CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
520-770-3500
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the

Richard Mieritz Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

April 19, 1962

Dear Elmore,

Enclosed are the Following data:

1. Geological Plan Showing magnetometer Highs and rock outcrops
2. Indian Prospecting Permits
3. topographic map Showing Location of Permits
4. Copy of Agreement on Standard mine
5. Various reports & Assay Plans " "

After Perusal or you have made copies Please See that these are returned as I did not have time to make copies.

Re: Proposed deal our telephone Conversation April 17th.

A Indian Exploration Permit.

We would agree to Assign this to You or your nominee Providing they agree as Follows. a. Purchase Price will be $30,000 which will be divided three ways as Per our Conversation b. they agree to Perform the Exploration work due under the Permit we have done Some $6000 worth Air mag. & geological mapping c. We Receive $1000. Earnest money down & the agreement is consumated within two weeks From above date, We realize that Agreement must be Cleared by Canadian Stock Exchange in Montreal but Same Shall be done within one month of above date.

d. ~~An~~ Arizona Company will be Formed if exploration results warrant but not later than two years and we will Receive 10% of the Stock in Same. e. You agree to give Notice in Case of abandonment at least 60 days before work taxes etc are due, So that we will have a Chance to Complete the work if we See Fit

B. Standard mine

We have Paid out Some $1600 in minimum royalties on this Property, and Should be reembursed For Same.

We would expect you to live up to the terms of our agreement with the property owner and give us 60 days notice in case of abandonment. You would pick up the minimum payment starting with April. We would receive a further payment of $3000 six months from date of agreement if you wish to retain. If a company is formed on the standard we would receive 10% of the capital stock. If it is thrown in with the Indian land then we would receive 12% rather than 10%. You have two weeks from above date to f deed.

If after study your people wish to proceed. You can make up an agreement there have them sign and forward to us for completion.

All payment in U.S. Funds.

Metals Engineering Inc.
Per J.D. Brown.

Pardon scrawl but am writing in my hotel room.

MEMORANDUM

TO J. D. Mason DATE September 8, 1961

FROM G. A. Freeman

SUBJECT STANDARD MINE LEACHING

Attached is a diagramatic and written proposed flowsheet for a 100 ton/day Heap Leach operation at the Standard Mine.

The estimated costs and profit with a 1.9% Cu Head with 84% Cu recovery would be as follows:

Milling:		
Scrap Iron (4800#/day) @ 50.00		$120.00
Acid (10400#/day) @ 20.00		104.00
Milling and Crushing Labor:		
1 - Supt.	$25.00	
1 - Assayer	20.00	
1 - Crusher Man & Maint.	18.00	
3 - Helpers	36.00	
	$99.00	99.00
Mining & Hauling - 2 men (Crushing Labor in above)		110.00
Loader - $20.00/day		20.00
Water & Power Plant - $25.00/day		25.00
		$478.00

TOTAL OPERATING COSTS - $4.68 PER TON

Revenue:

3200# of Copper into 80% Conc. or
2 Tons Conc. per day.

@ 31¢/# Cu the net would be:

(1600# - 20)1580 x (31 - 3.5¢)		$434.50
Treatment -	$14.00	
R. R. Fgt. -	4.80	
Penalty (Grade) -	1.50	
Trucking -	1.50	
	$20.80	20.80
		$413.70
Less 5% Royalty		20.70
		$393.00

Net at mine would be:

2 Tons Conc. x $393.00 -	$686.00
or $6.86/Ton Ore	
NET PROFIT per TON ORE (6.86 - 4.78)	2.08

NOTE: We would not have any mining costs on the 3000 - 4000 tons of Dump Ore.

G. A. FREEMAN

Copy

STANDARD MINE-HEAP LEACHING

PRELIMINARY TESTS INDICATE 1" ORE CONTAINING 1.9% Cu WILL LEACH IN 24 HOURS WITH 3% H_2SO_4 SOLUTION AND A RECOVERY OF 84.2%. ACID CONSUMPTION IS 3.24#/# OF COPPER RECOVERED AND DE-TINNED, SHREDDED IRON IS REPLACED AT THE RATE OF 1.5#/# OF RECOVERED Cu. BULK DENSITY OF THE IRON IS 23#/Cu. FT. AND EXPOSURE IS 125% OF CONSUMPTION. BULK DENSITY OF PRECIPITATION VAT RESIDUE IS 115#/Cu. FT. AND BULK DENSITY OF THE SCREENED AND WASHED CEMENT Cu IS 120#/Cu. FT. AND CONTAINS 80% Cu. THE FOLLOWING FIGURES ARE FOR A 100 TON/DAY LEACHING PLANT:

100 T OF ORE CONTAINS 3,800# OF Cu, 3,200# OR 84.2% OF WHICH CAN BE RECOVERED BY LEACHING WITH 10,400# OF H_2SO_4 IN A SOLUTION AVERAGING 3%. THE ACID STRENGTH WILL DIMINISH AS THE ORE LEACHES - 6,000# OF IRON MUST BE EXPOSED TO THE PREGNATE SOLUTIONS, 4,800# OF WHICH WILL BE CONSUMED.

THE PRESENT PLATFORM WILL HOLD 2-100 T PILES OF ORE. BY CHANGING ONE PILE EACH DAY, A LEACH-WASH-DRAIN AND CHANGE CYCLE OF 48 HR. CAN BE USED AS FOLLOWS:

LOAD PILE 5' DEEP, 28' ACROSS AT BASE AND 18' IN DIAMETER AT CREST (100 T AT 90#/Cu. FT.)	- 3 HR.
LEACH WITH 41,000 GAL. OF H_2SO_4 SOLUTION AVERAGING 3% AT 28.5 GAL./MIN.	- 24
WASH WITH 2,400 GAL. OF STRIPPED SOLUTION AT 40 GAL./MIN.	- 1
DRAIN - ABOVE SOLUTIONS GO TO PRECIPITATING VATS	- 1
WASH WITH 2,400 GAL. OF STRIPPED SOLUTION AT 40 GAL./MIN.	- 1
DRAIN _ TO PRECIPITATING VAT IF Cu VALUES SUFFICIENT	- 1
WASH WITH 2,400 GAL. OF FRESH WATER	- 1
DRAIN - TO STRIPPED SOLUTION TANK FOR MAKE UP	- 12
UNLOAD AND CLEAN PLATFORM	- 4
TOTAL	48 HRS.

TWO PRECIPITATING VATS 5' x 25' x 30" - 42" WILL GIVE AMPLE CAPACITY FOR 3 DAYS OPERATION EACH AND TIME FOR CLEANING AND RELOADING. THE CEMENT Cu WILL BE WASHED THROUGH A 10 MESH TROMMEL TO REMOVE COARSE IRON, ONTO A DRYING FLOOR WITH LOW WALLS AND SLOPING BOTTOM TO DRAIN AND DRY FOR SHIPMENT.

THE SECOND AND THIRD WASH SOLUTIONS, THE STRIPPED SOLUTION FROM THE PRECIPITATING VATS, AND THE WATER DRAINED FROM THE CONCENTRATE WILL FLOW BY GRAVITY TO A 2,500 GAL. ACID PROOF SUMP, IN WHICH IS LOCATED AN ACID PROOF 1-1/2" PUMP WHICH WILL LIFT IT TO A SIMILAR TANK AT HIGHER ELEVATION OR PUMP THE FIRST AND SECOND WASH SOLUTION TO THE LEACHING HEAPS. FROM THE UPPER TANK THE STRIPPED SOLUTION AND CONCENTRATED ACID WILL FLOW BY GRAVITY TO A MIXING TANK AND THEN BY AN IDENTICAL PUMP TO THE LEACH HEAPS.

THE SOLUTION LOSSES WILL BE BY EVAPORATION AND THE MOISTURE CONTENT OF THE LEACHED RESIDUE AND AND WILL BE COMPENSATED FOR BY THE 2,900 GAL./DAY OF FRESH WASH WATER USED ON THE THIRD WASH. THIS CAN BE VARIED WITHIN REASON TO SUIT THE CIRCUMSTANCES. THE CRUSHER WILL RUN 2 HOURS OR LESS PER DAY AND SHOULD BE POWERED BY AN INTERNAL COMBUSTION ENGINE. THE POWER FOR THE DEEP WELL PUMP WILL BE DETERMINED BY ITS LOCATION. 3,000 GAL./DAY OF FRESH WATER WOULD BE ABOUT THE MINIMUM. A 10 KW POWER UNIT WILL BE ADEQUATE FOR THE PUMPS, MIXER, TROMMEL AND LIGHTS.

A RUBBER-TIRED LOADER WILL BE NEEDED AND WILL OPERATE TWO SHIFTS A DAY, IE., DAY SHIFT IN MINING AND SWING SHIFT CHANGING LEACH HEAPS.

IRON MAY BE STORED IN THE OPEN AND ADEQUATE SPACE IS AVAILABLE. ACID STORAGE CAPACITY WILL DEPEND ON THE MANNER IN WHICH IT IS SHIPPED. NARROW DRAINS IN THE CONCRETE, THAT THE LOADER CAN CROSS, AND PLASTIC PIPE WILL BE USED FOR ALL EXCEPT FRESH WATER. VALVES WILL BE HELD TO AN ABSOLUTE MINIMUM BY USING PLASTIC PLUGS AND PLASTIC PIPE THAT CAN BE MOVED FROM PLACE TO PLACE. SOLUTION ASSAYS FOR FE AND CU WILL BE BY TITRATION UNTIL ADEQUATE COLORIMETRIC STANDARDS CAN BE MADE. FREE ACID CAN BE ASSAYED BY DILUTING TO A KNOWN AMOUNT AND READING WITH A pH METER. ORE ASSAYS WILL PROBABLY HAVE TO BE BY STANDARD METHODS.

THE ONLY TIME TWO OPERATORS ARE NEEDED IS ON THE SWING SHIFT. THE SECOND OPERATOR ON THE MID. SHIFT COULD OPERATE THE CRUSHER AND SERVICE THE EQUIPMENT. THE SECOND OPERATOR ON THE DAY SHIFT COULD BE THE ASSAYER. SIX MEN/24 HRS. COULD PERFORM ALL THE MILLING OPERATION AND PRODUCE 3,200# CU/DAY. THE DIRECT EXPENSES WOULD INCLUDE 4,800# IRON/DAY, 10,400# ACID/DAY, FUEL AND SERVICE FOR A LOADER 16 HRS./DAY, SAME FOR CRUSHER DRIVE 8 HR./DAY, FUEL AND SERVICE FOR 10 KW POWER UNIT 24 HRS./DAY AND DEEP WELL PUMP MAINTENANCE.

G. A. FREEMAN

STANDARD MINE-HEAP LEACHING

PRELIMINARY TESTS INDICATE 1" ORE CONTAINING 1.9% CU WILL LEACH IN 24 HOURS WITH 3% H_2SO_4 SOLUTION AND A RECOVERY OF 84.2%. ACID CONSUMPTION IS 3.24#/# OF COPPER RECOVERED AND DE-TINNED, SHREDDED IRON IS REPLACED AT THE RATE OF 1.5#/# OF RECOVERED CU. BULK DENSITY OF THE IRON IS 23#/CU. FT. AND EXPOSURE IS 125% OF CONSUMPTION. BULK DENSITY OF PRECIPITATION VAT RESIDUE IS 115#/CU. FT. AND BULK DENSITY OF THE SCREENED AND WASHED CEMENT CU IS 120#/CU. FT. AND CONTAINS 80% CU. THE FOLLOWING FIGURES ARE FOR A 100 TON/DAY LEACHING PLANT:

100 T OF ORE CONTAINS 3,800# OF CU, 3,200# OR 84.2% OF WHICH CAN BE RECOVERED BY LEACHING WITH 10,400# OF H_2SO_4 IN A SOLUTION AVERAGING 3%. THE ACID STRENGTH WILL DIMINISH AS THE ORE LEACHES - 6,000# OF IRON MUST BE EXPOSED TO THE PREGNATE SOLUTIONS, 4,800# OF WHICH WILL BE CONSUMED.

THE PRESENT PLATFORM WILL HOLD 2-100 T PILES OF ORE. BY CHANGING ONE PILE EACH DAY, A LEACH-WASH-DRAIN AND CHANGE CYCLE OF 48 HR. CAN BE USED AS FOLLOWS:

LOAD PILE 5' DEEP, 28' ACROSS AT BASE AND 18' IN DIAMETER AT CREST (100 T AT 90#/CU. FT.)	- 3 HR.
LEACH WITH 41,000 GAL. OF H_2SO_4 SOLUTION AVERAGING 3% AT 28.5 GAL./MIN.	- 24
WASH WITH 2,400 GAL. OF STRIPPED SOLUTION AT 40 GAL./MIN.	- 1
DRAIN - ABOVE SOLUTIONS GO TO PRECIPITATING VATS	- 1
WASH WITH 2,400 GAL. OF STRIPPED SOLUTION AT 40 GAL./MIN.	- 1
DRAIN _ TO PRECIPITATING VAT IF CU VALUES SUFFICIENT	- 1
WASH WITH 2,400 GAL. OF FRESH WATER	- 1
DRAIN - TO STRIPPED SOLUTION TANK FOR MAKE UP	- 12
UNLOAD AND CLEAN PLATFORM	- 4
TOTAL	48 HRS.

TWO PRECIPITATING VATS 5' x 25' x 30" - 42" WILL GIVE AMPLE CAPACITY FOR 3 DAYS OPERATION EACH AND TIME FOR CLEANING AND RELOADING. THE CEMENT CU WILL BE WASHED THROUGH A 10 MESH TROMMEL TO REMOVE COARSE IRON, ONTO A DRYING FLOOR WITH LOW WALLS AND SLOPING BOTTOM TO DRAIN AND DRY FOR SHIPMENT.

THE SECOND AND THIRD WASH SOLUTIONS, THE STRIPPED SOLUTION FROM THE PRECIPITATING VATS, AND THE WATER DRAINED FROM THE CONCENTRATE WILL FLOW BY GRAVITY TO A 2,500 GAL. ACID PROOF SUMP, IN WHICH IS LOCATED AN ACID PROOF 1-1/2" PUMP WHICH WILL LIFT IT TO A SIMILAR TANK AT HIGHER ELEVATION OR PUMP THE FIRST AND SECOND WASH SOLUTION TO THE LEACHING HEAPS. FROM THE UPPER TANK THE STRIPPED SOLUTION AND CONCENTRATED ACID WILL FLOW BY GRAVITY TO A MIXING TANK AND THEN BY AN IDENTICAL PUMP TO THE LEACH HEAPS.

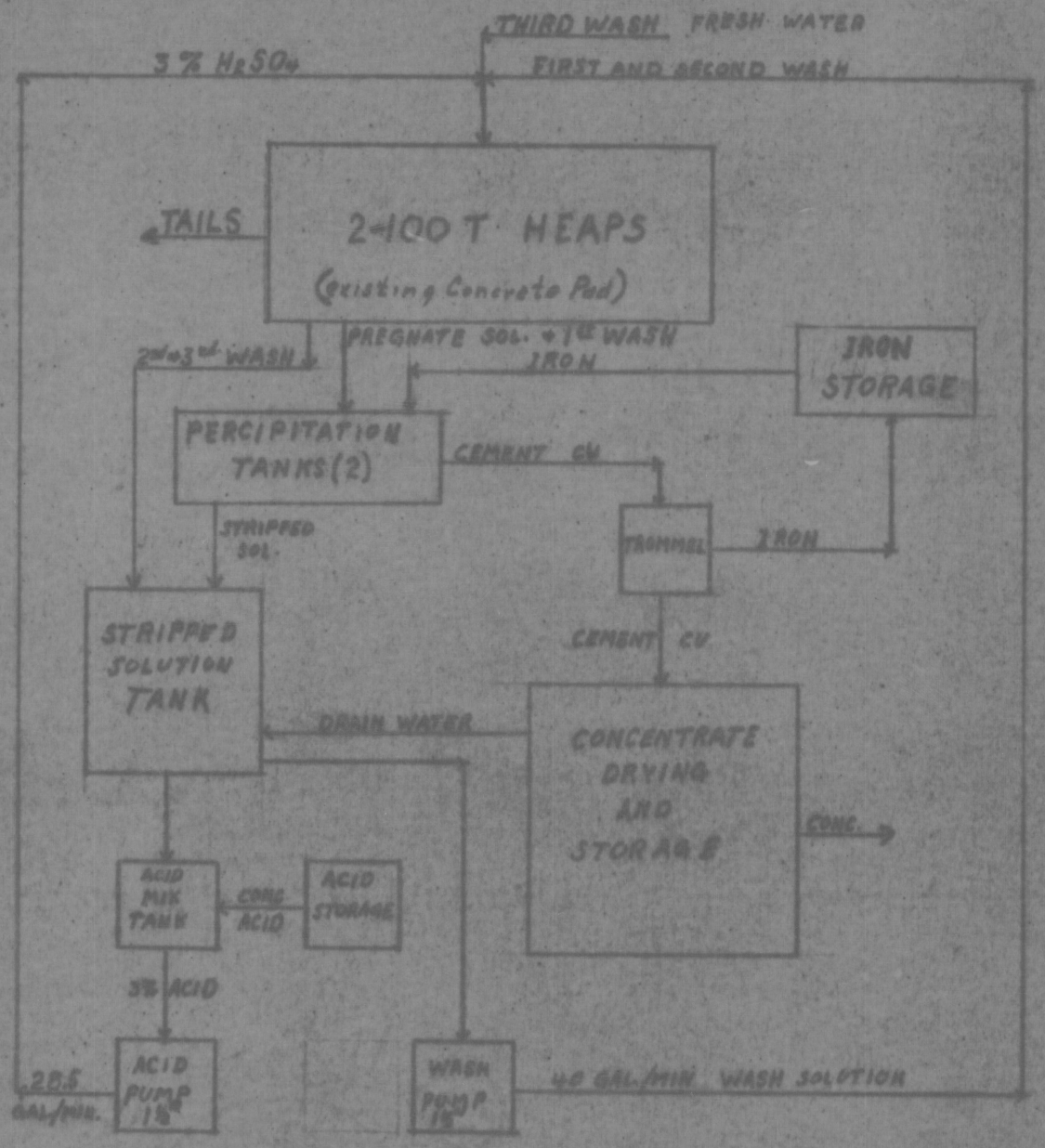
THE SOLUTION LOSSES WILL BE BY EVAPORATION AND THE MOISTURE CONTENT OF THE LEACHED RESIDUE AND AND WILL BE COMPENSATED FOR BY THE 2,900 GAL./DAY OF FRESH WASH WATER USED ON THE THIRD WASH. THIS CAN BE VARIED WITHIN REASON TO SUIT THE CIRCUMSTANCES. THE CRUSHER WILL RUN 2 HOURS OR LESS PER DAY AND SHOULD BE POWERED BY AN INTERNAL COMBUSTION ENGINE. THE POWER FOR THE DEEP WELL PUMP WILL BE DETERMINED BY ITS LOCATION. 3,000 GAL./DAY OF FRESH WATER WOULD BE ABOUT THE MINIMUM. A 10 KW POWER UNIT WILL BE ADEQUATE FOR THE PUMPS, MIXER, TROMMEL AND LIGHTS.

A RUBBER-TIRED LOADER WILL BE NEEDED AND WILL OPERATE TWO SHIFTS A DAY, IE., DAY SHIFT IN MINING AND SWING SHIFT CHANGING LEACH HEAPS.

IRON MAY BE STORED IN THE OPEN AND ADEQUATE SPACE IS AVAILABLE. ACID STORAGE CAPACITY WILL DEPEND ON THE MANNER IN WHICH IT IS SHIPPED. NARROW DRAINS IN THE CONCRETE, THAT THE LOADER CAN CROSS, AND PLASTIC PIPE WILL BE USED FOR ALL EXCEPT FRESH WATER. VALVES WILL BE HELD TO AN ABSOLUTE MINIMUM BY USING PLASTIC PLUGS AND PLASTIC PIPE THAT CAN BE MOVED FROM PLACE TO PLACE. SOLUTION ASSAYS FOR FE AND CU WILL BE BY TITRATION UNTIL ADEQUATE COLORIMETRIC STANDARDS CAN BE MADE. FREE ACID CAN BE ASSAYED BY DILUTING TO A KNOWN AMOUNT AND READING WITH A pH METER. ORE ASSAYS WILL PROBABLY HAVE TO BE BY STANDARD METHODS.

THE ONLY TIME TWO OPERATORS ARE NEEDED IS ON THE SWING SHIFT. THE SECOND OPERATOR ON THE MID. SHIFT COULD OPERATE THE CRUSHER AND SERVICE THE EQUIPMENT. THE SECOND OPERATOR ON THE DAY SHIFT COULD BE THE ASSAYER. SIX MEN/24 HRS. COULD PERFORM ALL THE MILLING OPERATION AND PRODUCE 3,200# CU/DAY. THE DIRECT EXPENSES WOULD INCLUDE 4,800# IRON/DAY, 10,400# ACID/DAY, FUEL AND SERVICE FOR A LOADER 16 HRS./DAY, SAME FOR CRUSHER DRIVE 8 HR./DAY, FUEL AND SERVICE FOR 10 KW POWER UNIT 24 HRS./DAY AND DEEP WELL PUMP MAINTENANCE.

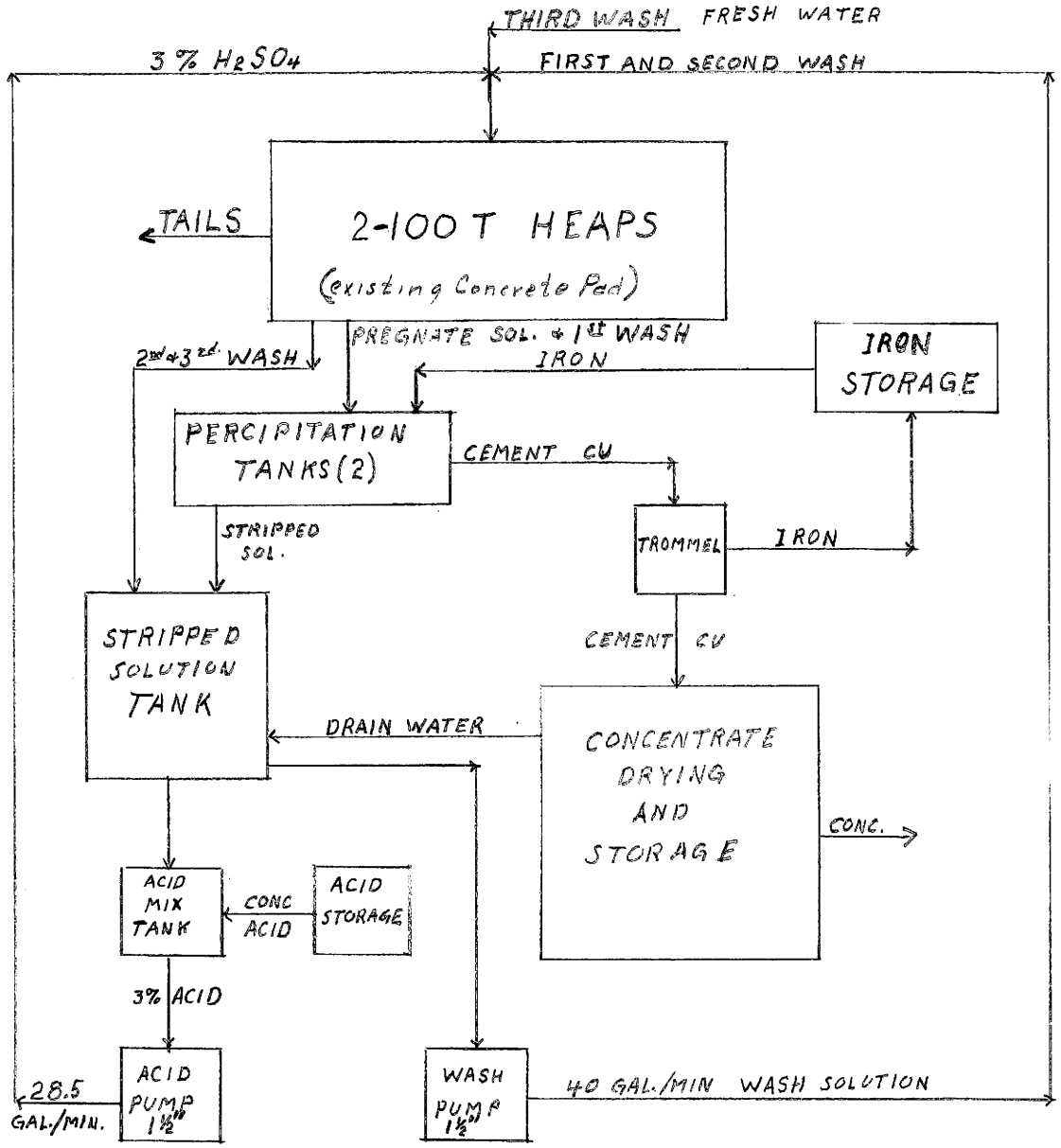
G. A. FREEMAN



FLOWSHEET 100 Ton/Day HEAP LEACH PLANT

STANDARD MINE

9/7/61



FLOWSHEET 100 TON/DAY HEAP LEACH PLANT

STANDARD MINE

9/7/61 J.C.B.

Dear Sir: October 27 1962

We are looking for deposit of copper or other mineral which might be processed with our portable leaching unit. The unit is well manufactured, complete with precipitation tanks and pumps. All-portable; may be transported to site with light truck, to leach 5-10 ton of ore daily depending on rapidity of leaching cycle, to eliminate costly shipping of ore to distant mills. Unit may be used as pilot plant to prove feasibility of scale-up for larger operation or as commercial 1 or 2 man operation for low grade or small isolated deposits not otherwise economical to develop. If you know of oxidized copper deposits or tailings dumps; beryl, silver in sandstone, etc. that may be adaptable to this operation I would like to hear from you and will write you details and send picture. We may consider any type ore that is hydrometallurgically processed at conventional mill. We are ready to move at once. Sincerely,

Merle I.Zweifel
Box 117, Encino, New Mexico

MERLE I. ZWEIFEL
MINERAL SURVEYS
Mining Claim Location & Assessment Work
P. O. BOX 117 ENCINO, NEW MEXICO
TELEPHONE 845-2984

THIS SIDE OF CARD IS FOR ADDRESS

ENCINO
OCT 2[illegible]
[illegible] M
1962
N. MEX.

Mr. J. D. Mason, Pres.,
Julian Nickel Mines, Inc.
201 East 4th St.,
Casa Grande, Arizona

J. A. Barnhard
1912 West Holly St
Phoenix, Ariz.

Magma Copper Company

ASSAY CERTIFICATE "A"

Date 4-13-56

No.	LOCATION & REMARKS	CU %	AG OZ.	AU OZ.	SiO_2	Al_2O_3		
		10.70	3.10	0.03	57.6	9.2		
	Cu = (214 − 20) x 43¢ =					$83.	42	
	Ag = 3.10 x 95% x 90¢ =					2.	65	
	Au = 0.03 x 32.20 =						97	
	Gross =					$87.	04	
	Smelting =					$ 9.	85	
	Net before freight =					$77.	19	

M. B. Shaw
CHIEF CHEMIST

C O P Y

August 3rd, 1962.

Mr. Carl Wuest,
17 Queen Street East,
Suite 241,
Toronto, Ontario.

Re: Standard Mine & Exploration Permits.

Dear Carl:

Further to our telephone conversations yesterday, I have talked to Freeman and he is of the opinion with which I must concur, that it is an impossibility to give another month's free extension on the deal.

When you and I made the deal you stated that you were going to start immediately. This was the main reason that we agreed to the easy terms.

However, the main reason that we have to have some money is due to the fact, as you know, that Freeman and I have put up a bond of $5,000 on each of the Indian permits guaranteeing that we will complete the exploration work by the due date. Time is running out. If we keep on extending the agreements with no action, there is a grave possibility that the work will not be completed and we will have to forfeit the bonds.

At the present moment, Utah Construction Company wish to go on the ground and complete the work and even though we would rather deal with you, we can't afford to let a sure thing go by for a "bird in the bush".

If you want an extension, we would be agreeable to giving you one month's extension for a payment of $1,500 with the other $1,500 due in 30 days. We would also expect you to make the $200 payment to the property owner.

Please phone me Monday with your decision.

Sincerely,

J.D.M.

Jim Mason.

JDM:amc

c.c. Herbert Plaxton
Geo. Freeman ✓

July 13, 1960

Mr. J.A.Barnhard,
1912 W. Holly St.,
Phoenix, Arizona

Dear Mr. Barnhard: Re: Standard Group Claims

Enclosed are three (3) copies of an "Option to Lease Purchase" your 7 claims known as the Standard Group.

I believe this is all in accordance with our understanding and agreement during your visit on July 9th.

Would you please go over this agreement with your attorney for approval and fill in the legal description of the claims.

I will try and meet you at our Casa Grande office on Saturday morning, July 16th, at 9.30 A.M. If I cannot get away from the mine you can go over this with Mr. Vachon in the office.

Sincerely yours,

G.A.Freeman,
Manager

/v.

cc: Mr. J.D.Mason

COPY

Leaching Test Sta. Mine

Purpose: Feasability of leaching with 3.0% H_2SO_4 sol.

Procedure: 9 K, -1" ore in 4' x 4" glass column
6½ l of 3% H_2SO_4 /day Head Assay 1.84 % Total Cu
1.81 % Acid sol. Cu

Data:

Date	Time	Vol. 3% Acid (L)	Vol effulent (ml)	% Cu effulent	grams Cu extracted	accum. % Cu extracted (Based on Heads)	Based on products
6/14	1:35	6.5					
6/15	1:35	6.5	5000	8.96	49.9	30%	
6/16	2:00	4.8	6000	5.99	35.9	51.5	
6/17	2:00	6.5	4640	3.12	14.5	60.0	
6/18	2:15	6.5	6300	2.31	14.5	63.0	
6/19	1:00	6.5	6100	2.06	12.6	76.5	
6/20	1:45	6.5	6200	1.36	8.4	81.5	
6/21	2:00	—	6000	0.91	5.5	85.0	84%
Total:		43.8			141.3		

Heads - 9000 g x 1.84 = 166 g Cu

Tails should assay 15% of 1.84 or 0.28% Cu

Acid consumption $\frac{478.7 \text{ g acid}}{141.3 \text{ g Cu}} = 3.39$ # acid/# Cu

2.75
19.25

Percolation Time: about 2.75 hr./day for 7 days = 19.25 hr.

Acid consumption

Input — 43.8 l × 30 g/l = 1314 g acid

Recovered — 5.060 l × 5.8 g/l = 29.3

6.000 × 14.8 = 88.8

4.640 × 21.0 = 97.4

6.300 × 22.6 = 142.4

6.100 × 26.3 = 160.4

6.200 × 24.8 = 153.8

6.000 × 27.2 = 163.2

835.3 g H_2SO_4

Consumed: 1314 − 835.3 = 478.7

Standard Leaching Plant

Concrete Vats - (Gunited)

50' x 100' - 3' high = 70 yds concrete @ 50¢ =	$3500.00
10' x 25' Precipitation Vat	720.00
8" x 20" Jaw Crusher —	500.00
Fgt. — —	100.00
Installation + Repairs	400.00
2" Sand Pump — Acid Proof	500.00
500' Plastic Pipe (2" + 1½")	80.00
Flow-meters + mixing	200.00
	$6000.00

Operating Capital:

Reagent Operating Cost (Iron + Acid) (1000 Tons)	2600.00
Diesel — — —	150.00
Equip. Rental — — —	600.00
Prop. Payment — — —	200.00
Labor — — — —	350.00
Travel Expense — —	200.00
H_2O Truck + 10¢ — —	250.00
	$4350.00

Dye Samples

#1 - 10' chip near wings	2.6
18' x out W wall	1.4
	1.1
1st row dump	1.6
2nd " "	1.55
3rd " "	

R.C. Morrill
Box 1376
Maricopa, Ariz.

Standard Group of Claims owne Geo E Harlan
15 m. So East of Casa Grande - Ariz.

Ore: Copper Silicate
Tonnage:

Ore in Sight	1 - Dump 100'x28'x30' app.		4200 Ton
	Less amt. possible Wasted Drifts - Cut.		2600
		Net Tons	2600
	1 Dump - So. Est.		500
	Ore in Sight on Tram Level		3100
	40' x 44' x 50 - North from xcut	7330 Ton	
	Less probably waste 10'x40x50 deep	2000 "	
			5330
	South from xcut 20'x30'x 15' deep.		750
			6080
Probable Ore	Probably Ore: Extending below - assumed		
	30 ft' Same Area: N		3190
	30 ft deep .. So. 20 x 30 x 30 deep		1500
			4690.
	Dump ore	(Total Tons	13870)

George's Sampling of dump - Side 2.00% Cu
Dye " " Top 1.60
3.60 ÷ 2 1.80% ave Cu.

X 84% Rec. 1.50% = 30 lbs cu per Ton -

1.50% Net Return x $4.00 = $6.00 Per Ton
X 3100 Ton = 18600.00

Ore in Sight from Level.
ore Samples - 10 ft - 2.60 cu
18 ft 1.40 cu
weighted 1.80 cu ave
Geo. Test - 1.90
1.80 cu ave

84% Rec. = Net Return 400 = 6.00 1 ft Ton
X 6080 T. 36480.00

Probable ore Est Same Grade
net Return 6.00 1 Ton
X 4690 29140.00
Gross Net Smelter Returns - $84220.00

By R.L. DYE

Cost:-

Acid 3000# Cu/Day x 3.25/#cu 9750 #
x $20.00 = $96/D Per/T .96

Fe - 3000 cu/Day x 1.75/#cu
" 2.62 Ton x $45.00 117.90 P/T 1.18

Labor/Day -
operator + Tax 22.00
2 Helpers " 26.00
1 assayer 18.00

66.00 P/T 66

Plant Power + Pumping - 25.00 P/T .25

Loader 25.00 P/T .25

3.18

Mining + Delivering ore to plant P/T 1.35

4.53

Total Cost 13870 Ton = $62831.10

Gross Income 84220.00

Net profit less plant Costs: $21388.90
and Installation

Gross per Ton 6.00
Less Cost " " 4.53
Net $1.47

More Tons are needed pay Cost of Plant + Installion -

5.2
2000 | 10400
10000
4000

By R.L. DYE

DRILL RECORD

LAKESHORE COPPER

COORDINATES: EAST _____
NORTH _____
COLLAR ELEVATION _____
INCLINATION Vert.

HOLE NUMBER Std. #1
DATE BEGUN 5/11/61
DATE COMPLETED 5/16/61
RUNNER F. Metler

FROM	TO	FEET	SAMPLE NO.	% CU	DRILLERS REMARKS	GEOLOGIC NOTES
4	10	6			Soft with hard inclusions	Fine crystaline flow rock with [illegible] of [illegible] glassy flows & coarser [illegible]
10	20	10			Soft. Fine Breaks on crystal boundaries	
20	30	10				Trace Cu
30	40	10				Trace Cu
40	50	10				Trace Cu
50	60	10			Harder	More crystaline - mica - Fe_2O_3 [illegible] Trace Cu
60	70	10				Little Qtz. No Mineral
70	80	10				" "
80	90	10				" "
90	100	10				
100	110	10			Soft	
110	120	10				
120	130	10				
130	140	10				
140	150	10				
150	160	10				
160	170	10			Very soft	Small amount of Fe_2O_3
170	180	10				Trace Cu at 175 (20 - [illegible])
180	190	10				
190	200	10				
200	210	10			Start coring - no casing	
						Cored to 244'. Water Table about 295'. Still in andesitic flow rock. No visible mineralization.