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RECONSTRUCTION FINANCE CORPORATION

MINING SECTION

REPORT OF SUPERVISING ENGINEER

Docket No. MD-5281 - - - Gladstone Copper Mine
Date of Authorization- - - - - - - - May 1, 1943
Date of Examination - - - - - - - - May 8, 1943
Date of Report - - - - - - - - - - - June 1, 1943

This Report may be considered as Supplemental to the above docket number, or as a new Report, under a new number.

Originally, the applicant submitted an application for a loan of $20,000.00. It was submitted from Washington to the Field for examination. The Examination was made on February 28, 1943, and on April 7, 1943, Washington informed the applicant that the Corporation was unable to approve the loan.

Since then, Mr. Hoffman, one of the partners of the applicant, has insisted that I did not make a very good examination. Mr. Hoffman was not present at the time of the examination, but Mr. Todd was and he considered only one place in the mine worthy of sampling. Mr. Todd is a mining man, but Mr. Hoffman is not.

The present examination and report is based on a letter of April 30, 1943, from Mr. Hoffman which is attached to this report, as well as Mr. Gohring's answer. As a result, I examined the mine again, and again Mr. Hoffman was not present. There were no new ore bodies, as claimed by Mr. Hoffman, but they have done considerable additional work mining on ore originally examined. This has resulted in about 50 tons of 12% or better copper ore mined and placed on the dump.

In the south drift, the applicant had barely opened a zinc streak 10" wide. On this basis and on a request for less funds than originally requested, I am submitting this new data for your consideration.

1. NAME AND ADDRESS OF APPLICANT

Gladstone Copper Mine
P.O.Box 1812
Nogales, Arizona

Correspondent: Walter W. Todd
Same address

2. CHARACTER OF PROJECT

To develop applicant's copper property by sinking and drifting.

3. LOCATION OF MINE

In Section 30, T.23 S., R.16 E., Patagonia Mining District,

Santa Cruz County, Arizona. Nearest Railroad point is Nogales, Arizona, approximately 16 miles over good, improved dirt roads. Operations can be conducted throughout the year.

4. APPLICANT

Mr. Walter Todd, correspondent and one of the partners of the applicant, is a man about 65 years old and appears competent to handle the project.

5. LOAN REQUESTED

$5,000.00

6. DESCRIPTION OF PROJECT

A. General Features

(1) There are no mine workings, mill or other necessary appurtenances which are not confined within applicant's ownership.

(2) Proposed project would comply with State Compensation or Safety-First Statutes.

(3) Under the purchase contract, as submitted with applicant's application, it will be noted that a payment of $5,000.00 is to be made annually. This has not been done; therefore, the contract is subject to forfeiture. The intent under the contract is that the mine shall pay the $5,000.00 out of the ore produced.

(4) There are no impeded right-of-way facilities.

(5) Likelihood of surface or sub-surface trespass not apparent.

B. Existing Development

(1) Tunnel and Shaft Mine

a. Attached maps show the areas where ore has been extracted and where it is proposed to do the development. The maps were copied from those made by Hugo W. Miller, Assayer of Nogales, Arizona. New work was brought up to date with tape and compass, although it was impossible to correctly outline the stopes because of caving and filling with waste. The old maps showed samples with good copper assays, but these areas are now mined out.

The area under consideration is entered by a 100' crosscut adit to the vein. Along the vein, there has been 310' of drifting with some crosscutting. At a point 200' in on the vein, a winze was sunk 83' on the dip of the vein. There was supposed to be a sump of 10', but this was filled with muck. Off the bottom of this winze, a drift extends for 105' in both directions.

b. Sampling and assay data

Five (5) samples have been taken by your Engineer, four (4) in one stope and one (1) along the south drift on bottom level. They are located on the attached map.

| Date | No. | Width | Au. | Ag. | Cu. | Pb. | Zn. |
|---|---|---|---|---|---|---|---|
| 2/28/43 | 1 | 12" | .04 | 5.8 | 11.6 | 3.33 | 5.8 |
| 2/28/43 | 2 | 18" | .04 | 9.2 | 8.91 | 2.45 | 6.7 |
| 5/8/43 | 18 | 8" | Tr. | 1.1 | 13.00 | Tr. | 1.32 |
| 5/8/43 | 19 | 24" | .03 | 1.6 | 6.90 | .30 | 1.80 |
| 5/8/43 | 20 | 8" | .10 | 12.4 | 9.70 | 6.65 | 10.79 |

The applicant proposes to mine ore of shipping grade and the ore exposures sampled are of that grade, although small in length. About 50 tons of ore has been mined from the stope and on the dump, ready for shipment. The applicant is continuing mining to make certain he has a 50 ton shipment.

Based on the average assay of 97.48 tons mined in 1942 from a stope to the south, the ore on the dump is worth at the smelter:

| | | |
|---|---|---|
| .04 oz. au. @ $32.20 | = | $1.29 |
| 3.0 oz. ag. - .3 x 2.5 @ 69.35¢ | | 1.73 |
| 8.2% cu. x 168 lbs. less 10 lbs. | x | |
| 138 lbs. @ 9.275 | = | 14.65 |
| Total from smelter . | | $ 17.67 |
| Metal Reserve Premium 163# @ 5¢ | = | 8.15 |
| Total per ton . . . . | | $ 25.82 |
| 50 tons x $25.82 | = | $1,291.00 |

This ore has a variable silica content. Ore of high copper content 14-15% cu. the silica averages around 35%, but with a low copper content, for example, the smelter shows on ore of 4.08% Cu, a silica content of 70.2%; an 6.65% Cu., a silica content of 61.9%; and an 5.97% Cu., a silica content of 62.6%.

The applicant is sorting the ore as mined to grade up the shipping ore as high in copper as possible, thus leaving considerable low-grade copper ore which is high in silica.

c. Condition and accessibility of mine workings: All the mine workings were accessible except the filled stopes.

d. General Features of Deposit:

The quartz monzonite country rock has been cut by N-S fissure veins and the vein covered by the Gladstone is part of an extensive

vein covered by many claims, some of which have been worked for gold. The outcrop of the vein consists of iron-stained white quartz.

Underground the vein dips 70° northeast and varies in width from 8" to 24". Much of the vein consists of massive white quartz and minor pyrite and chalcopyrite and too low-grade to mine for shipping ore. However, much of this ore averages 70% silica and is in demand by the smelters and therefore, its use as a flux is desirable. The shipping grade ore occurs in lenticular masses 12 to 15' wide and 8 - 24" thick and consists of chalcopyrite, pyrite galena and sphalerite. This ore also contains some silver.

C. Proposed Development

(1) Recommended plan of development.

Applicant plans to sink from bottom of present shaft 50' and drift both directions under the ore body.

(2) Recommendations concerning applicant's mining method:

None -- applicant is using the cut and fill method.

(3) Expected capacity of operations.

a. Mining - 5 tons per day
b. Drift development -- 4' per working place
c. None
d. None
e. Not applicable
f. Not applicable
g. Not applicable
h. Not applicable
i. Applicant expects to work and employ only two men

D. Equipment

(1) Applicant has workable compressor, hoist and ore car, jack-hammer and air hose.

(2) Not applicable.

(3) Not applicable.

(4) Mine equipment and supplies recommended for purchase:

| | |
|---|---|
| 225' of cable for hoist . . . | $50.00 |
| Stopes . . . . . | 200.00 |
| Ore car, bucket, air and water hose . . . . . | 200.00 |
| 12 lbs. rails, timber, misc. | 300.00 |
| | $750.00 |

(5) Not applicable

(6) Buildings in good shape

(7) No camp construction

(8) None

E. Cost Estimations

(1) Vein deposit

a. Mining . . .$4.00 per ton
b. Drifting . $20.00 per ft.
c. --
d. --
e. --
f. Shaft sinking $40.00
g. Not applicable
h. Haulage mine to rail
Crude ore . . . . $2.50 per ton
i. Freight . . . . . 2.50 per ton
j. Smelter treatment . . 3.00 per ton
k. Royalty 10% . . . . . 2.50
l. Timber . . . . . .50.00 per 1,000
m. total cost per ton . .14.75

F. Ore Reserves:

It is believed the applicant can develop 300 tons of $25.82 ore and probably an equal number of tons of high silicious low copper ore.

Total payments from smelter, based on past records . . . . . $25.82

Costs:

| | | |
|---|---|---|
| Mining . . . . . | $4.00 | |
| Hauling . . . . . | 2.50 | |
| Freight . . . . . | 2.50 | |
| Federal Tax . . . . . | .15 | |
| Smelter Treatment . | 3.00 | |
| Royalty 10% . . . . . | 2.60 | 14.75 |

Profit per ton . . . . . $11.07

7. EMPLOYMENT

A. Only the two partners of the applicant are working.

B. Two additional men are to be added, making a total of 4 men working on the proposed project.

C. One shift per day.

8. OBJECTIONS TO PROJECT

A. - None

B. - None

9. TIME SCHEDULE

A. A total of three (3) months to complete project from time loan is granted.

B. Length of operating season: 12 months.

C. To repay loan: 18 months.

10. ESTIMATED COST OF PROJECT

A. Total development:

Sinking winze 4 x 7 50' . . . . . $2,000.00
Drifting 5 x 7, 75' . . . . . 1,500.00

B. Purchase of equipment . . . . . 850.00

C. No construction

D. General expense

Insurance, interest, contingencies . . 650.00

Total . . . . . $5,000.00

11. NATURE AND SOURCES OF REVENUE

A. Loan will be repaid from proceeds of ore mined during project, one note to be paid at end of eighteen (18) months.

12. COMMENTS OF SUPERVISING ENGINEER

A. Applicant expects to do all the work with the help of two extra men.

B. Applicant expects to buy a minimum amount of equipment.

C. Applicant has lowered his sights from first application and now proposes to do the minimum of work to prove and develop the continuity of ore shoots.

D. Since my first examination, applicant has continued mining and has on the dump approximately 50 tons of $25.00 ore.

E. Zinc and lead keep coming in and applicant can expect some premium payments on these metals which were not calculated in the average value of the ore.

F. Applicant sorts his ore and on the low copper ore which has a high silica content, the applicant may receive a favorable treatment rate from smelter.

G. Size of ore shoots are small and previous production has been from small shoots.

H. However, I recommend that the applicant be given a loan for $5,000.00, and thus feel that I have saved the Government $15,000.00. The applicant has shown

that the ore body, although small, is continuous.

This Loan is no more than the maximum accessibility loan and has much more to offer than 90% of loans already granted.

CHARLES A. RASOR
Supervising Engineer

Attachments:
Map of Underground Workings
Assay Certificates.

No. 208 Ra.

Phoenix, Arizona,
May 10 1943.

CHAS. A. DIEHL

# ARIZONA ASSAY OFFICE

Phone 3-4001 — 815 North First Street — P. O. Box 1148

This Certifies That samples submitted for assay by Mr. C. A. Razor. contain as follows per ton of 2000 lbs. Avoir.

| MARKS | SILVER Ounces | SILVER Tenths | VALUE (Oz.) | GOLD Ounces | GOLD Hundths | VALUE (Oz.) | TOTAL VALUE Of Gold and Silver | % Lead | % Copper | % Zinc. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gladstone. | | | | | | | | | | | |
| No.18. | 1 | 1 | | Trace | | | | Trace | [illegible] | 1.[illegible] | |
| No.19. | 1 | 6 | | | .05 | $ 1.05 | | .[illegible] | [illegible] | 1.[illegible] | |
| No.20. | 12 | 4 | | | .[illegible] | $ [illegible] | | [illegible] | [illegible] | [illegible] | |

Charges $ [illegible]

Assayer ARIZONA ASSAY OFFICE.

C. A. D.

CLAUDE E. McLEAN
P. O. BOX 1888

# ARIZONA TESTING LABORATORIES

ANALYTICAL AND CONSULTING CHEMISTS
ASSAYERS, MINING ENGINEERS
823 EAST VAN BUREN STREET

TELEPHONE 3-6272

## ASSAY CERTIFICATE

PHOENIX, ARIZONA March 5, 1943

Mr. C. A. Raser, Supervising Eng., RFC

325 Heard Building, Phoenix, Arizona

WE HAVE ASSAYED THE SAMPLES RECEIVED FROM YOU AND FIND THE RESULTS AS FOLLOWS:

GOLD FIGURED AT $ 35.00 PER OUNCE.

SILVER FIGURED AT $ 0.70 PER OUNCE.

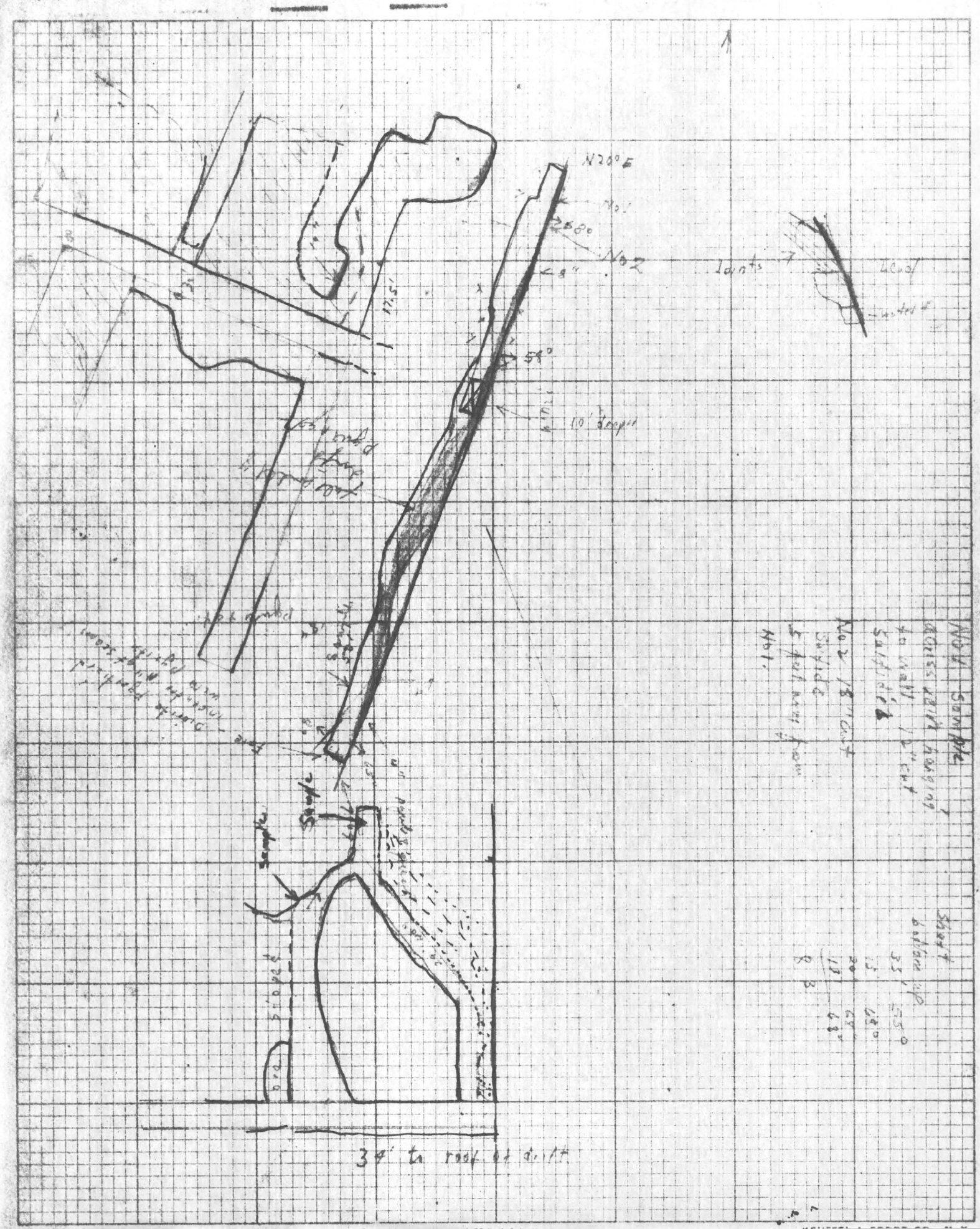
LAB. FORM 2

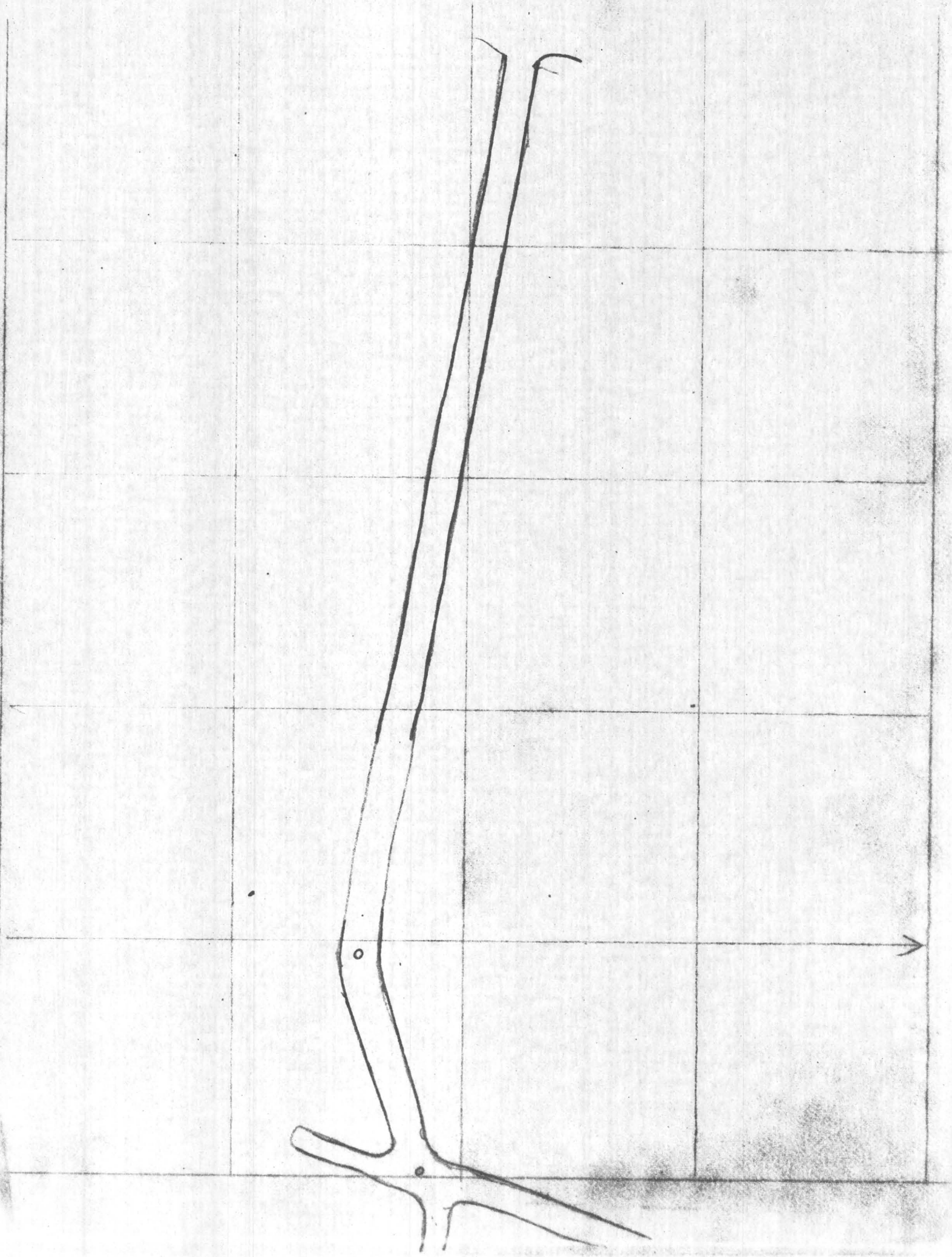
| LAB. NO. | SAMPLE ND - 5281 | GOLD | | SILVER | | PERCENTAGES | | |
|---|---|---|---|---|---|---|---|---|
| | | OZ. PER TON | VALUE | OZ. PER TON | VALUE | COPPER | LEAD | Zinc |
| 46833 | Gladstone #1 | 0.04 | $1.40 | 5.80 | $4.06 | 11.60% | 3.33% | 5.80% |
| 46834 | Gladstone #2 | 0.04 | $1.40 | 9.20 | 6.44 | 8.91 | 2.45 | 5.70 |

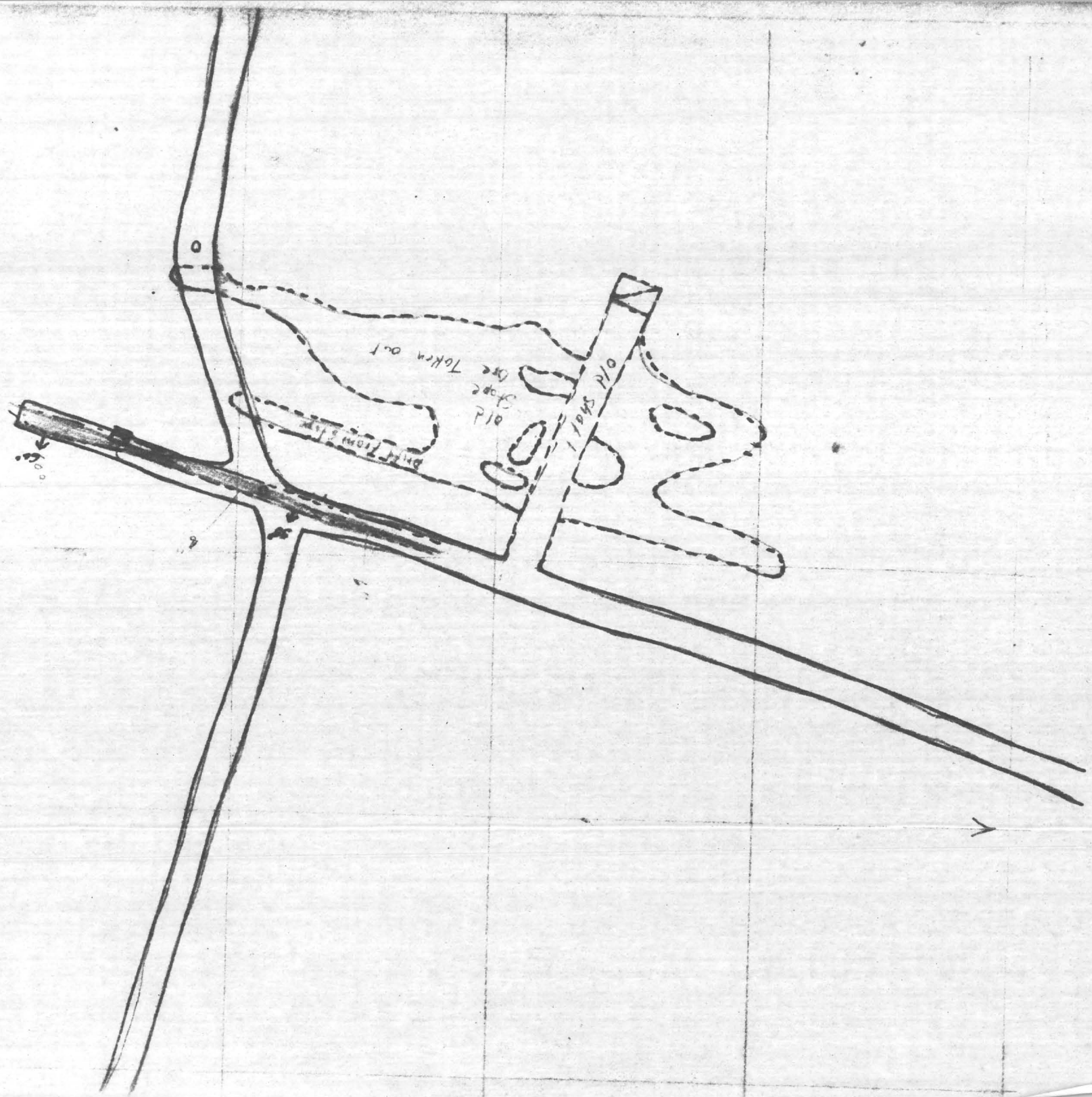
REGISTERED ASSAYER
CERTIFICATE EXPIRES
CLAUDE E. McLEAN
DEC. 31, 1943
ARIZONA, U. S. A.

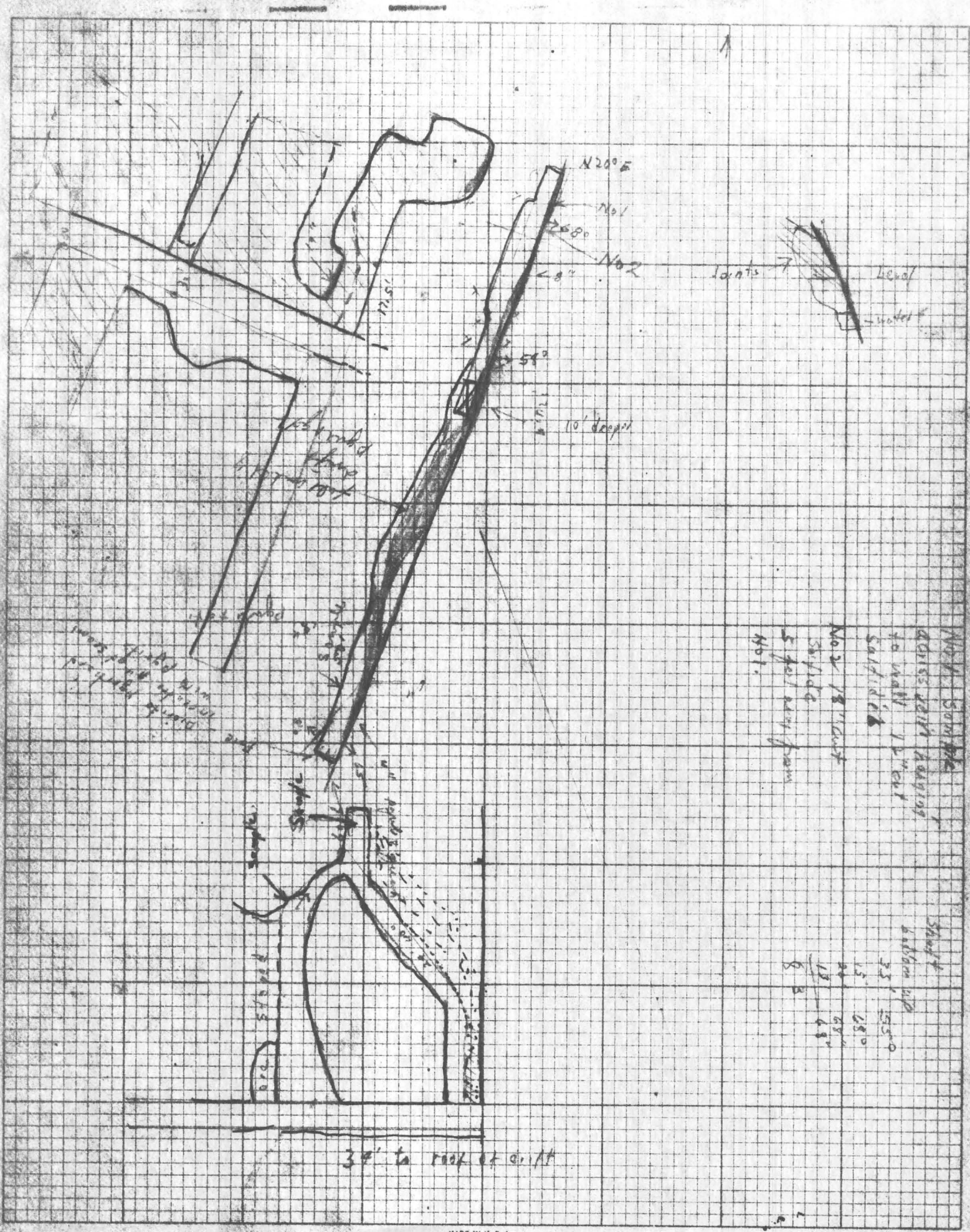
RESPECTFULLY SUBMITTED,
ARIZONA TESTING LABORATORIES
BY [signature]
Claude E. McLean ASSAYER

CHARGES $ 8.00

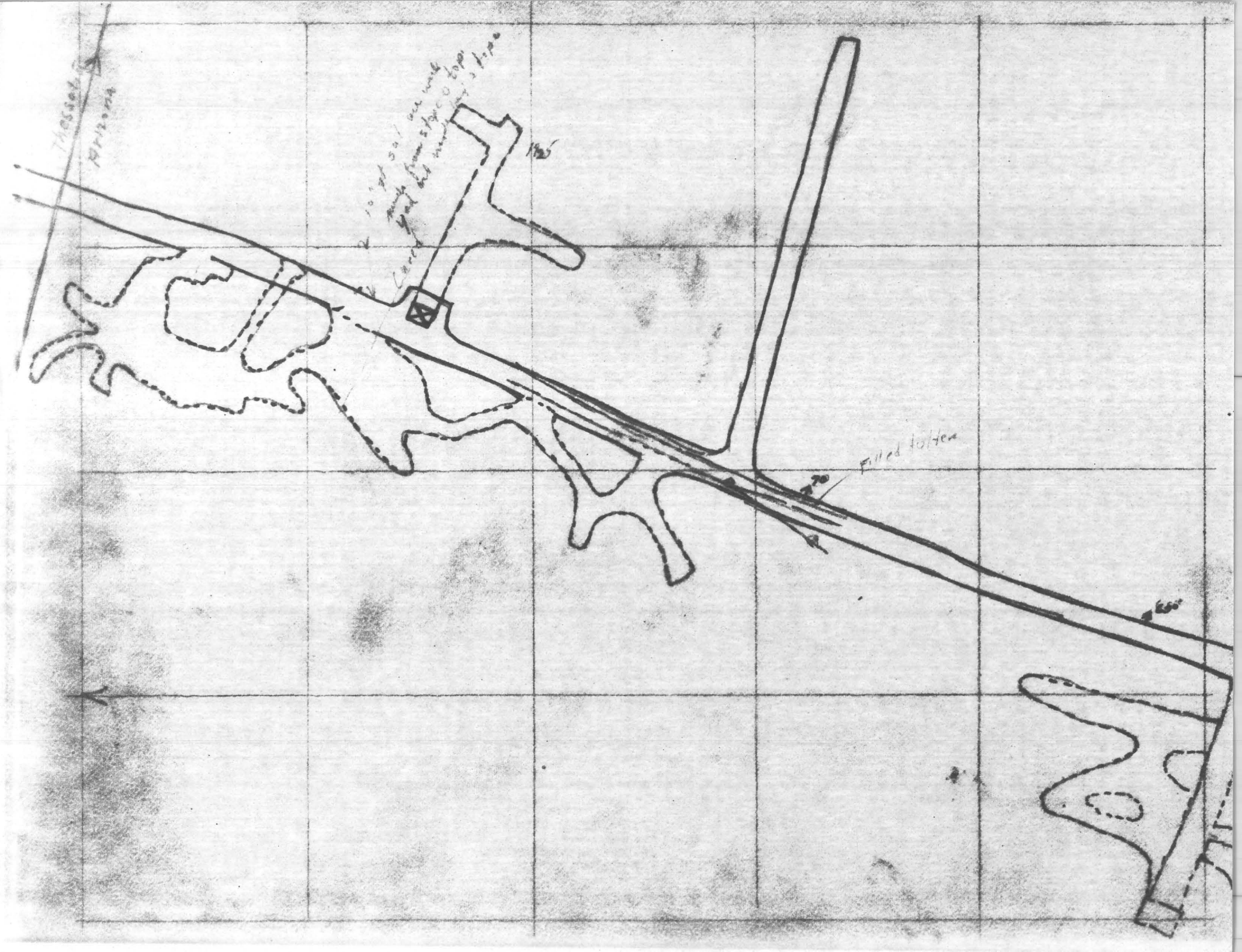

N20°E
No 1
No 2
58°
10' deeper
Joints
Lead
Sample
Sample
34' to roof of drift
No 1 Sample
across vein hanging
to wall 12" cut
Sulfide
No 2 18" cut
Sulfide
5 feet away from
No 1.
Sheet
bottom up
35 55°
15 68°
20 68°
13 68°
8 3

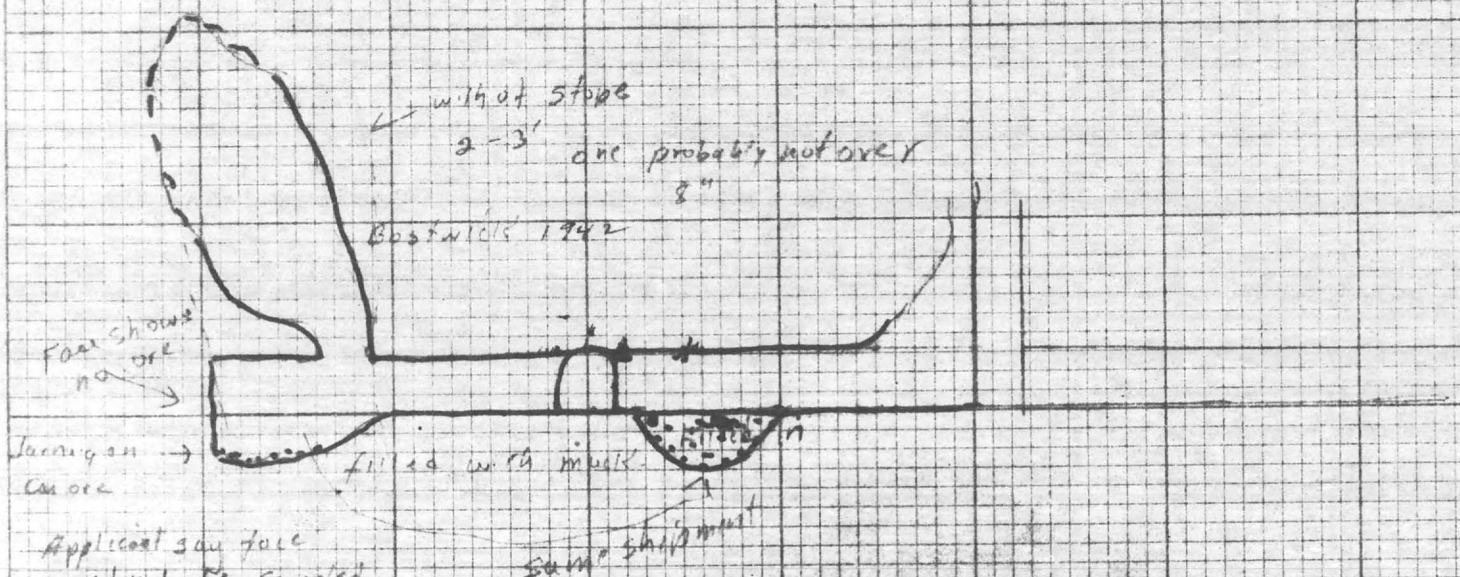



Old Shape Ore Taken out
Old Shaft
Drift from Shaft



N20°E
No1
68°
No2
8"
58°
10' deeper
Joints
Level
water
Sample
Sample
34' to roof of drift
No1 Sample across vein hanging to wall 12" cut
No2 18" cut
Shaft bottom up


Thesset
Arizona
Filled tolter

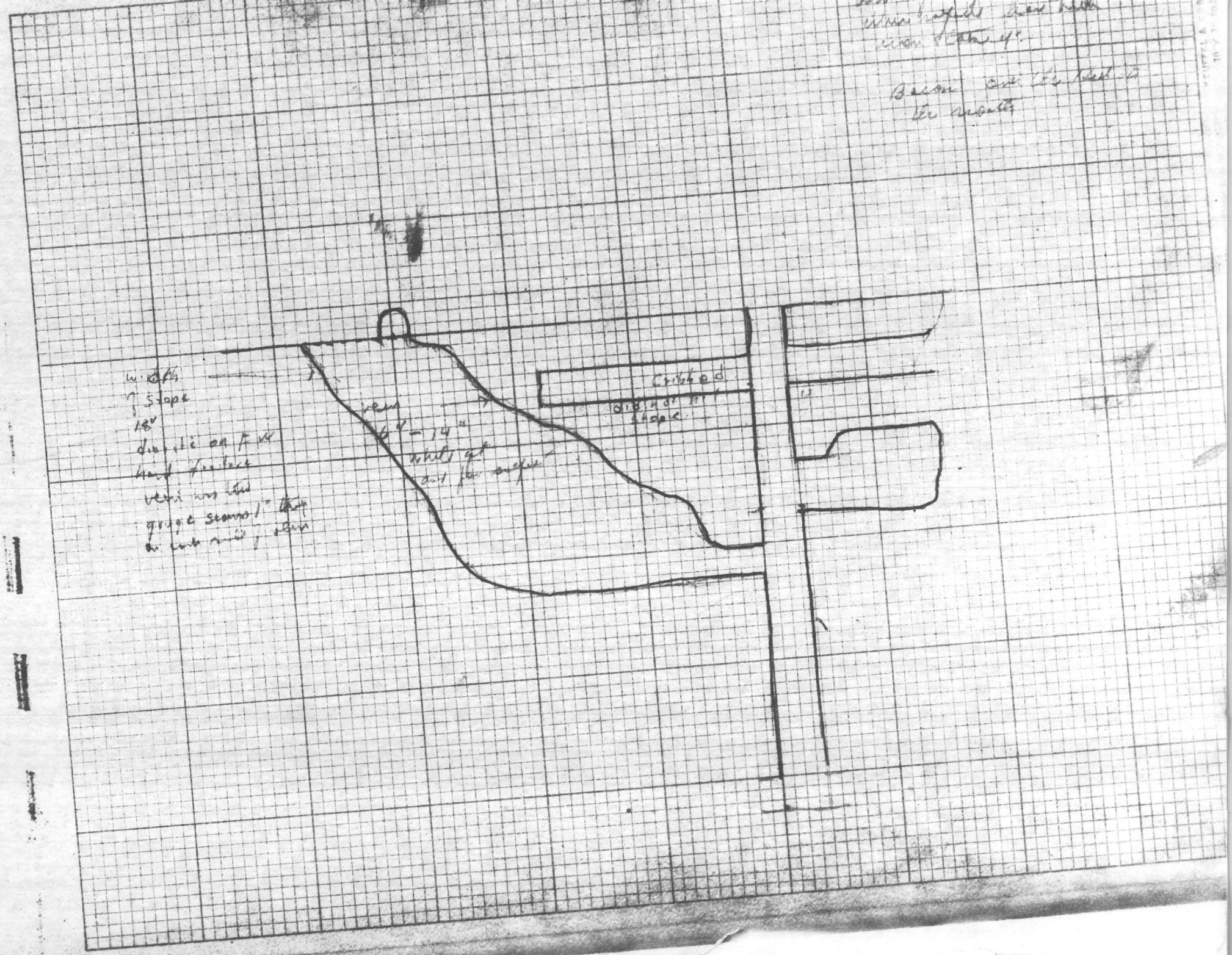



Applicant say face need not be sampled

bott on of winze filled vein that could be seen was built gtz and pyrit some chalcopy.

2) 55.720 (27.86
4
15
14
17
12
12

KEUFFEL & ESSER CO., N. Y.
MADE IN U.S.A.


Cribbed
slope

El Paso – Ores Running from Fe & Mn – Molybdenum [illegible]

| Shipper | Date | Dry Tons | Au | Ag | Cu | ins | Fe & Mn | CaO | Zn | S | Paid Shipper | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J.W. Forsythe | 1916 Oct | 32. | 0.04 | 4.1 | 15.22 | 35.2 | 17.8 | 2.6 | 2.7 | 15.9 | 1632.55 | |
| | " | 37 | | 3.9 | 15.74 | 35.8 | 18.8 | 1.4 | 2.5 | 16.8 | 1977.00 | |
| | Nov | 28 | | 4.3 | 14.92 | 41.4 | 16.6 | 1.3 | 2.5 | 18.2 | 1444.41 | |
| Proto Bros | Mar | 21 | 0.02 | 5.2 | 11.82 | 43.0 | 16.0 | 2.0 | 2.6 | 16.3 | 821.29 | |
| | " | 6 | | 5.0 | 14.16 | 31.2 | 20.0 | 2.6 | 4.0 | 21.3 | 281.27 | |
| | July | 27 | 0.01 | 1.2 | 5.97 | 62.6 | 9.2 | 3.6 | 0.8 | 8.8 | 338.87 | |
| | Nov | 26 | | 2.7 | 24.10 | 22.6 | 24.0 | 1.0 | 1.4 | 26.4 | 2312.31 | |
| | " | 6 | | 2.9 | 7.74 | 51.2 | 14.6 | 3.2 | 1.8 | 14.8 | 135.45 | |
| | 1917 Jan | 24 | | 1.5 | 6.65 | 61.9 | 10.6 | 1.8 | | 10.6 | 474.89 | |
| | " | 8 | | 2.0 | 20.44 | 31.0 | 20.6 | 0.6 | | 18.8 | 609.09 | |
| | 1918 Jan | 37 | 0.01 | 2.5 | 13.65 | 38.5 | 13.7 | 3.2 | 1.0 | 16.4 | 1485.78 | |
| | Sept | 30 | 0.02 | 2.9 | 8.75 | 49.0 | 17.0 | 1.1 | 2.0 | 15.6 | 837.20 | |
| | 1919 Aug | 30 | | 2.3 | 7.38 | 49.6 | 12.4 | 3.6 | | 13.6 | 773.73 | |
| | Dec | 27 | | 2.3 | 7.68 | 54.4 | 11.8 | 3.2 | 1.1 | 12.0 | 442.78 | |
| | 1920 June | 26 | | 4.0 | 15.94 | 39.2 | 17.8 | 1.6 | 0.9 | 17.5 | 920.36 | |
| Hugo Muller Molybdenum | 1921 Mar | 32 | | 4.1 | 20.67 | 24.2 | 19.0 | 3.1 | 3.4 | 21.2 | 880.56 | |
| | 1920 Aug | 17 | | 2.3 | 6.41 | 56.8 | 12.9 | 0.4 | 0.1 | 10.2 | 186.70 | |
| | " | 11 | | 4.7 | 14.36 | 43.2 | 16.2 | 1.2 | 1.8 | 16.0 | 360.49 | |
| | Sept | 17 | | 4.5 | 8.68 | 59.9 | 12.0 | 1.8 | 1.6 | 12.0 | 290.46 | |
| | " | 14 | | 4.8 | 14.65 | 39.1 | 17.2 | 2.3 | 2.2 | 18.0 | 466.25 | |
| | Oct | 35 | | 5.6 | 11.70 | 51.6 | 12.5 | 0.4 | 2.8 | 13.2 | 854.77 | |
| | Dec | 19 | 0.02 | 7.9 | 12.10 | 47.0 | 14.5 | 0.5 | 2.3 | 16.6 | 259.00 | |
| Todd Molybdenum | " | 12 | 0.02 | 4.3 | 18.18 | 29.8 | 18.0 | 0.5 | 2.7 | 20.0 | 217.68 | |
| | 1941 Aug 25 | 24.589 | 0.08 | 2.8 | 5.88 | 59.80 | FC 11.0 | 2.2 | | 9.10 | 203.37 | 2.30 Magma Smelter |
| | Jan 10 | 15.068 | 0.025 | 3.48 | 10.52 | 45.4 | 16.6 | 1.1 | | 16.6 | 180.56 | 2.02 Hayden |
| Bump | May 13 | 10.6015 | .01 | 2.41 | 4.05 | 70.2 | 7.3 | | | 7.4 | 21.17 | 1.8 |
| | " " | 18.1595 | .03 | 3.95 | 10.95 | 41.9 | 16.5 | | | 17.3 | 267.32 | 1.5 Hayden |

El Paso – Ores Receiving from Proto – Gladstone Claims

| Shipper | Date | Dry Tons | Au | Ag | Cu | ins | Fe & Mn | CaO | Zn | S | Paid Shippers | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J.W. Forsythe | 1916 Oct | 32. | 0.04 | 4.1 | 15.22 | 35.2 | 17.8 | 2.6 | 2.7 | 15.9 | 1632.55 | |
| | " | 37 | | 3.9 | 15.74 | 35.8 | 18.8 | 1.4 | 2.5 | 16.8 | 1977.00 | |
| | Nov | 28 | | 4.3 | 14.92 | 41.4 | 16.6 | 1.3 | 2.5 | 18.2 | 1444.41 | |
| Proto Bros | Mar | 21 | 0.02 | 5.2 | 11.82 | 43.0 | 16.0. | 2.0 | 2.6 | 16.3 | 821.29 | |
| | " | 6 | | 5.0 | 14.16 | 31.2 | 20.0 | 2.6 | 4.0 | 21.3 | 281.27 | |
| | July | 27 | 0.01 | 1.2 | 5.97 | 62.6 | 9.2 | 3.6 | 0.8 | 8.8 | 338.87 | |
| | Nov | 26 | | 2.7 | 24.10 | 22.6 | 24.0 | 1.0 | 1.4 | 26.4 | 2312.31 | |
| | " | 6 | | 2.9 | 7.74 | 51.2 | 14.6 | 3.2 | 1.8 | 14.8 | 135.45 | |
| | 1917 Jan | 24 | | 1.5 | 6.65 | 61.9 | 10.6 | 1.8 | | 10.6 | 474.89 | |
| | " | 8 | | 2.0 | 20.44 | 31.0 | 20.6 | 0.6 | | 18.8 | 609.09 | |
| | 1918 Jan | 37 | 0.01 | 2.5 | 13.65 | 38.5 | 13.7 | 3.2 | 1.0 | 16.4 | 1485.78 | |
| | Sept | 30 | 0.02 | 2.9 | 8.75 | 48.0 | 17.0 | 1.1 | 2.0 | 15.6 | 839.20 | |
| | 1919 Aug | 30 | | 2.3 | 9.38 | 49.6 | 12.4 | 3.6 | | 13.6 | 773.73 | |
| | Dec | 27 | | 2.3 | 7.68 | 54.4 | 11.8 | 3.2 | 1.1 | 12.0 | 442.78 | |
| | 1920 June | 26 | | 4.0 | 15.94 | 39.2 | 17.8 | 1.6 | 0.9 | 17.5 | 920.36 | |
| Hugo Miller Gladstone | 1921 Mar | 32 | | 4.1 | 20.67 | 24.2 | 19.0 | 3.1 | 3.4 | 21.2 | 880.56 | |
| | 1920 Aug | 17 | | 2.3 | 6.41 | 56.8 | 12.9 | 0.4 | 0.1 | 10.2 | 186.70 | |
| | " | 11 | | 4.7 | 14.36 | 43.2 | 16.2 | 1.2 | 1.8 | 16.0 | 360.49 | |
| | Sept | 17 | | 4.5 | 8.68 | 59.9 | 12.0 | 1.8 | 1.6 | 12.0 | 290.46 | |
| | " | 14 | | 4.8 | 14.65 | 39.1 | 17.2 | 2.3 | 2.2 | 18.0 | 466.25 | |
| | Oct | 35 | | 5.6 | 11.70 | 51.6 | 12.5 | 0.4 | 2.8 | 13.2 | 854.77 | |
| | Dec | 19 | 0.02 | 7.9 | 12.10 | 47.0 | 14.5 | 0.5 | 2.3 | 16.6 | 259.00 | |
| Todd Gladstone | " | 12 | 0.02 | 4.3 | 18.18 | 29.8 | 18.0 | 0.5 | 2.7 | 20.0 | 217.68 | |
| | 1941 Aug 25 | 24.589 | 0.08 | 2.8 | 5.88 | 59.80 | Fe 11.0 | 2.2 | | 9.10 | 203.37 | 2.30 Magma Smelter |
| | Jan 10 | 15.068 | 0.025 | 3.48 | 10.52 | 45.4 | 16.6 | 1.1 | | 16.6 | 180.56 | 2.03 Hayden |
| Pump | May 13 | 10.6015 | .01 | 2.41 | 4.05 | 70.2 | 7.3 | | | 7.4 | 21.17 | 1.8 Hayden |
| | " " | 18.1595 | .03 | 3.95 | 10.95 | 41.9 | 16.5 | | | 17.3 | 267.32 | 1.5 |