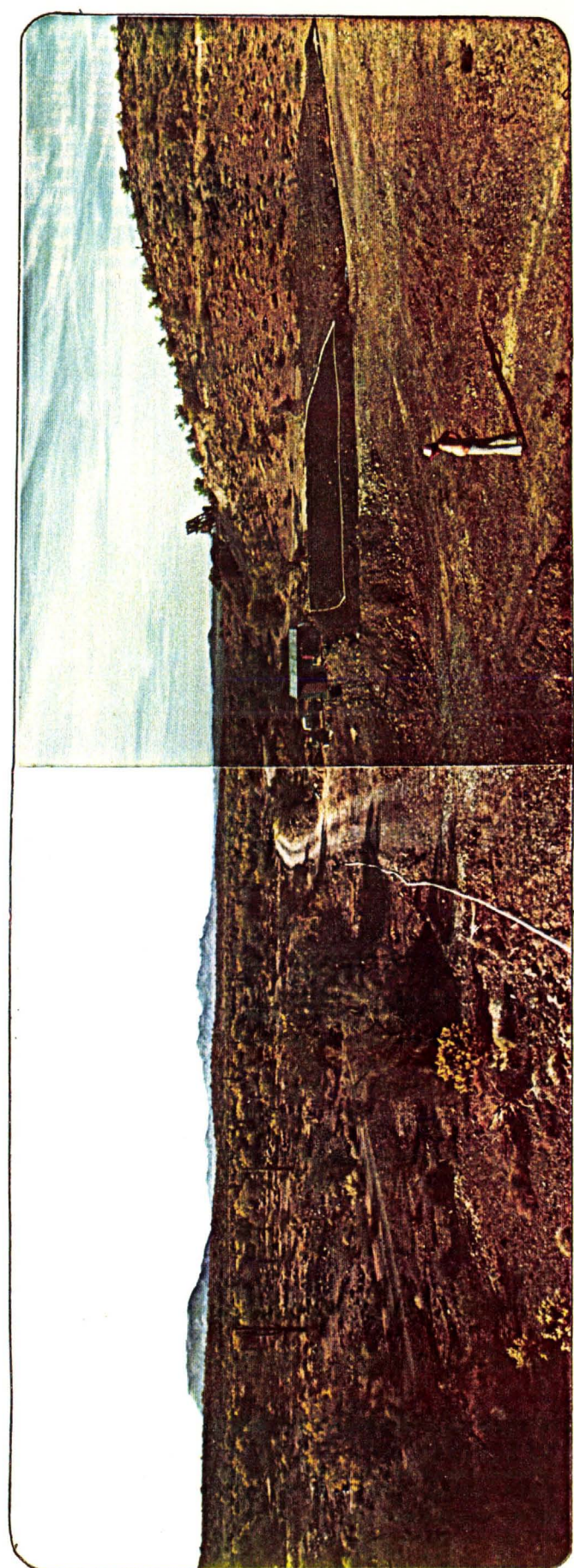


RAMSEY MINE



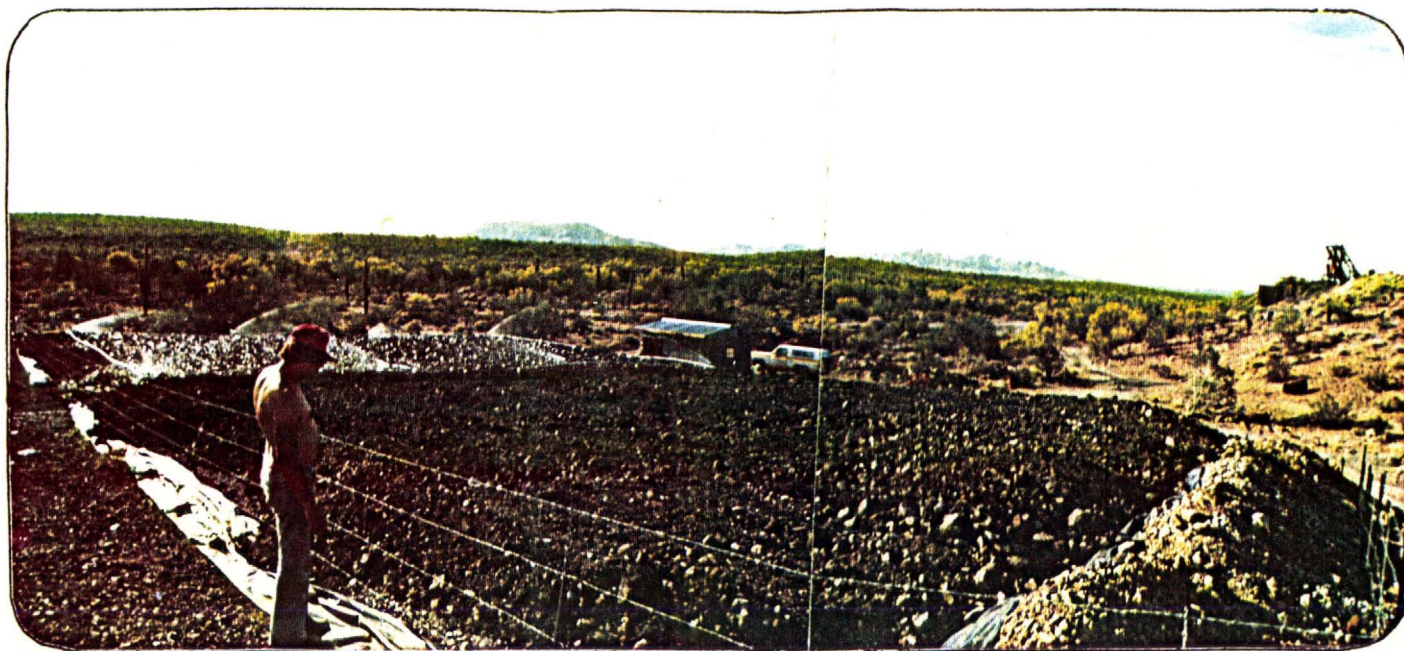
Loading the pad with ore

View of ore heap layout





RAMSEY MINE



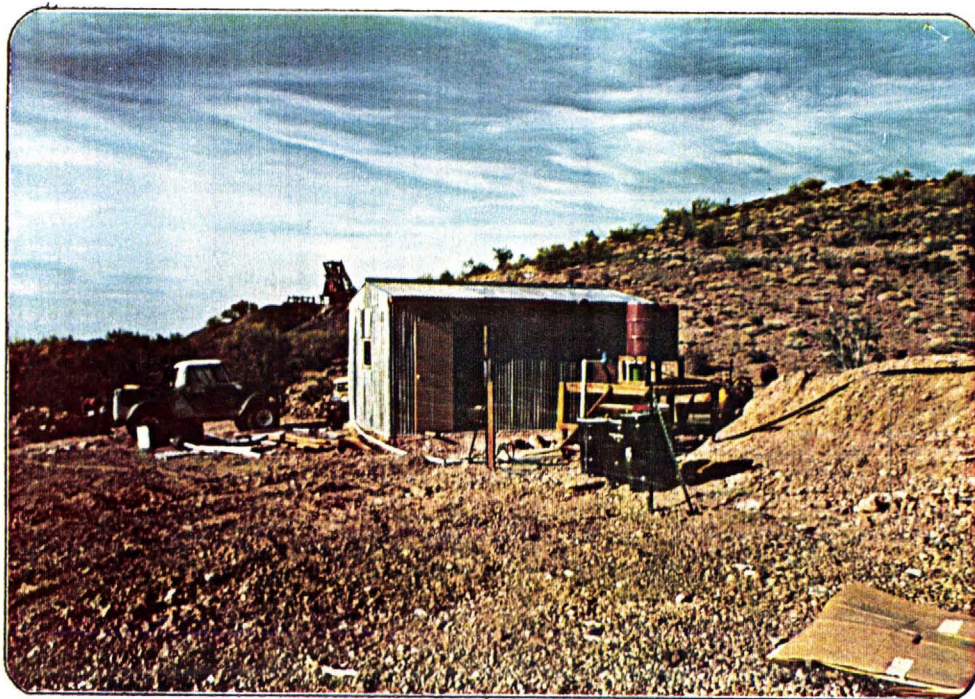
Sprinkling first pad



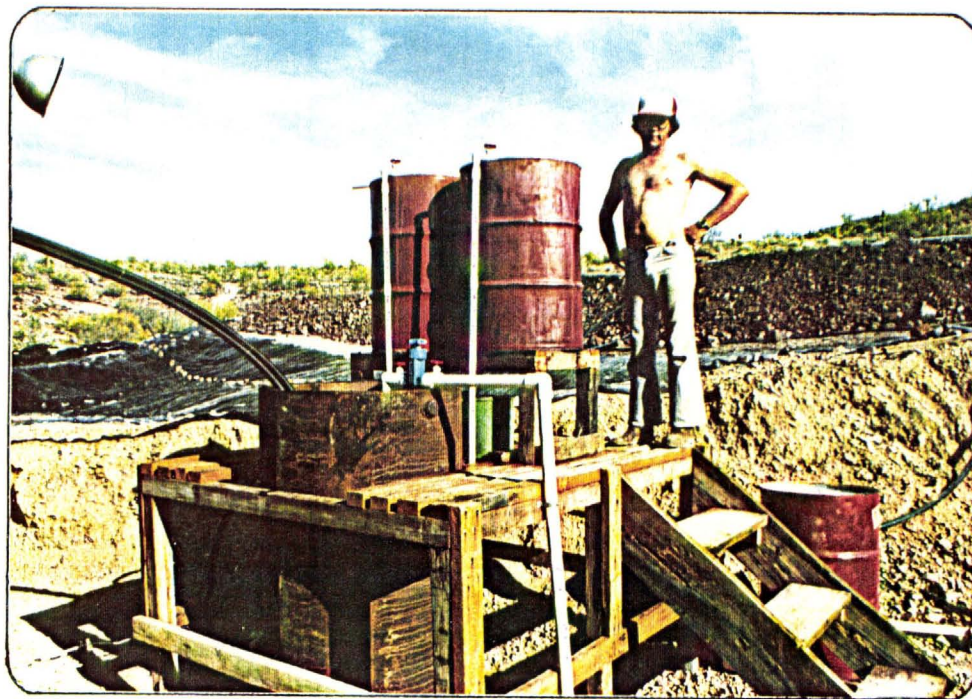
Pregnant Solution pond



RAMSEY MINE



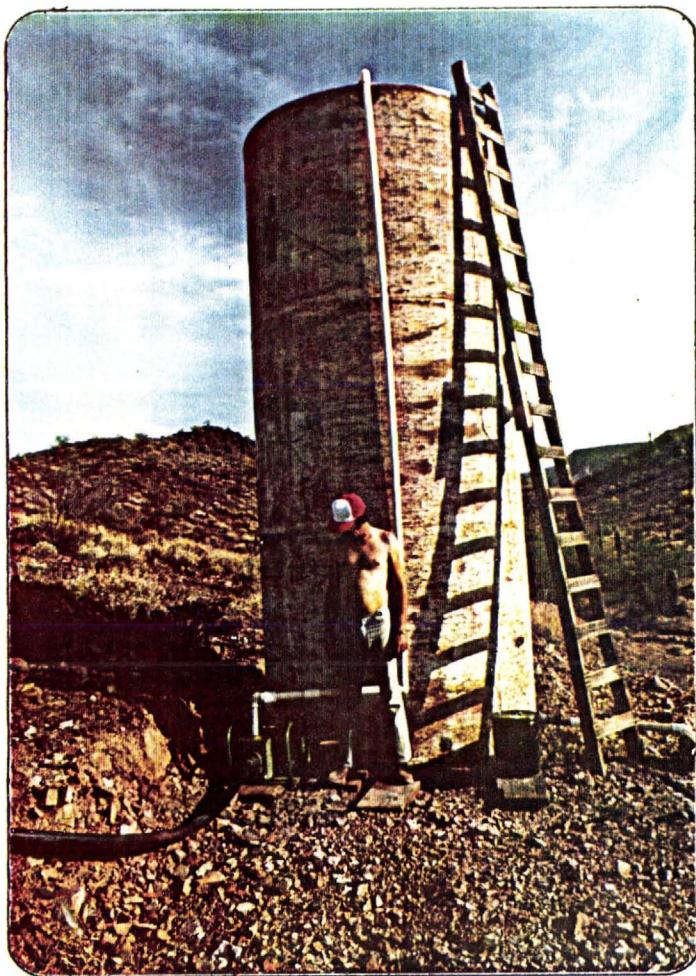
Plant building and chemical
mix tanks



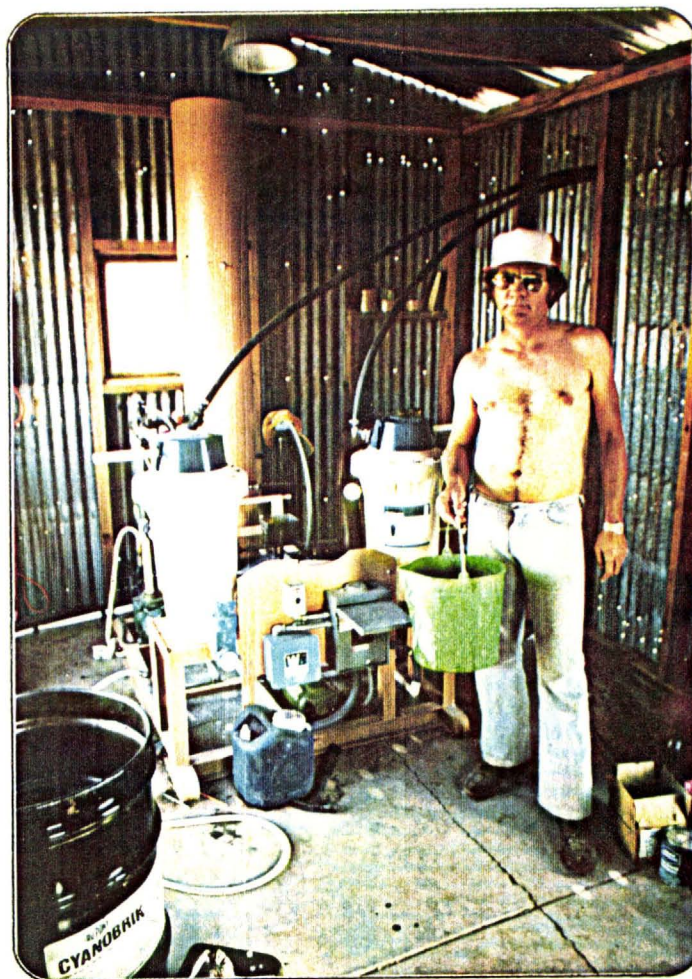
NaCN & Alkaline mix tank setup



RAMSEY MINE



Makeup water storage
tank (3750 gal.)

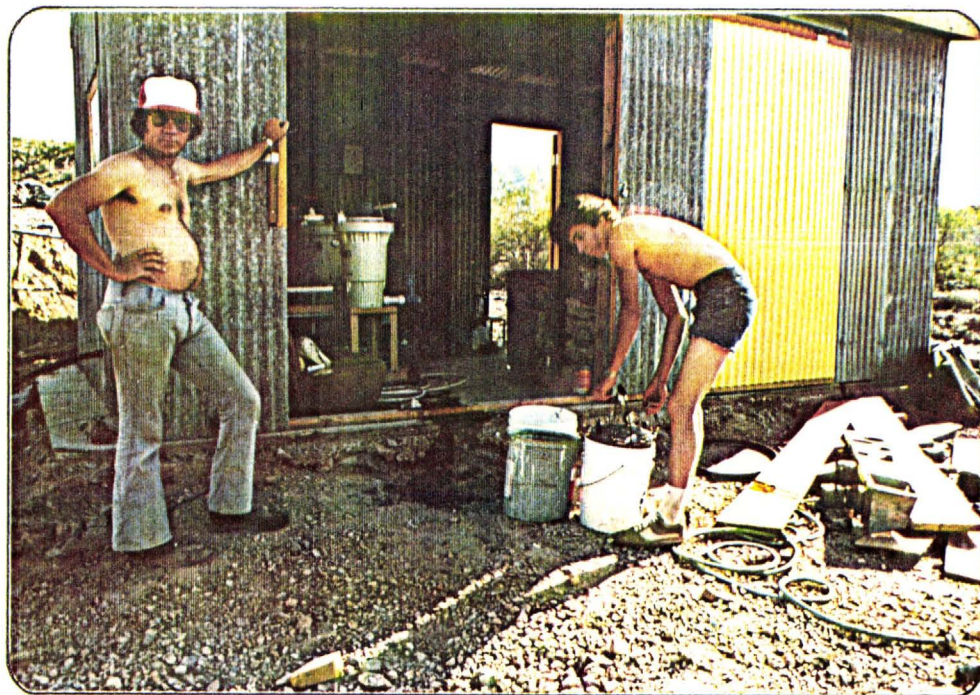


Precipitation Plant
(65 TPD)

RAMSEY MINE



Drying silver concentrates
("precipitates")



RAMSEY MINE

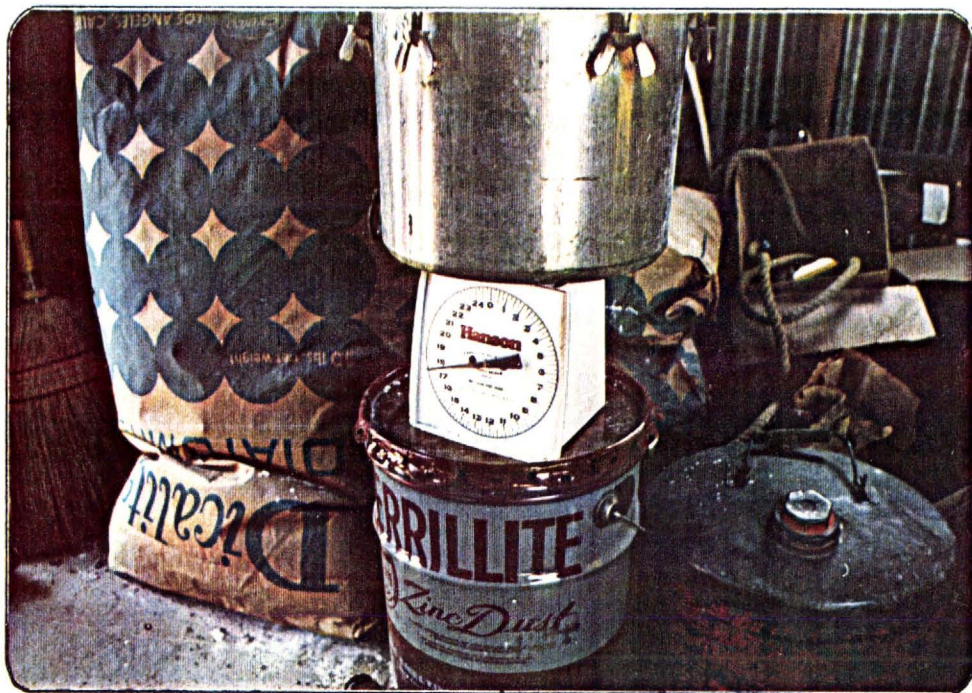


Dried precipitates





RAMSEY MINE



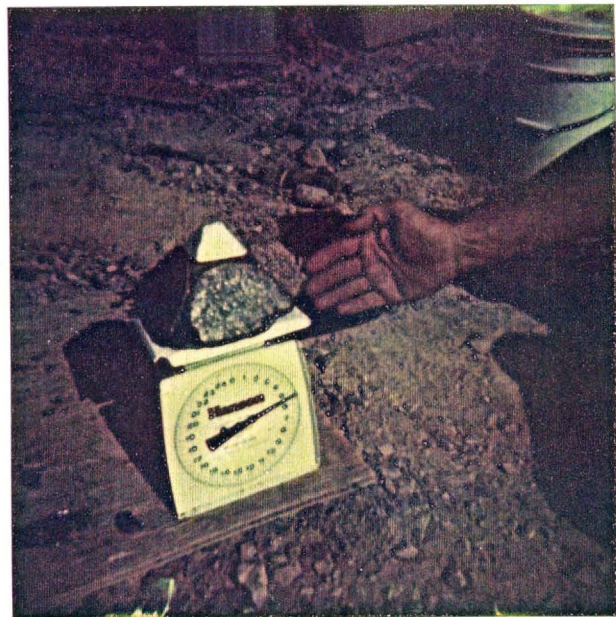
Weighing precipitates



Precips ready for smelting



SLAG SEPARATION CONE



BUTTON OF SILVER



SUMMARY

The Ramsey Property is situated in the Plomosa Mining District of Yuma County, Arizona. It lies four miles to the southwest of Brenda and sixteen miles east of Quartzite; two small Arizona townsites on U.S. Highway 60-70.

The minesite is accessible via a natural dirt road from Brenda. The access road passes over U.S. Interstate Highway 10 at a point two miles southwest of Highway 60-70. There is no road access to I-10 at the overpass.

Closest electrical power source is at Brenda and the closest railway is at Hope, Arizona, fifteen miles east of Brenda.

Because the climate is arid, vegetation is sparse and there is no water supply at the Property. For small scale operations, water has to be truck-hauled or piped to the minesite from wells at Brenda.

The mine is in a foothills area at the base of the New Water Mountains where local elevations range from 1,650 to 1,900 feet above sea level. The Ramsey shaft collar is at an elevation of approximately 1,700 feet above sea level.

The Property consists of six contiguous unpatented lode mining claims, originally located by John Ramsey, in 1921. These claims passed on to Ramsey's Estate when he died in 1960. The Property is currently controlled by a Tucson limited partnership, known as the Ramsey Mine Property Partnership.

The mine was first worked in the 1920's by John Ramsey and lease operated by others intermittently thereafter. Most recent production was carried out, in 1968, by M.M. Sundt Construction Company of Tucson.

Main mineralization at the Ramsey Mine is a N20W trending vein, three to fifteen feet wide, situated at a faulted rhyolite-sediment contact. The vein is in a complex fracture zone containing iron oxides, manganese oxides, barite and celestite. Vanadinite, wolframite and galena are reported as minor minerals. Silver is believed to be principally in the form of silver halides in the surface oxidized zone and argentite (Ag_2S) at depth.

The Ramsey Vein is underground developed to a depth of 528 feet. Workings on ten levels aggregate approximately 1,500 feet. Ore shipments to smelters varied from sixteen to fifty-one ounces of silver per ton.

A second parallel vein, known as the Creosote Vein, is situated approximately five hundred feet to the southeast of the Ramsey shaft. The Creosote shaft, mined to a depth of 157 feet below the surface, is no longer accessible. A surface sample across a twenty-inch face at the Creosote Vein reportedly contained 32.9 ounces of silver per ton. The Creosote stockpile is reported to have assayed 16.8 ounces per ton silver. Manganese oxides are more abundant at the Creosote and lead-silver runs about two percent combined. Mine dumps at the Creosote have not been assayed or tested.

Combined stockpiles and mine dumps at the Ramsey shaft are estimated to contain 4,200 tons of material averaging 3.5 ounces per ton silver.

Preliminary simulated heap leaching tests of the Ramsey stockpiles and mine dumps have indicated that this material lends itself readily to leaching with sodium cyanide solution. Approximately 2.25 ounces per ton silver were taken into solutions in twenty-four hours of test leaching on the dump material.

Based on the Ramsey reserve of stockpile and dump material, a pilot heap leaching operation was initiated at a rate of approximately



fifty fluid tons per day, over a six-month period. This pilot operation proved technically successful. However, development and tune-up costs were higher than anticipated and a drop in silver prices below the \$20.00 per ounce level brought a temporary halt to operations in August of 1980.

Results of underground long-hole drilling conducted in 1968, indicate a potential for open cut reserves of approximately 333,000 tons of possible "leaching ore", to a depth of 125 feet below surface, averaging approximately 2.5 ounces per ton silver. This material if proven could sustain a one-year operation at an estimated total investment cost of \$3,800,000 with a net return of approximately \$675,000, before taxes, based on \$12.00 per ounce silver; or, a net return of approximately \$1,700,000 at \$15.00 per ounce silver.

Exploration, drilling and test work, to prove up this possible 333,000 tons reserve and establish its leachability to at least a 50% recovery, is required to more accurately determine the profitability of an open cut mining and leaching operation. This work could establish feasibility and substantially lower the risk.

It is recommended that a phased \$300,000 exploration and testing program be carried out in anticipation of silver prices returning soon to above the \$12.00 per ounce level. The program should involve an initial \$100,000 drilling and testing project to block out the ore body; and, a follow up \$200,000 program to accurately define the open cut mining reserves, their leachability and development feasibility.



REPORT



INTRODUCTION

Recent very significant rises in the price of silver have made it worthwhile to consider the possibility of re-opening the old Ramsey silver mine. Unfortunately, however, mining costs have also risen very substantially and the likelihood that the Ramsey mine could be re-worked profitably as a conventional underground mine remains doubtful. On the other hand, serious consideration can be given to alternative development methods. This paper therefore examines the Ramsey mine development potential based on a cyanide heap leaching operation that would utilize the residual ore stockpiles, mine dumps and, possibly, shallow open cut or open pit operations.

The report covers the status of the property, an historical sketch and a review of the geology, mineralization, development and past production. Provisional plans, layouts and estimates for a cyanide leaching operation are included along with conclusions and recommendations.

Liberal use is made of existing geological maps, underground plans and cross-sections. A set of current colored photographs have been added to enhance the reader's understanding of the terrain and present minesite conditions.



PROPERTY

Location, Access and Physiography

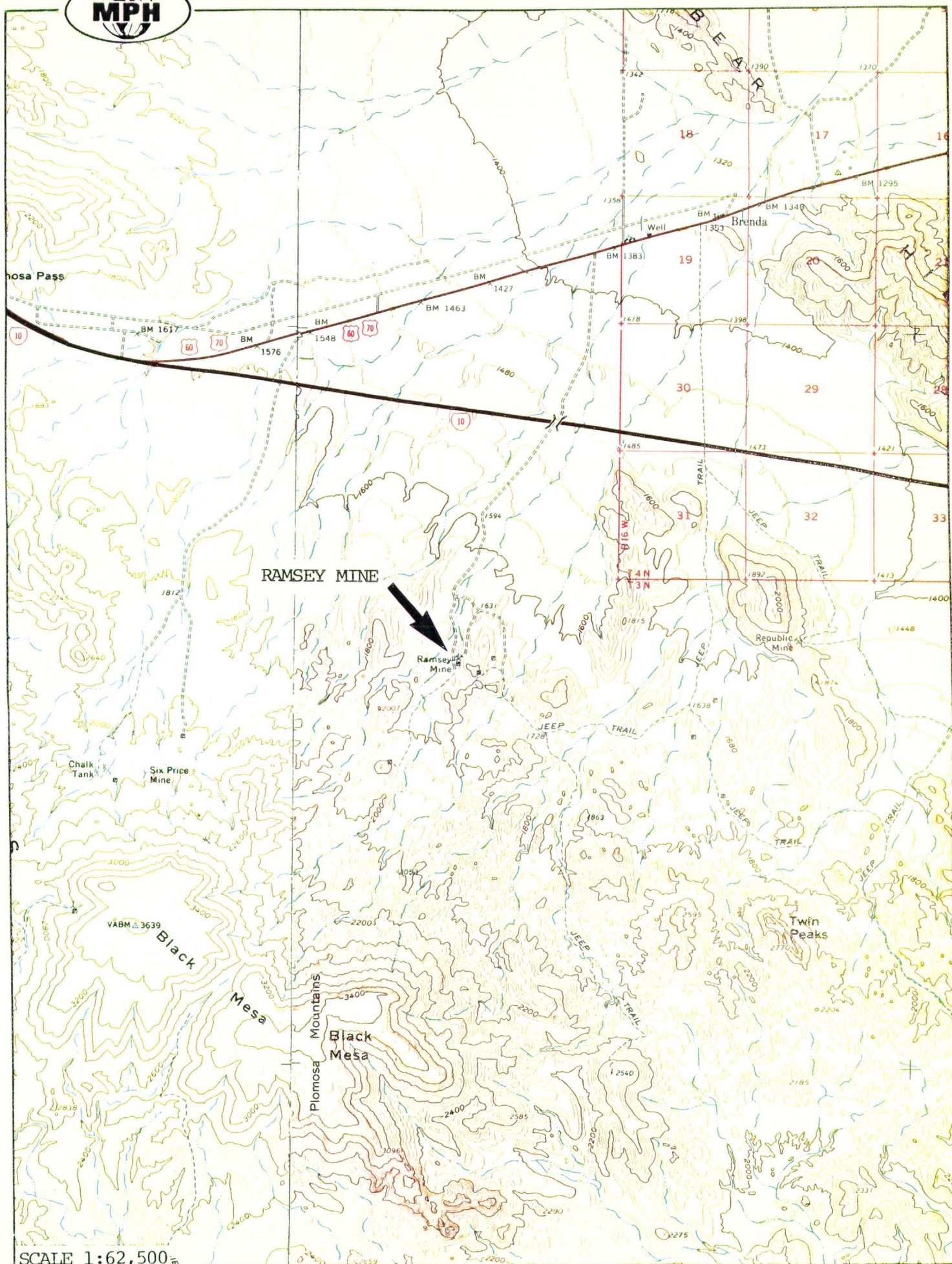
The Ramsey mine is located in Township No. 3, North, Range 15 West (unsurveyed) of Yuma County, Arizona.

The minesite is accessible by way of a natural dirt road leading southwest from Brenda, Arizona, a small settlement on U.S. Highway No. 60-70, at a point sixteen miles east of Quartzite, Arizona. The access road passes over U.S. Interstate No. 10, approximately two miles to the southwest of Brenda. There is no access to the mine roadway from the Interstate, at the overpass. (See Plate I).

The Ramsey mine lies in the foothills of the New Water Mountains and is situated in the Plomosa Mining District of Arizona.

Elevations in the vicinity of the mine property range from 1650 to 1900 feet above sea level.

The climate is arid and vegetation is sparse. There are no streams and no water producing wells near the property.



RAMSEY MINE - LOCATION MAP

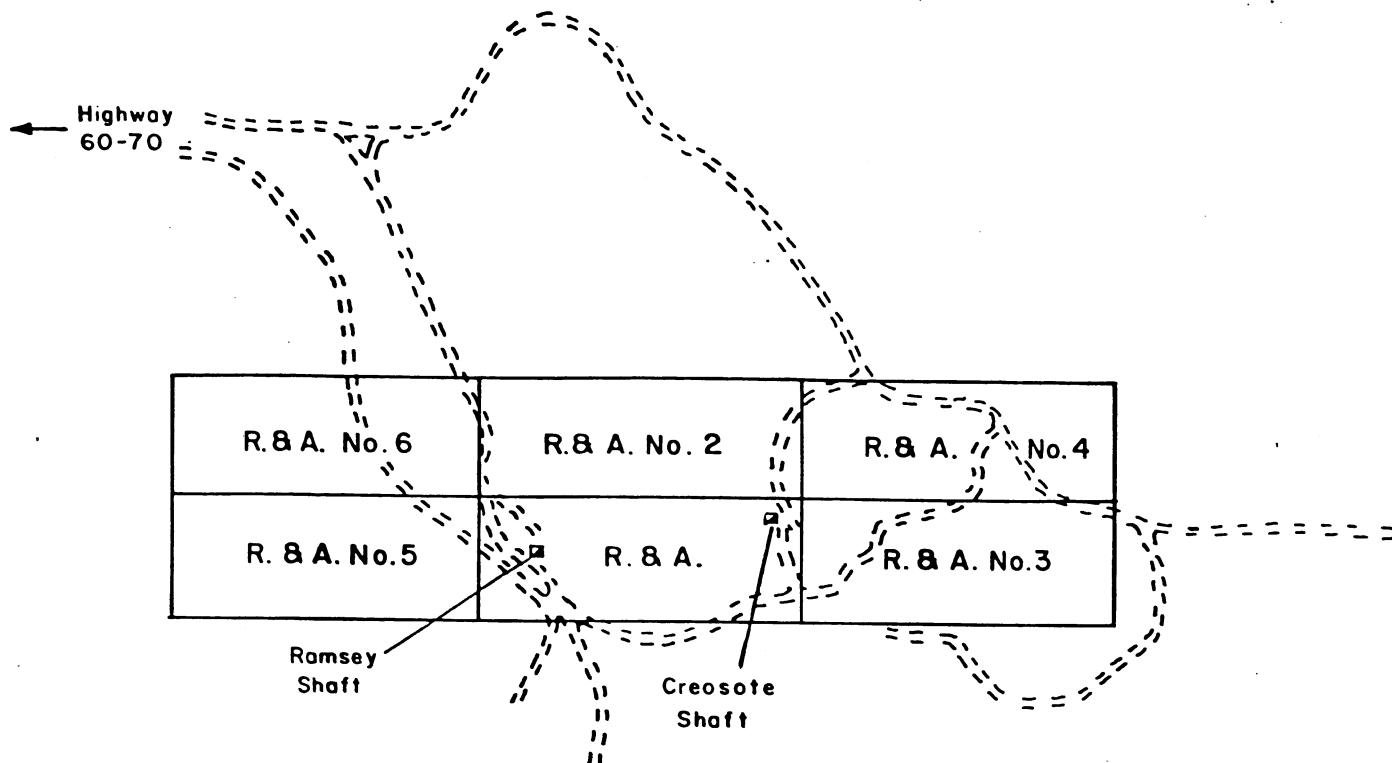


Claims and Property Ownership

Currently the Ramsey mine property consists of six contiguous (20-acre) unpatented lode mining claims, designated the R & A claim, R & A No. 2 claim, R & A No. 3 claim, R & A No. 4 claim, R & A No. 5 claim and R & A No. 6 claim (See Plate II).

The R & A claims were originally located by John Ramsey in 1921 and were retained and worked intermittently by Mr. Ramsey until his death in 1960. The property is currently owned by the Ramsey Estate and is controlled by a Limited Partnership involving the Ramsey Estate and Messrs. Noman, Dussel, Hustad and Burney of Tucson, Arizona. The Ramsey Estate is represented by a Mrs. Byrd of Yuma, Arizona.

The R & A claims are currently in a state of patent application.



LEGEND

- Existing Unpatented Lode Claims
- ==== Roadways

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RAMSEY MINE CLAIM MAP

Scale 1"=1000'

April 1979



HISTORY

John Ramsey, prospector, came to Arizona from Nevada in 1907, shortly after discovering and selling the Skidoo Gold Mine near Death Valley.

Mr. Ramsey continued his prospecting efforts in the Kofa and Plomosa Mountain ranges and in 1921 made the original discovery which was to become the Ramsey Mine.

The Mine was developed and operated by John Ramsey until the late 1920's, after which time it was sporadically leased by various groups and individuals who worked or explored the Property.

Most recent development at the Mine took place in 1968, when the M.M. Sundt Construction Company, of Tucson, leased the Property and extracted some ore from the old underground workings at the Ramsey Shaft.

Within the past several years, a lease to a Vancouver promotional group resulted in surface geological and geophysical exploration and some surface blast hole drilling for sampling purposes.

Production records for the Ramsey Mine are very sketchy; however, there is evidence that approximately 9,000 to 10,000 tons of ore have been extracted from the Ramsey Shaft.

Some ore shipments have also been made from the Creosote Shaft, which is situated approximately five hundred feet to the southeast of the Ramsey headframe.

In 1968, the M.M. Sundt Construction Company shipped thirty-six carload lots to the Inspiration Mining and Smelting Company smelter at Miami, Arizona. This was the most recent production and latest ore shipment from the Mine.

In 1979, the Ramsey Property was leased by International Resource Develop-



ment Corporation of Cleveland, Ohio. IRD planned to finance a pilot cyanide heap leaching operation utilizing the ore stockpile and mine dumps as feed stock.

The pilot scale leaching operations got underway in February of 1980, financed by Bonn Energy Corporation of Saskatoon, Saskatchewan. The idea was to test the leachability of the dump and stockpile material on hand on a semi-production basis, using an Escapule zinc-silver precipitation plant. If the operation proved successful, the plan was to extract silver from the available dump - stockpile material and begin a drilling and exploration program to verify the presence of open pit leachable reserves for a large commercial-scale operation.

The pilot operation continued until September of 1980 and proved technically successful but uneconomical at the rated capacity of the small (65 ton per day) Escapule plant. Operational problems requiring more capital expenditures at the time that silver was again dropping in price caused Bonn-IRD to discontinue operations in late September. Approximately four hundred ounces of silver doré was produced and this was subsequently converted to approximately three hundred ounces of 999 silver, electrolytically.

The contemplated exploration program, to prove-up leachable open pit reserves, was never conducted and operations have remained on a care and maintenance basis since October of 1980.

In May of 1980, IRD transferred their lease to Bonn Energy and E.D. Black Consulting and negotiations are still in progress with the owners to improve the terms of the lease.



GEOLOGY

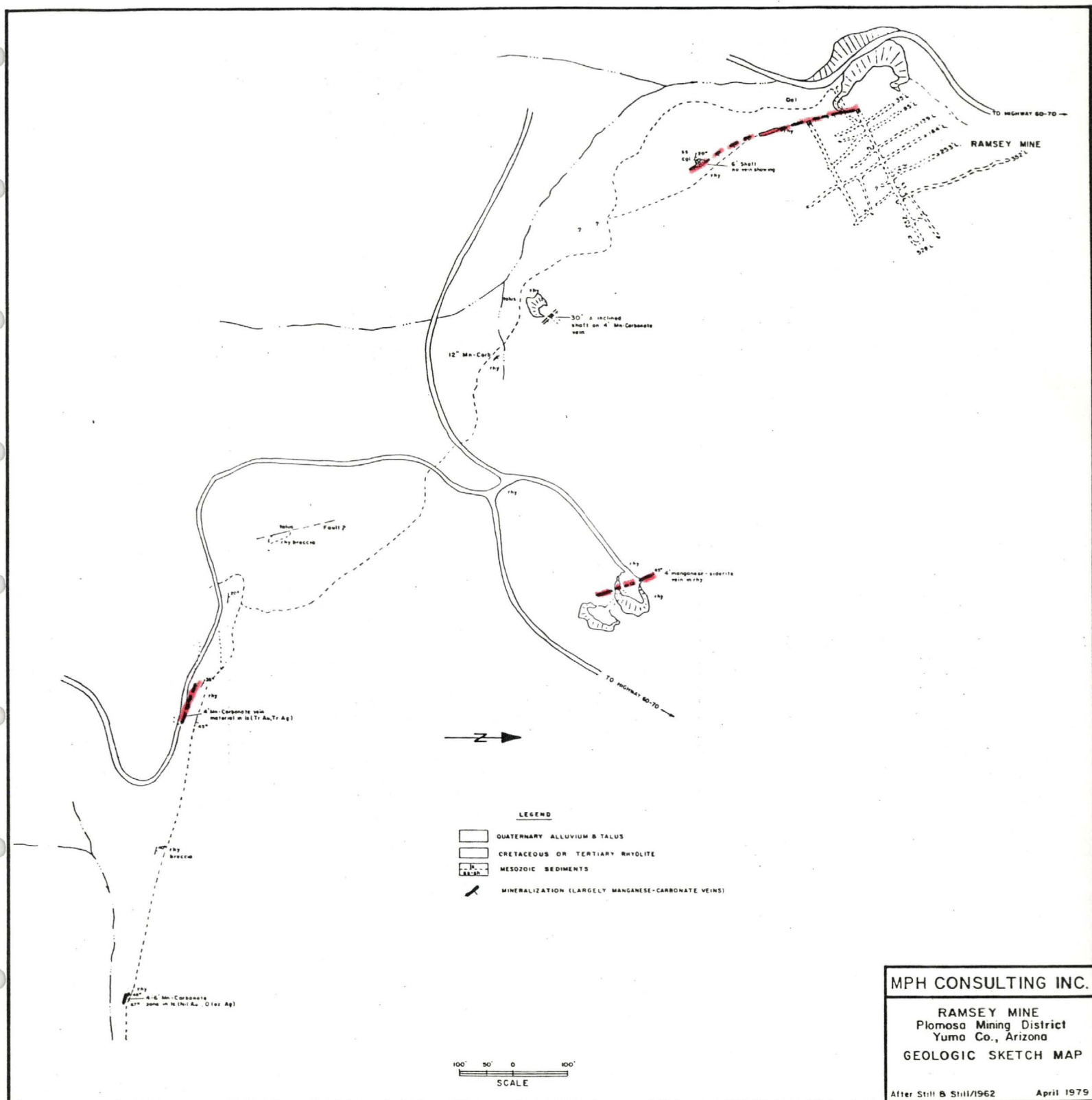
The regional bedrock geology can best be described as an area underlain by Mesozoic sediments, intruded and/or truncated by Cretaceous to Tertiary intrusives and extrusives. A Laramide granite intrusive occurs nearby and is probably the source of the volcanics.

Within the Property, Mesozoic limestone, quartzite, sandstones and shales are in fault contact with Cretaceous to Tertiary rhyolite. The flat-dipping (10° - 20° NE) northwesterly trending sediments are truncated by the steeper dipping (40° - 60° NE) rhyolite. (See Plate III).

The sediments are medium-hard, thin-bedded and fine grained. Near the contact, i.e., in the vicinity of the Ramsey vein, the sediments are highly fractured and impregnated with silica, calcite, manganese and iron oxides.

Quartz veins of significant thickness have been observed in the sediments. These may or may not be related to the mineralization of the Ramsey vein.

The rhyolite tends to be very hard, siliceous and structure-less. On surface the rhyolite is highly fractured and generally brown stained. Underground it tends to be massive, blocky, light coloured and slightly porphyritic. Some andesitic phases appear to exist. The bulk of the rhyolite was probably flow emplaced, on a modestly



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RAMSEY MINE
Plomosa Mining District
Yuma Co., Arizona
GEOLOGIC SKETCH MAP

After Still & Still/1962

April 1979

PLATE III



undulating erosional surface.

The Ramsey vein occurs along the faulted rhyolite-sediment contact.

The Creosote vein, on the other hand, lies well within the rhyolite mass.



MINERALIZATION

Thus far, silver mineralization on the Ramsey property has been found in two separate vein-like structures, the Ramsey and Creosote veins. The two veins are approximately paralleled in their strike but lie almost 500 feet apart. They differ in mineralogy, silver content and apparent economic potential.

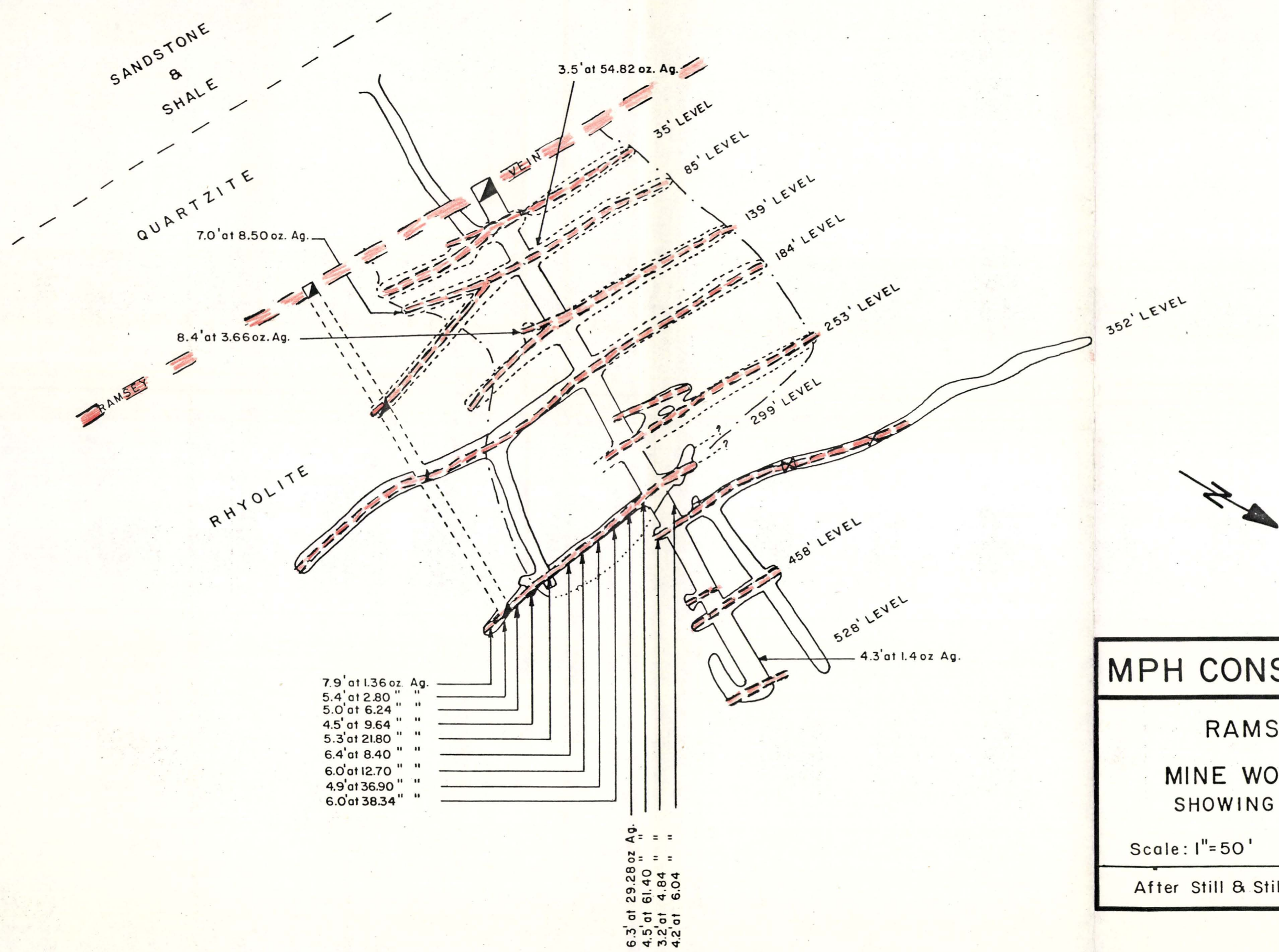
Ramsey Vein

The Ramsey vein has been exposed underground to a depth of 528 feet and traced intermittently on surface for 680 feet, southward from the Ramsey shaft. Surface strike extensions of the vein are covered by soil and rock debris. The ultimate depth and length of the vein is unknown. (See Plates IV and V).

The strike of the vein in the Ramsey mine averages $N20^{\circ}W$, above the 204 foot level, and varies between $N 25^{\circ}W$ and $N 45^{\circ}W$ in the deeper workings. The dip of the vein in the mine ranges from 50° to 70° southeast, throughout the workings.

At least one vein "split" is found in the footwall, south of the shaft. Additionally, possibly one or more narrow, branching or parallel, veins appear to exist in both hanging and footwall zones.

The main vein consists of a rubbly fractured, shattered and brecciated zone in the rhyolite and is oxidized to the approximate 500 foot depth of the mine.



7.9' at 1.36 oz. Ag.	
5.4' at 2.80 "	"
5.0' at 6.24 "	"
4.5' at 9.64 "	"
5.3' at 21.80 "	"
6.4' at 8.40 "	"
6.0' at 12.70 "	"
4.9' at 36.90 "	"
6.0' at 38.34 "	"
6.3' at 29.28 oz Ag.	
4.5' at 61.40 "	"
3.2' at 4.84 "	"
4.2' at 6.04 "	"

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RAMSEY MINE
MINE WORKINGS PLAN
SHOWING RAMSEY VEIN

Scale: 1"=50' April 1979

After Still & Still, Mar. 1962



The mineralization of the Ramsey vein is complex.

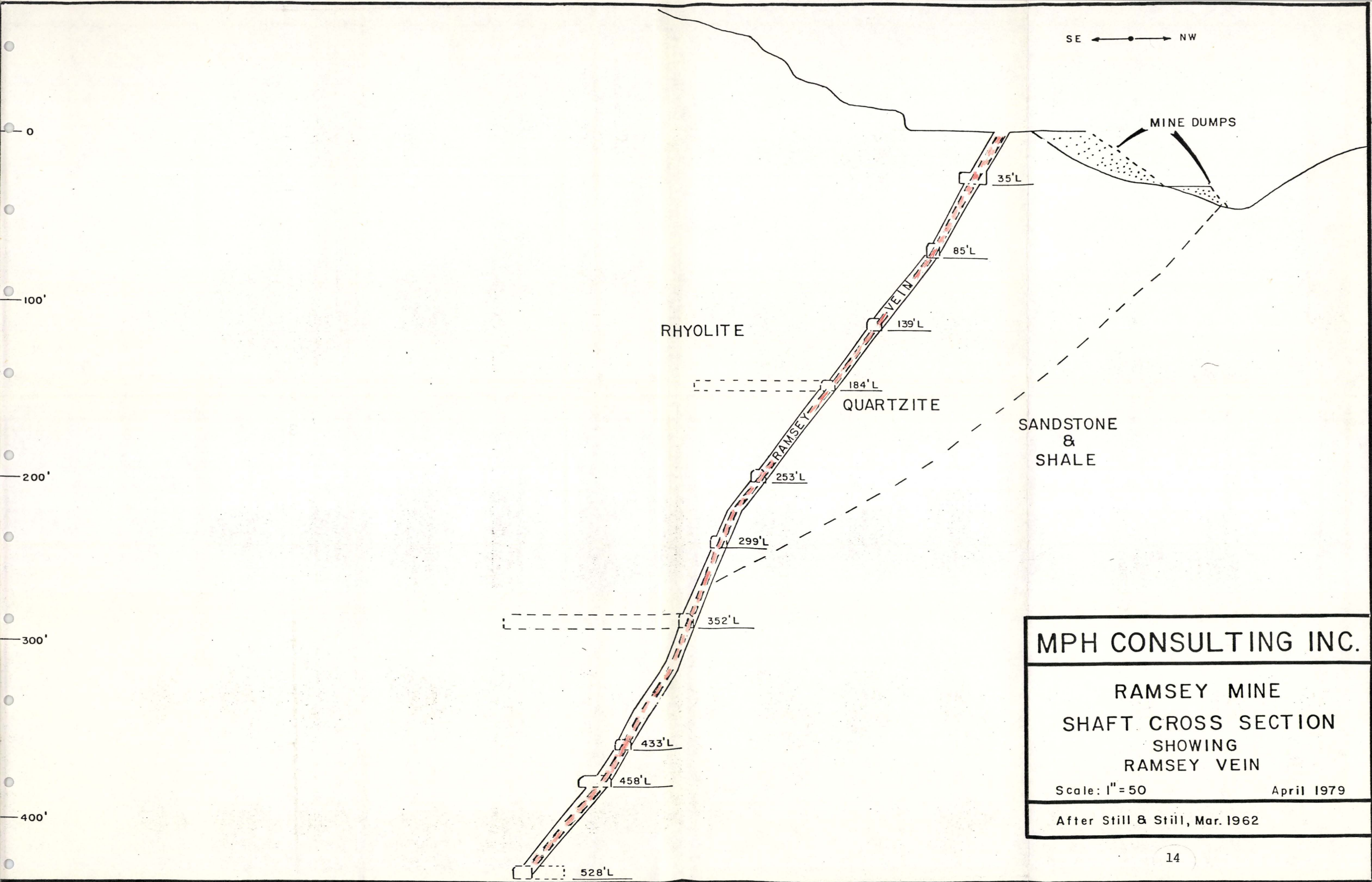
Typically, the Ramsey vein matter consists of a spongy to sooty, black to reddish mass of quartz-carbonate material, with varying amounts of manganese oxide. Fracture coatings of vanadinite and wolframite are also associated with black calcite and galena.

The silver is believed to be present in the form of argentite (Ag_2S). Secondary minerals of both lead and silver are thought to be present in the complex, as well.

Vein widths in the Ramsey mine range up to 14 feet, but average around 6 feet. On the 299-foot level the vein weakens somewhat and becomes more lensy to the north of the shaft; although the structure persists northward and at least 3 feet of vein material is observable in the face of the north drift.

The richest ore appears to have been extracted from a shoot that lay between the surface, north of the shaft, and a position south of the shaft on the deepest levels of the mine.

Grade of the extracted ore from the early operations is unknown; however, records from the AS&R Smelter are reported to show 937 tons of Ramsey ore, received in 1941-47, averaging 46.22 oz/ton silver, and, International Smelter reportedly recorded 323.7 tons received in 1940-41, averaging 51.64 oz/ton silver and in 1942-44, 882.7 tons averaging 43.86 oz/ton silver.





Floor sampling on the 299-foot level, in 1962, reported an average width of 3.85 feet containing 35.89 oz/ton silver for a drift length of approximately 50 feet.

Records of the assays of Ramsey ore samples showed wide variations in grade and considerable variance even in the check samples. This substantiates the erratic distribution of silver in the vein.

Combined lead-zinc values appear to range in the 1-2% level, although some samples ran as high as 10% combined lead-zinc. Gold occurs in insignificant amounts and metals such as vanadium, strontium and tungsten are only known by their reported minerals - no quantitative data is recorded for these metals.

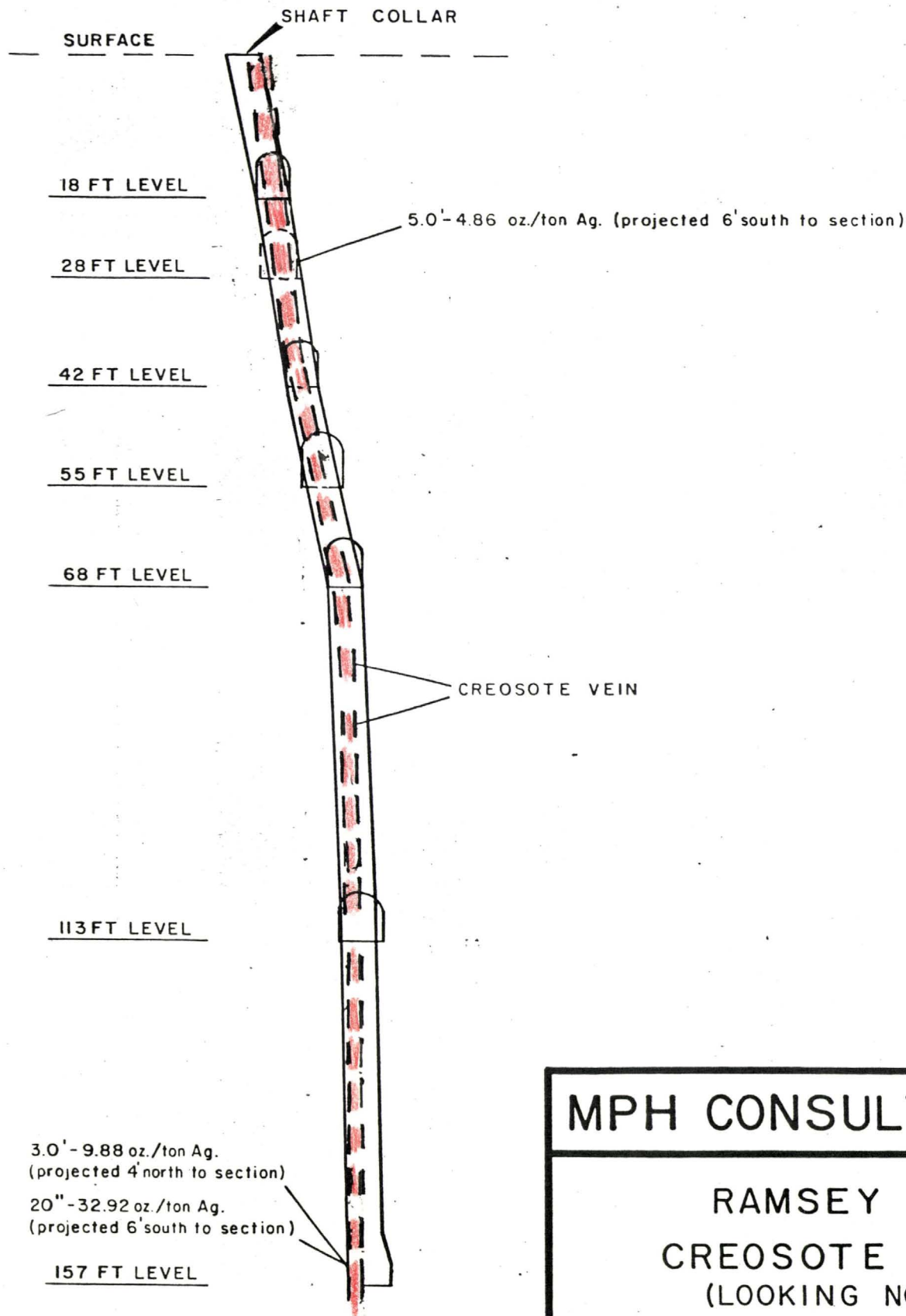
Creosote Vein

Little is known about the extent and development of the Creosote vein. On surface this vein is approximately 3 feet wide and in the underground it is reported to have been followed down to a depth of 157 feet, where its width is reduced to approximately 1.5 feet.

(see Plate VI).

The Creosote vein strikes $N18^{\circ}W$ to $N34^{\circ}W$ and dips 63° to 85° to the east.

Mineralogically, the vein is a mixture of manganese oxides, iron oxides and calcite. It tends to be more lensey and comprises more discontinuous thin seams and small pods of magniferous oxides and calcite than is



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RAMSEY MINE
CREOSOTE SHAFT
(LOOKING NORTH)

Scale 1"=20'

April 1979

After Baker & Barber, Oct. 1967



found in the Ramsey vein. The silver bearing mineralogy is not known.

From what has been reported about the Creosote underground workings, this vein is much weaker and the mineralization is narrower and more lensy than the Ramsey vein.

On surface, to the north and south of the Creosote shaft, the vein is covered by a mantle of soil, rock debris and mine dump material; therefore, the persistence of the structure in the strike direction is not known.

Silver content of the Creosote vein is not well documented; however, a 20-inch pillar sample taken by an earlier geologist reportedly contained 39.92 oz/ton silver. Additionally a sample of the "ore pile" at the Creosote shaft is reported to have assayed 16.84. oz/ton silver.

Like the Ramsey vein, gold in the Creosote vein is expected to be insignificant.

PAST DEVELOPMENT

Ramsey Shaft

Development at the Ramsey property has been predominantly concentrated on the Ramsey vein structure, primarily in and around the Ramsey shaft. (see Plate VII).

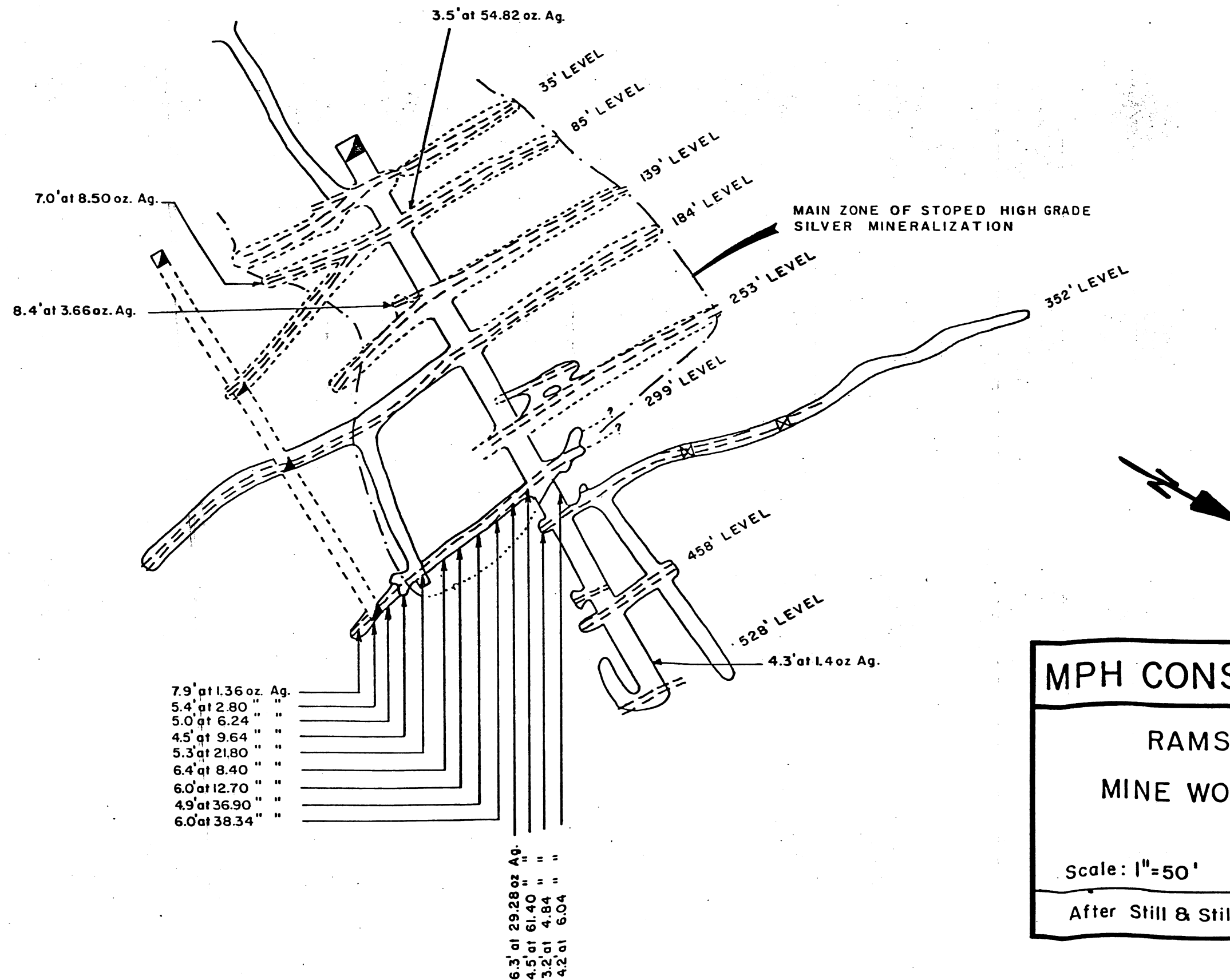
A 4 x 8-foot shaft follows the vein to an inclined depth of 528 feet - vertical depth from the collar elevation being 458 feet to the bottom of the shaft. From the shaft, lateral development has taken place on ten levels, some to the north, some south and at other levels in both of these directions. Two hangingwall and one foot-wall crosscut are reported as well.

The development record is as follows:

Table I

Ramsey Mine Underground Development Record

<u>Level</u>	<u>North Drift</u>	<u>South Drift</u>	<u>Crosscut</u>	<u>Total</u>
(ft.)	(ft.)	(ft.)	(ft.)	(ft.)
35	68	66		134
84.5	80	135		215
139	92	55	30 (FW)	177
184	95	165	75 (HW)	325
253	101	+5		106
296	+20	102		222
352	215		100 (HW)	315
458	35	10		<u>45</u>
				1539 ft.



MPH CONSULTING INC.	
RAMSEY MINE	
MINE WORKINGS PLAN	
Scale: 1"=50'	April 1979
After Still & Still, Mar. 1962	



The extent of the stoping in the Ramsey vein is not fully recorded; however, it is reported that a 5 x 75-foot stope to the north of the shaft is continuously developed from the 299 ft. level up to the 84.5 ft. level - i.e., a stope height of 214.5 ft. Additionally, stoping in the south drifts appears to extend over the full length of the drifts between the 299 ft. and 184 ft. levels.

An air-ventilation shaft reaches the surface from the 299 ft. level, at a point 95 feet to the southwest of the main Ramsey shaft.

Thirty feet to the south of the Ramsey shaft a small 6-ft. surface excavation has been made in the extension of the vein and another 40 feet to the south a second shaft follows the vein down its 45° inclined dip, to a depth of approximately 30 feet below surface.

The current state of the Ramsey underground workings is very good. The ladders are all intact and in excellent condition to the 352 ft. level, thus the mine is readily accessible and the air is good at least to this depth.

Below the 352-level the ladders are not in place and conditions of the lower levels are unknown because they are not accessible.

The ladders in the upper and lower parts of the air-ventilation shaft appear to be in good shape and this part of the mine is also thought to be fully accessible.

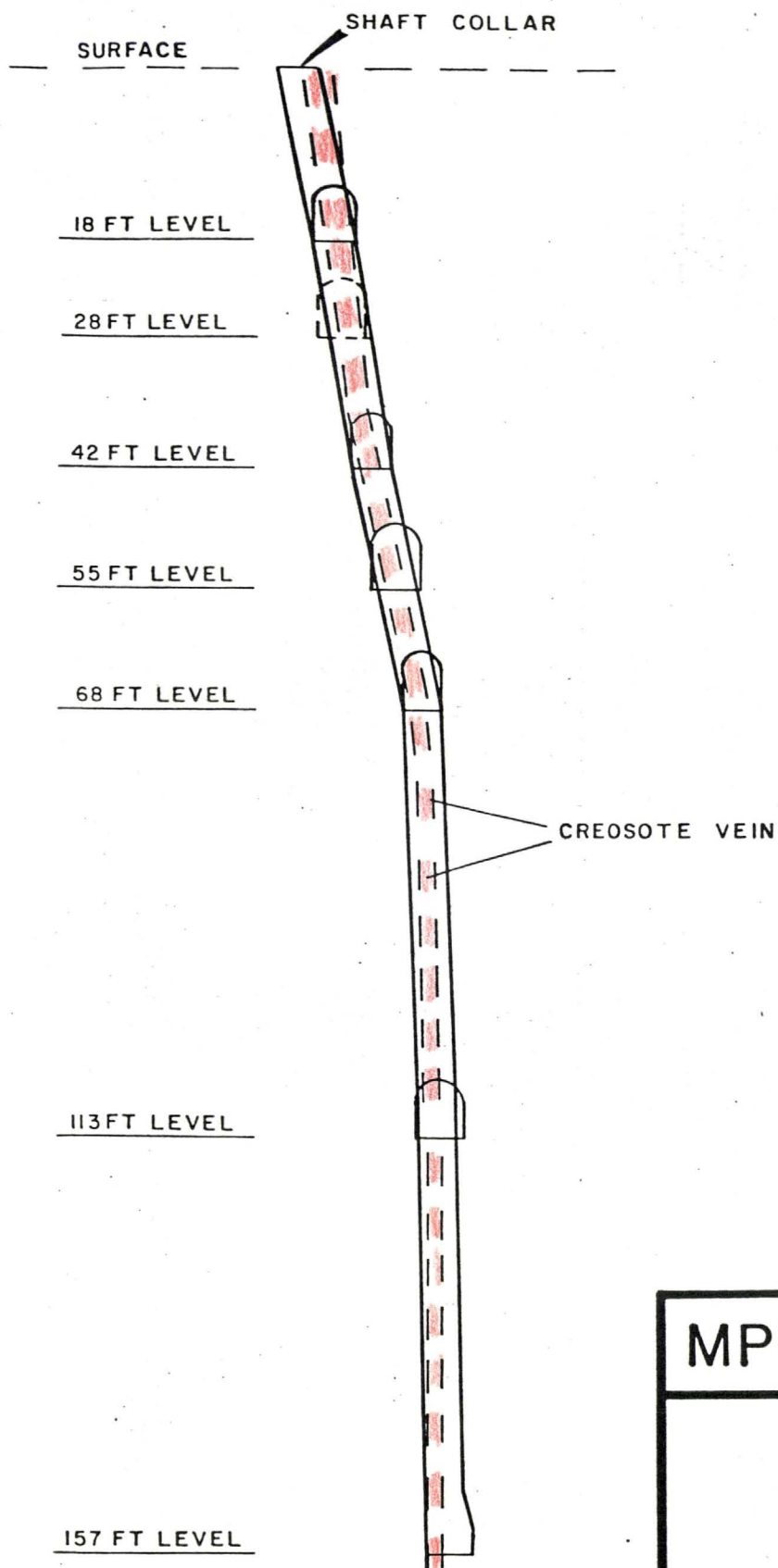


The northern drifts in the Ramsey shaft are all inaccessible between, and including, the 84.5 ft. and 299 ft. levels. Also, the 253 ft. level is closed off to the south, and the 299 ft. level is closed to the north.

Crosscuts are known to exist on the 139 ft., 184 ft. and 352 ft. levels. The 139 ft. level has a short 30 ft. footwall crosscut and the 184 ft. and 352 ft. levels have hangwall crosscuts of 75 feet and 100 feet long, respectively.

Creosote Shaft

Development on the Creosote vein is not fully documented; however, at least a 157-foot shaft depth has been recorded on one of the cross-sectional drawings. (see Plate VIII). Unfortunately, the Creosote shaft is no longer accessible because of a fire which burned out the ladders and timbers. In fact, as it now stands, the collar area is unsafe and should be cordoned-off until such time as the shaft is filled, sealed or rehabilitated.



MPH CONSULTING INC.

RAMSEY MINE
CREOSOTE SHAFT
(LOOKING NORTH)

Scale 1"=20'

April 1979

After Baker & Barber, Oct. 1967

PAST PRODUCTION

As previously noted, the ore production record for the Ramsey property is scanty; nevertheless, the extent of the underground workings at the Ramsey shaft tend to suggest that some 12,000 to 14,000 tons of material were extracted at this locale. Since approximately 3,000 to 4,000 tons of underground material forms the present Ramsey Mine dumps, it is estimated that 9,000 to 10,000 tons of ore have been extracted and shipped.

Following is a record of at least part of the shipments, as reported by various earlier writers, and supplemented by shipment data from M.M. Sundt Construction Company during the recent 1968 production period.

TABLE II

RAMSEY MINE - ORE SHIPMENT RECORD

<u>SMEALTER</u>	<u>DATES</u>	<u>TONS OF ORE</u>	<u>SILVER CONTENT (oz/ton)</u>
A S & R HAYDEN	1941	81.0	46.22
A S & R EL PASO	1942-47	856.0	46.22
INTERNATIONAL	1940-41	323.7	51.64
INTERNATIONAL	1942-44	882.7	43.86
INSPERATION-MIAMI	1968	<u>1,669.3</u>	16.11
		3,512.7 tons	

No production data is available for periods prior to 1940, and nothing is known about ore shipments from the Creosote shaft.

Judging by the size of the dump and lack of an ore stockpile at the Creosote shaft, it seems likely that at least some of the early ore shipments came from this vein.



ANALYSES & LEACHING TESTS

Cyanide Leaching

A review of the state-of-the-art of cyanide leaching in Arizona supports the idea that the Ramsey mine ore could lend itself to silver extraction by heap leaching methods.

At Tombstone, Arizona, State of Maine Mining Company, fabricates small unitized cyanide leaching plants for silver recovery. The Escapule Brothers who build these plants, operate a successful heap leaching facility at their own mine in Tombstone. Capacities of the Escapule plants are 65, 100, 150 and 300-tons of liquid per day. Samples taken by the writer from the stock piles and dumps at the Ramsey Mine were assayed and preliminarily tested for their silver leachability at the Escapule - Tombstone leaching facilities. Results obtained were as follows:

TABLE III
RAMSEY MINE LEACH TEST RESULTS

SAMPLE	24-Hour		48-Hour		72-Hour	
	Ag	Au	Ag	Au	Ag	Au
	(oz/ton)	(oz/ton)	(oz/ton)	(oz/ton)	(oz/ton)	(oz/ton)
Crude-Upper Dump (Liquid)	2.52	Tr	3.12	Tr		
Crude-Upper Dump (Extraction)	0.50		0.624			
Crude-Stock Pile (Liquid)	4.00	Tr	8.00	Tr		
Crude-Stock Pile (Extraction)	0.454		0.909			
-1/2" Crush-Upper Dump & S.P.	4.56		4.88		5.76	
Crude-Lower Dump (Liquid)	0.92	0.006	1.20	ND		
Crude-Lower Dump (Extraction)	0.248		0.324			
-1/2" Crush-Lower Dump (Liquid)	0.88		1.12		1.12	

Tonnage estimates and assaying results indicate that the Ramsey stockpiles contain an aggregate of approximately 600 tons of ore averaging 7.30 oz/ton silver. In addition, the upper mine dump is estimated to contain 2500 tons of material averaging 3.5 oz/ton silver and the lower mine dump is estimated at 1200 tons of 1.5 oz/ton silver material.

(See Plate IX).

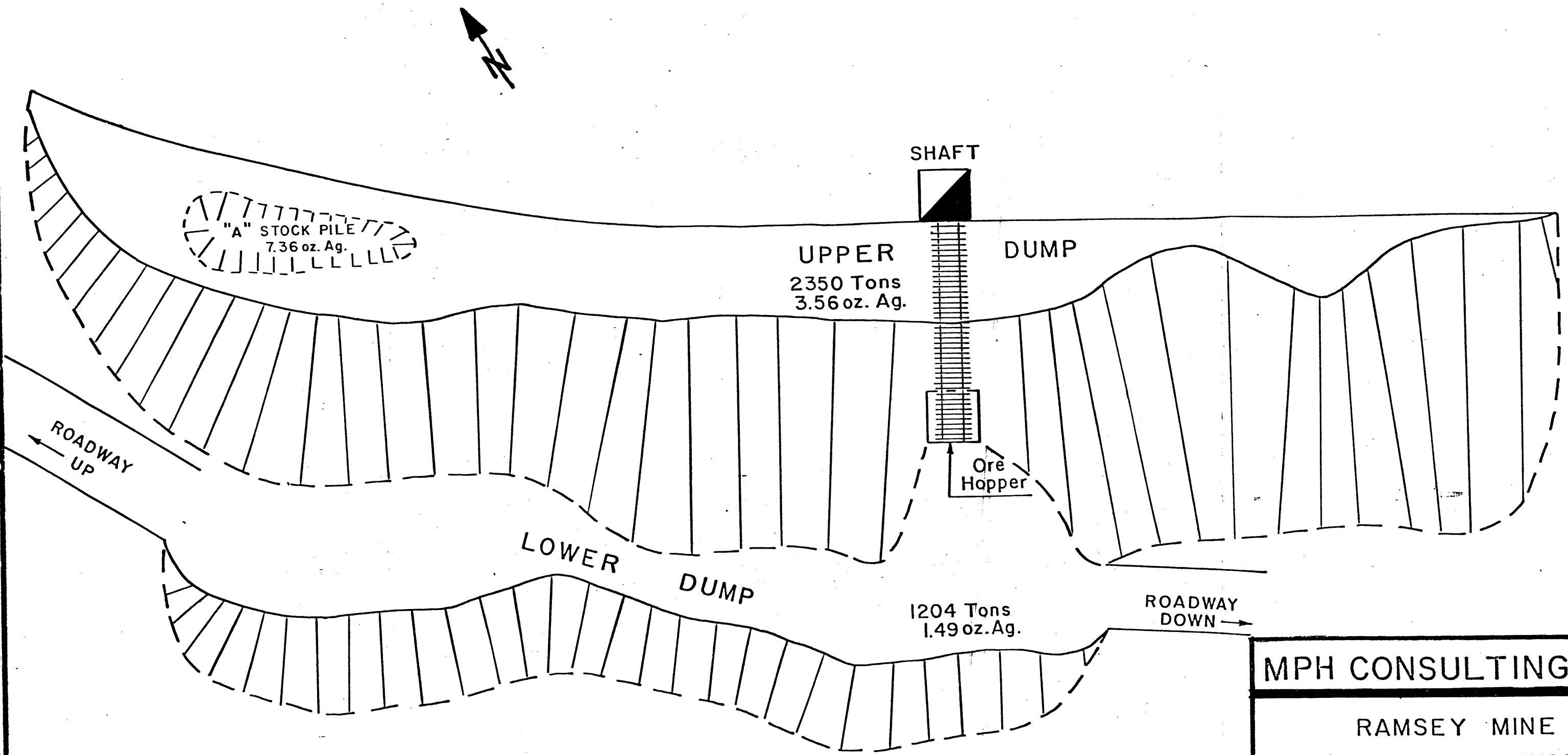
Preliminary simulated heap leaching tests carried out a Tombstone on the Ramsey stockpile material produced a silver pregnant solution carrying approximately 4 oz of silver per ton of solution, in 24 hours. Moreover, 0.45 oz of silver was extracted from this material in 24 hours and 0.91 oz Ag. was taken into solution in 48 hours.

This is considered an abnormally good extraction rate, compared with other ores that have been tested at the Tombstone facilities.

The upper mine dump leached well; producing, in 24 hours, a solution bearing 2.5 oz. of silver per ton of liquid and extracting 0.50 oz. of silver in 24 hours.

As expected, the lower dump material was less responsive, producing only 0.90 oz. of silver per fluid ton in 24 hours and extracting only 0.25 oz. of silver in 24 hours. Nevertheless, considering that the lower mine dump had a head grade of only 1.50 oz/ton Ag, the extraction rate appears to be generally good, in relative terms.

Test runs were made on crushed stockpile and mine dump samples, crushed through 1/2 inch mesh screen size. These samples indicated improved



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RAMSEY MINE
ORE DUMP SKETCH

Scale: 1"=20'

April 1979



silver release rates for stockpile and upper mine dump material but a slight drop in the extraction rate for lower mine dump material. The latter was thought to be due to reduced percolation, brought on by the increase in fines generated during the crushing operation.

More tests need to be carried out at coarser crushing, such as 1 inch and 2 inch mesh, to better evaluate the advantages and disadvantages of this fragmentation process vis-a-vis leaching rates of the material.



CURRENT DEVELOPMENT CONSIDERATIONS

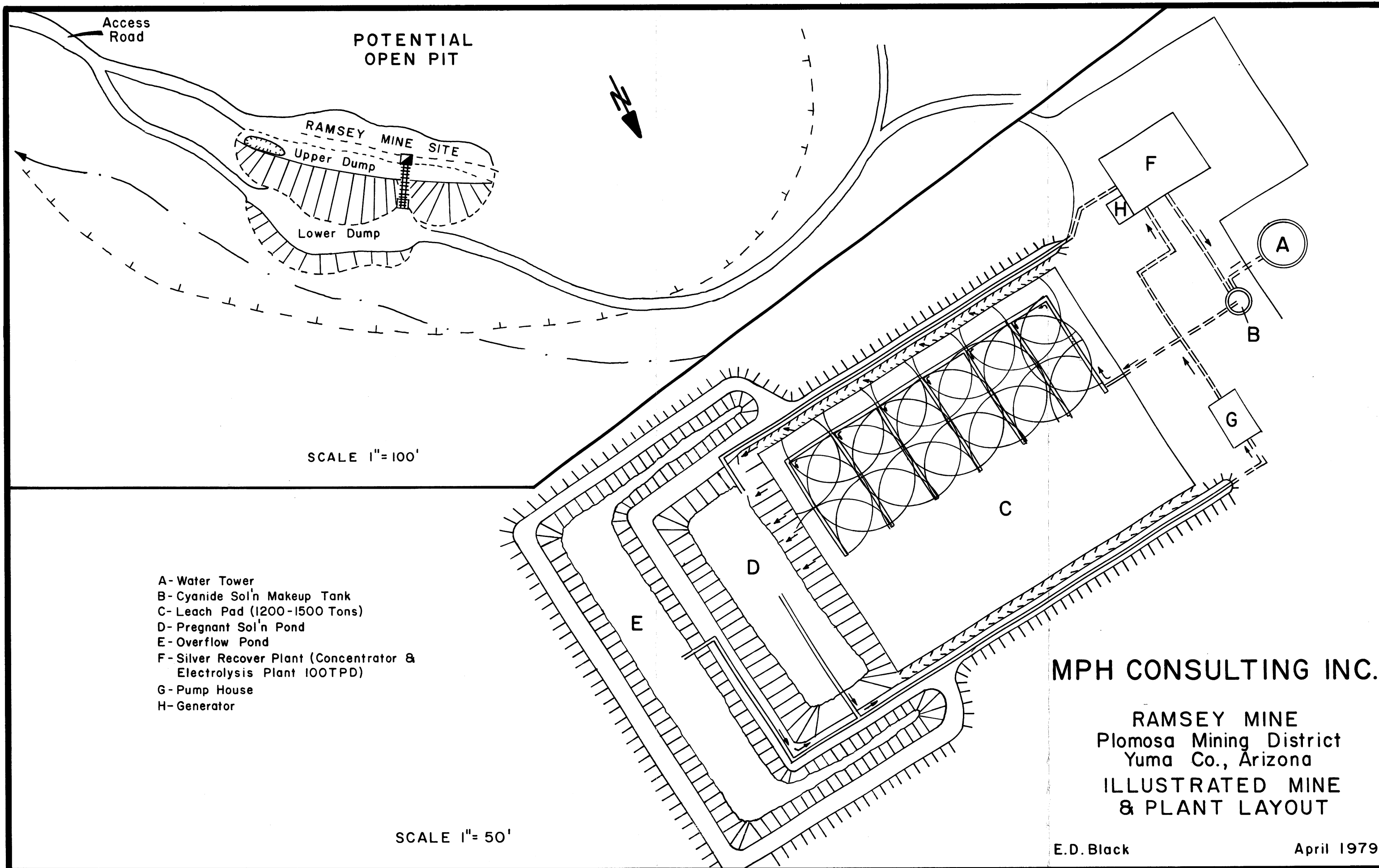
In view of the encouraging leaching test results obtained on Ramsey stockpile and mine dump material, it appeared that a "pilot" operation could be worthwhile. This small-scale operation was undertaken to test the material's leachability under operating conditions and provide a means of developing parameters for an enlarged operation, involving open cut mining and heap leaching the resulting mine product.

Mine Dump Leaching Potential

Initially, it was estimated that 4,200 tons of mine dump material exists at the Ramsey Shaft site. A plan was developed to relocate this material to a prepared leach pad where it could be laid down in layers and leached with a sodium cyanide solution. Extraction of silver from the resulting pregnant cyanide solution was to be carried out, using a sixty-five ton per day Escapule Zn-Ag precipitation extraction plant. Life expectancy of this operation was considered to be one to two months. Operations began in February of 1980 and a fifty by one hundred foot heap, built in the form of a bench five feet deep was laid out. This was followed by a second, adjacent, heap of the same dimensions. A conventional plastic pipe and garden sprinkling system was used to apply the sodium cyanide solution and collection of the silver-bearing solution by way of a plastic underpad and drainage ditch system, directed the pregnant solutions into a collection basin. (See Plate "X")

The common practice is to sprinkle the first heap for two to four weeks; then, shut this heap down and begin to sprinkle the second heap for the same amount of time. After the first pad has had a "rest" and has been oxygenated, it can be releached until values of silver drop below economic limits. When the pad is releached and its values drop below recoverable levels, other lifts can be added to the heaps or the operation can be terminated.

In the Ramsey Mine pilot dump leaching operation, approximately one thousand tons of material was heap leached at one time; two weeks on the first



heap followed by a two-week leaching period on the second heap.

Tests were not run on dump material from the Creosote Shaft to check its possibilities as a supplement to the Ramsey dump material.

Extraction tests on the Ramsey stockpile and dump material have demonstrated a more rapid release of silver after crushing the material through one-half inch mesh screen size. However, some problems with percolation were experienced due to the "fines" generated. Because of this problem, it would be necessary to carry out additional crushing tests at different screen sizes (one inch to two inches) to determine the actual merits of crushing and the optimum size to which the material should be fragmented for efficient heap leaching. No such tests were concluded.

Should crushing tests significantly improve silver recovery, a crushing stage could be introduced into the operation. This would be best situated between the excavation and heap building stages of material handling. A small impact crusher or jaw crusher, in-line between the loader and trucks, should suffice.

The pilot stage operation proved technically successful, but uneconomical at less than \$20.00 per ounce silver. Operations were closed down in late September of 1980. Approximately four hundred ounces of silver doré were extracted and later converted to approximately three hundred ounces of 999 electrolytically silver.

Open Cut Ore Leaching Potential

To date, no leaching tests have been carried out on virgin mined ore or mineralized wallrock from the Ramsey Mine; however, it seems reasonable to expect that material of this type will leach well and release its silver because surface oxidation has reached a depth of at least three hundred feet in the vicinity of the Mine.

Utilizing results from the 1968 underground long hole drilling, which took place on the one hundred eighty-four foot and two hundred ninety-nine



foot levels, and extrapolating this data upward to the surface, it appears geologically reasonable to expect a potential open cut mineable reserve of 333,000 tons of material grading from +1 ounce per ton to +10 ounces per ton silver, to a depth of one hundred forty feet below the surface. However, before an open cut operation can be undertaken, this reserve will have to be drill-explored and elevated to a "proven ore reserve" category. The writer's grab samples taken from three ore bins on the two hundred ninety-nine foot level gave assays averaging 10.7 ounces per ton silver. This encourages that high grade (+10 ounces per ton) mine pillars and additional vein matter will be encountered in the hanging and footwall rocks during open cut development. Obviously, such high grade ore would enhance the profitability of this extraction operation, (see Plates XI and XII).

Based on this estimated potential 333,000 ton reserve, an operation of this type would have a life expectancy of approximately one year, at a comfortable three hundred-ton per day fluid silver extraction plant capacity. A leach plant of this size could be expected to extract approximately 1,200 to 1,300 ounces of silver per day; or, approximately 375,000 ounces of silver per year, two hundred fifty days.

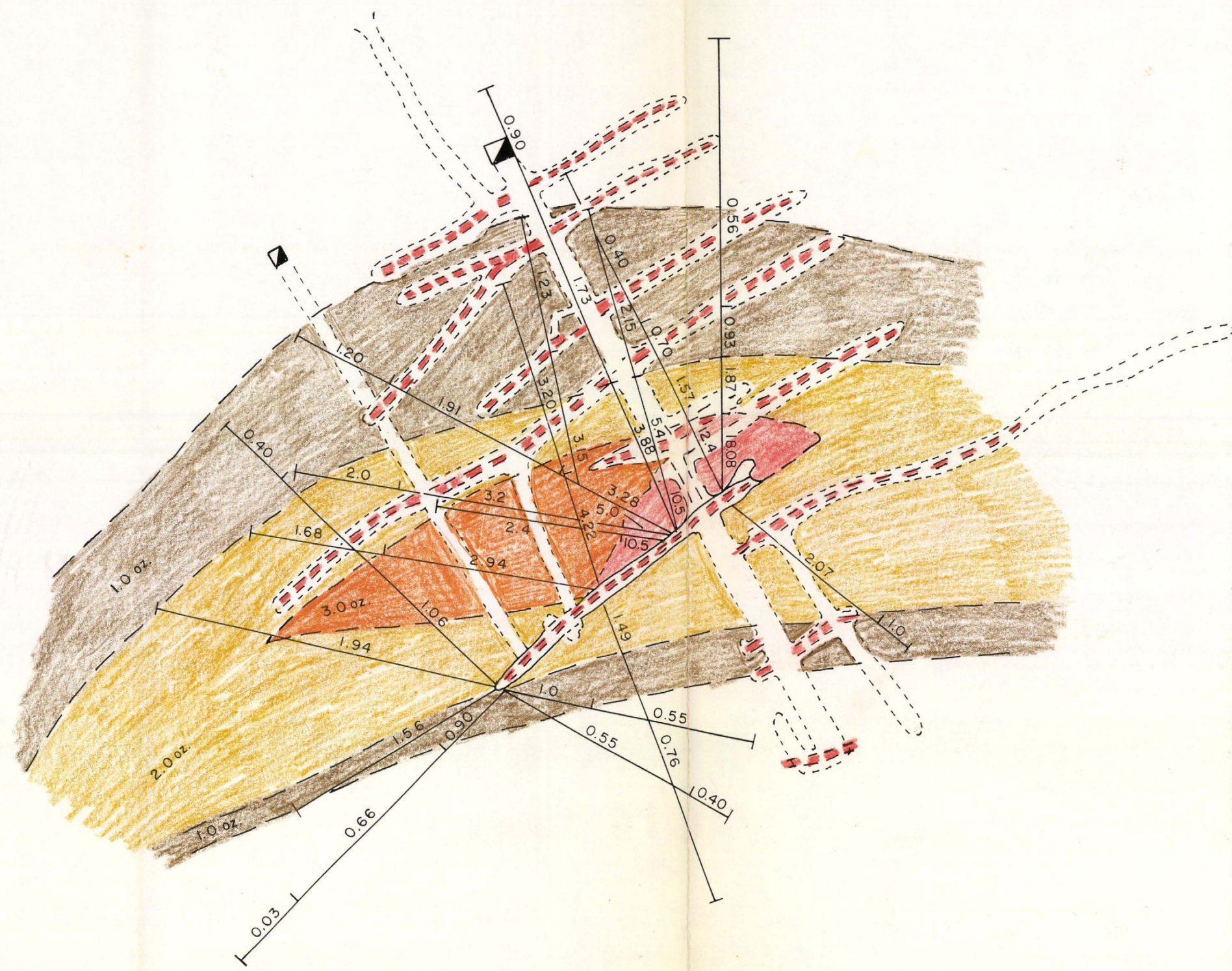
Open Pit Leaching Potential

If the foregoing open cut operation is carried out successfully, at the Ramsey, the pit could subsequently be expanded and deepened to take in all potentially leachable surface ore.

Although estimates are very provisional, it is conceivable that over 1,000,000 tons of ore could be extracted from an open pit to a depth of three hundred feet.

A mining operation of this magnitude could be carried out for several years depending upon the size of the silver extraction plant, utilizing 100,000 to 300,000 ton heaps.

In this situation, it is suggested that a 1,000 ton per day leaching



MPH CONSULTING INC.

RAMSEY MINE
Plomosa Mining District
Yuma Co., Arizona
299' LEVEL PLAN

Scale: 1"=50'

April 1979

After Still & Still, Mar. 1962

plant could be installed and supplemented by a fifty to one hundred-ton per day conventional flotation plant; the latter to recover silver from high grade ore more efficiently than by the heap leaching process. Only the lower grade material would be heap leached.

During the course of developing the "larger" open pit, other veins of high grade silver ore may be encountered in the wallrocks, similar to the Ramsey or the Creosote veins. This would be an obvious bonus.



PROVISIONAL ECONOMICS

Open Cut Leaching Operation

Considering the Project on a larger scale, the potential for an expanded and longer lasting operation comes into view. In this case, the ore source will be mineralized wallrock to be mined by open cut methods to a vertical depth of approximately one hundred twenty-five feet.

A coordinated mining and heap building operation would be conducted simultaneously. Mining would take place at the rate of approximately 1,250 tons per day; and, using a compatible sized leach plant, the reserves potential for this size of operation should last about one year.

Assuming the estimated 333,000 tons of potential open cut ore can be confirmed, an estimated \$675,000 net return before taxes may possibly be realized with an equity investment of \$300,000 and a capital investment of \$1,500,000 to \$2,000,000 in one year, based on a silver selling price of \$12.00 per ounce. At \$15.00 per ounce silver, the estimated net return before taxes could be \$1,700,000.

A recommended exploration and testing program must be carried out beforehand to determine risk and viability of this shallow open cut project.

At this juncture, there is enough evidence that an adequate reserve of good grade open cut material is in sight to warrant a verification exploration program, in anticipation of higher silver prices by the time development is contemplated.



COST ESTIMATES

TABLE IV

ESTIMATED OPEN CUT LEACHING POTENTIAL @ \$10.00 per ounce Ag

ESTIMATED GROSS RETURNS:

ZONE 1 - 10 oz. Ag	x	17,920 tons	x	50%	@	\$10	=	\$	896,000
ZONE 2 - 3 oz. Ag	x	45,000 tons	x	50%	@	\$10	=		675,000
ZONE 3 - 2 oz. Ag	x	201,000 tons	x	50%	@	\$10	=		2,010,000
ZONE 4 - 1 oz. Ag	x	69,000 tons	x	50%	@	\$10	=		348,000
									<u>333,520 tons</u>
									\$ 3,929,000

EXPLORATION, TESTING & PERMITTING:

\$ 300,000

SITE PREPARATION:

\$ 100,000

MINING:

Waste	100,000 tons	
	@ \$2.00/ton	\$ 200,000
Ore	333,520 tons	
	@ \$2.00/ton	667,040
Crush & Pellitize	333,520 tons	
	@ \$1.00/ton	333,520
Stockpile	333,520 tons	
	@ \$0.50/ton	166,760
		<u>\$ 1,367,320</u>

PROCESSING:

Ore	333,520 tons	
	@ \$2.00/ton	\$ 667,040

EQUIPMENT COST:

Leach Plant	4 @ \$20,000	\$ 80,000
Smelter	2 @ 2,000	4,000
Electolysis Plant	5 @ 500	2,500
Generator 33.5KVA		15,000
Water Reservoir		15,000
Water Pipe		2,000
Lab Apparatus		1,000
Sprinkler & Pipe System		3,000
Buildings 1000 sq.ft. @ \$20/ft.		20,000



EQUIPMENT COST, Con't.

Pumps	\$	1,000
AA-Unit		5,000
Laboratory		5,000
Fuel Tanks & Pumps		3,000
Trailers & Site Rental		
2 @ \$12,500		25,000
Crusher & Conveyors		100,000
Pellitizer & Conveyors		50,000
Water Tank		10,000
Pickup Trucks 3 @ \$10,000		30,000
Loader 5 Yd.		100,000
Haulage Trucks 3 @ \$50,000		150,000
Drills 2 @ \$25,000		50,000
Compressor 2 @ \$25,000		50,000
Tools		5,000
Parts & Steel Inventory		20,000
Bulldozer D6		<u>50,000</u>
	\$	796,500

SUPPLIES:

\$ 100,000

ENGINEERING & SUPERVISION:

333,500 tons @ \$1.00/ton \$ 333,500

ADMINISTRATION & TRAVEL:

333,500 tons @ \$0.50/ton \$ 166,750

TOTAL, CAPITAL & OPERATING COSTS.....\$3,831,110

GROSS PROFIT (LOSS)	\$	97,809
Less-Royalties		127,690
Less-Interest on Capital & Working Funds		400,000
Add -Salvage \$744,500 @ 50%		372,250

NET PROFIT (LOSS).....\$ 57,550



COST ESTIMATES

TABLE IV

ESTIMATED OPEN CUT LEACHING POTENTIAL @ \$12.00 per ounce Ag

ESTIMATED GROSS RETURNS:

ZONE 1 - 10 ox. Ag	x	17,920 tons	x	50%	@	\$12	=	\$ 1,075,200
ZONE 2 - 3 oz. Ag	x	45,000 tons	x	50%	@	\$12	=	810,000
ZONE 3 - 2 oz. Ag	x	201,000 tons	x	50%	@	\$12	=	2,412,000
ZONE 4 - 1 oz. Ag	x	69,000 tons	x	50%	@	\$12	=	414,000
								<u>333,520 tons</u>
								\$ 4,711,200

EXPLORATION, TESTING & PERMITTING:

\$ 300,000

SITE PREPARATION:

\$ 100,000

MINING:

Waste	100,000 tons	
	@ \$2.00/ton	\$ 200,000
Ore	333,520 tons	
	@ \$2.00/ton	667,040
Crush & Pellitize	333,520 tons	
	@ \$1.00/ton	333,520
Stockpile	333,520 tons	
	@ \$0.50/ton	<u>166,760</u>
		\$ 1,367,320

PROCESSING:

Ore	333,520 tons	
	@ \$0.50/ton	\$ 667,040

EQUIPMENT COST:

Leach Plant	4 @ \$20,000	\$ 80,000
Smelter	2 @ 2,000	4,000
Electolysis Plant	5 @ 500	2,500
Generator 33.5KVA		15,000
Water Reservoir		15,000
Water Pipe		2,000
Lab Apparatus		1,000
Sprinkler & Pipe System		3,000
Buildings 1000 sq.ft. @ \$20/ft.		20,000



EQUIPMENT COST, Con't.

Pumps	\$	1,000
AA-Unit		5,000
Laboratory		5,000
Fuel Tanks & Pumps		3,000
Trailers & Site Rental		
2 @ \$12,500		25,000
Crusher & Conveyors		100,000
Pellitizer & Conveyors		50,000
Water Tank		10,000
Pickup Trucks 3 @ \$10,000		30,000
Loader 5 yd.		100,000
Haulage Trucks 3 @ \$50,000		150,000
Drills 2 @ \$25,000		50,000
Compressor 2 @ \$25,000		50,000
Tools		5,000
Parts & Steel Inventory		20,000
Bulldozer D6		50,000
		<hr/>
	\$	796,500

SUPPLIES:

\$ 100,000

ENGINEERING & SUPERVISION:

333,500 tons @ \$1.00/ton \$ 333,500

ADMINISTRATION & TRAVEL:

333,500 tons @ \$0.50/ton \$ 166,750

TOTAL, CAPITAL & OPERATING COSTS.....\$3,831,110

GROSS PROFIT \$ 880,090

Less-Royalties 176,670

Less-Interest on Capital
& Working Funds 400,000

Add -Salvage \$744,500 @ 50% 372,250

NET PROFIT (BFT) \$ 675,670

COST ESTIMATES

TABLE IV

ESTIMATED OPEN CUT LEACHING POTENTIAL @ \$15.00 per ounce Ag

ESTIMATED GROSS RETURNS:

ZONE 1 - 10 oz. Ag	x	17,920 tons	x	50%	@	\$15	=	\$ 1,344,000
ZONE 2 - 3 oz. Ag	x	45,000 tons	x	50%	@	\$15	=	1,012,500
ZONE 3 - 2 oz. Ag	x	201,000 tons	x	50%	@	\$15	=	3,015,000
ZONE 4 - 1 oz. Ag	x	69,000 tons	x	50%	@	\$15	=	517,500
								\$ 5,889,000
		333,520 tons						

EXPLORATION, TESTING & PERMITTING:

\$ 300,000

SITE PREPARATION:

\$ 100,000

MINING:

Waste	100,000 tons	
	@ \$2.00/ton	\$ 200,000
Ore	333,520 tons	
	@ \$2.00/ton	667,040
Crush & Pellitize	333,520 tons	
	@ \$1.00/ton	333,520
Stockpile	333,520 tons	
	@ \$0.50/ton	166,760
		\$ 1,367,320

PROCESSING:

Ore	333,520 tons	
	@ \$2.00/ton	\$ 667,040

EQUIPMENT COST:

Leach Plant	4 @ \$20,000	\$ 80,000
Smelter	2 @ 2,000	4,000
Electolysis Plant	5 @ 500	2,500
Generator 33.5 KVA		15,000
Water Reservoir		15,000
Water Pipe		2,000
Lab Apparatus		1,000
Sprinkler & Pipe System		3,000
Buildings 1000 sq.ft. @ \$20/ft.		20,000



EQUIPMENT COST, Con't.

Pumps	\$ 1,000
AA-Unit	5,000
Laboratory	5,000
Fuel Tanks & Pumps	3,000
Trailers & Site Rental	
2 @ \$12,500	25,000
Crusher & Conveyors	100,000
Pellitizer & Conveyors	50,000
Water Tank	10,000
Pickup Trucks 3 @ \$10,000	30,000
Loader 5 yd.	100,000
Haulage Trucks 3 @ \$50,000	150,000
Drills 2 @ \$25,000	50,000
Compressor 2 @ \$25,000	50,000
Tools	5,000
Parts & Steel Inventory	20,000
Bulldozer D6	50,000
	<u>\$ 796,500</u>

SUPPLIES:

\$ 100,000

ENGINEERING & SUPERVISION:

333,520 tons @ \$1.00/ton \$ 333,500

ADMINISTRATION & TRAVEL:

333,520 tons @ \$0.50/ton \$ 166,750

TOTAL, CAPITAL & OPERATING COSTS.....\$3,831,110

GROSS PROFIT	\$ 2,057,890
Less-Royalties	265,000
Less-Interest on Capital	
& Working Funds	400,000
Add -Salvage \$744,500 @ 50%	372,250

NET PROFIT (BFT)....\$ 1,765,140



Open Pit Leaching Operation

Finally, a very preliminary look has been taken at what might be the ultimate open pit potential for the mine.

In this case, the same parameters are used as above; however, the assumption here is that a reserve of close to 1.0 million tons of leachable ore and wallrock will be available to a pit depth of approximately three hundred feet.

CONCLUSIONS

This preliminary examination and evaluation of the RAMSEY MINE Property indicates that the potential for a profitable cyanide leaching operation probably exists. Enough stockpile and dump material was at hand to warrant a pilot-scale leaching test operation. This has been carried out with technical success and looks to be viable only at silver prices over \$20.00 per ounce.

Provisionally, the underground geology suggests the possibility for a 125 foot to 300 foot deep open pit and a large heap leaching operation. Should the necessary exploration, engineering and test work be carried out to prove up this larger potential, a one to five-year operation could evolve. The viability of the larger operation needs to be determined and appears warranted in view of the low exploration and test costs; i.e., approximately \$300,000.00.



RECOMMENDATIONS

In view of the technical success of the pilot operation, the following recommendations are made:

1. Carry out a \$300,000.00 exploration and test program involving an initial \$100,000.00 for drilling and testing, to block out the ore body; and, if deemed feasible, a follow up \$200,000.00 program to accurately define the reserves and their leachability;
2. Providing the exploration and testing program is a success, move forward into a one to five-year mining-leaching program.

E.D. Black, M.Sc., P.Eng.



APPENDIX

