



## **CONTACT INFORMATION**

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Arizona Geological Survey  
1520 West Adams St.  
Phoenix, AZ 85007  
602-771-1601  
<http://www.azgs.az.gov>  
[inquiries@azgs.az.gov](mailto:inquiries@azgs.az.gov)

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Arizona Department of Mines and Mineral Resources Mining Collection

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PRINTED: 07-06-2012

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: MINES HOLDING CLAIMS

ALTERNATE NAMES:  
CEDAR RIDGE  
YUCCA  
JACKRABBIT  
BIRTHDAY  
BEE SHAFT  
HOMESTEAD

PINAL COUNTY MILS NUMBER: 411

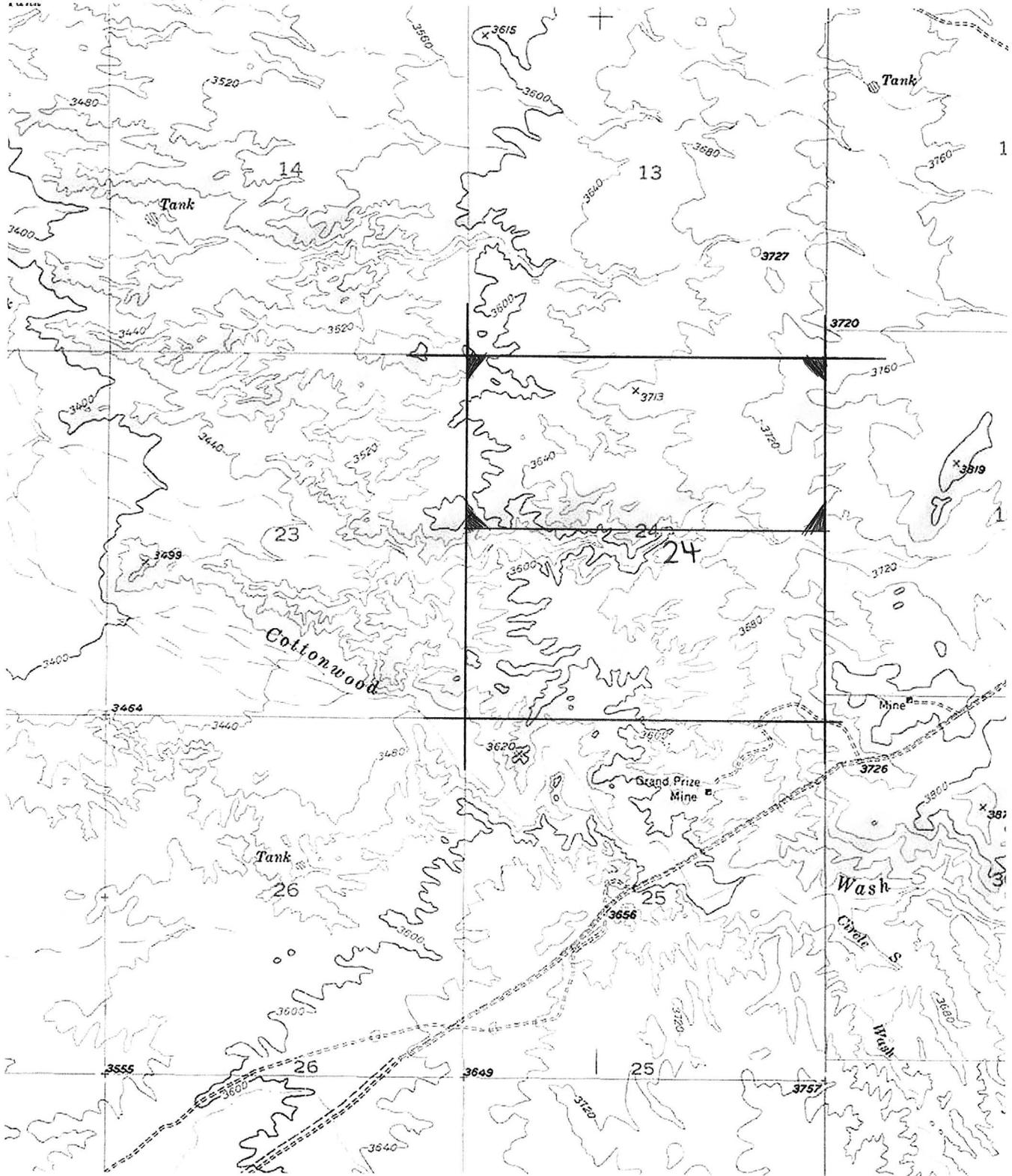
LOCATION: TOWNSHIP 6 S RANGE 13 E SECTION 24 QUARTER N2  
LATITUDE: N 32DEG 54MIN 00SEC LONGITUDE: W 110DEG 57MIN 30SEC  
TOPO MAP NAME: CROZIER PEAK - 7.5 MIN

CURRENT STATUS: DEVEL DEPOSIT

COMMODITY:  
GOLD  
SILVER  
LEAD  
COPPER

BIBLIOGRAPHY:  
ADMMR MINES HOLDING CO. PROPERTIES FILE  
ADMMR FILES  
CLAIMS EXTEND INTO SEC. 13 & 23-T6S-R13E &  
SEC. 19 T6S-R14E

Crozier Peak - 7.5 min



N32 54' 00" W 110 57' 30"

Mines Holding Claims

BEE MINE

RINAL

Dave Rabb of ABM inquiring about Rothermel Brothers Bee mine sw of Winkelman. 5-22  
and Fred Rothermel called regarding letter to ABM. FTJ WR 5-25-73

See Mines Holding Co Profiter File - FINAL

PROPERTY BEE CLAIMS

PROJECT NO. 302

LOCATION San Pedro Mining District, Pinal County, Arizona.  
Approximately 20 miles south-east of Florence.

ACREAGE 227.26 Acres

LAND STATUS 1 Patented Claim and 10 Unpatented Claims.

OWNERSHIP ALANCO LTD. under purchase agreement.

CURRENT ACTIVITIES Development under Mineral Exploration "80"

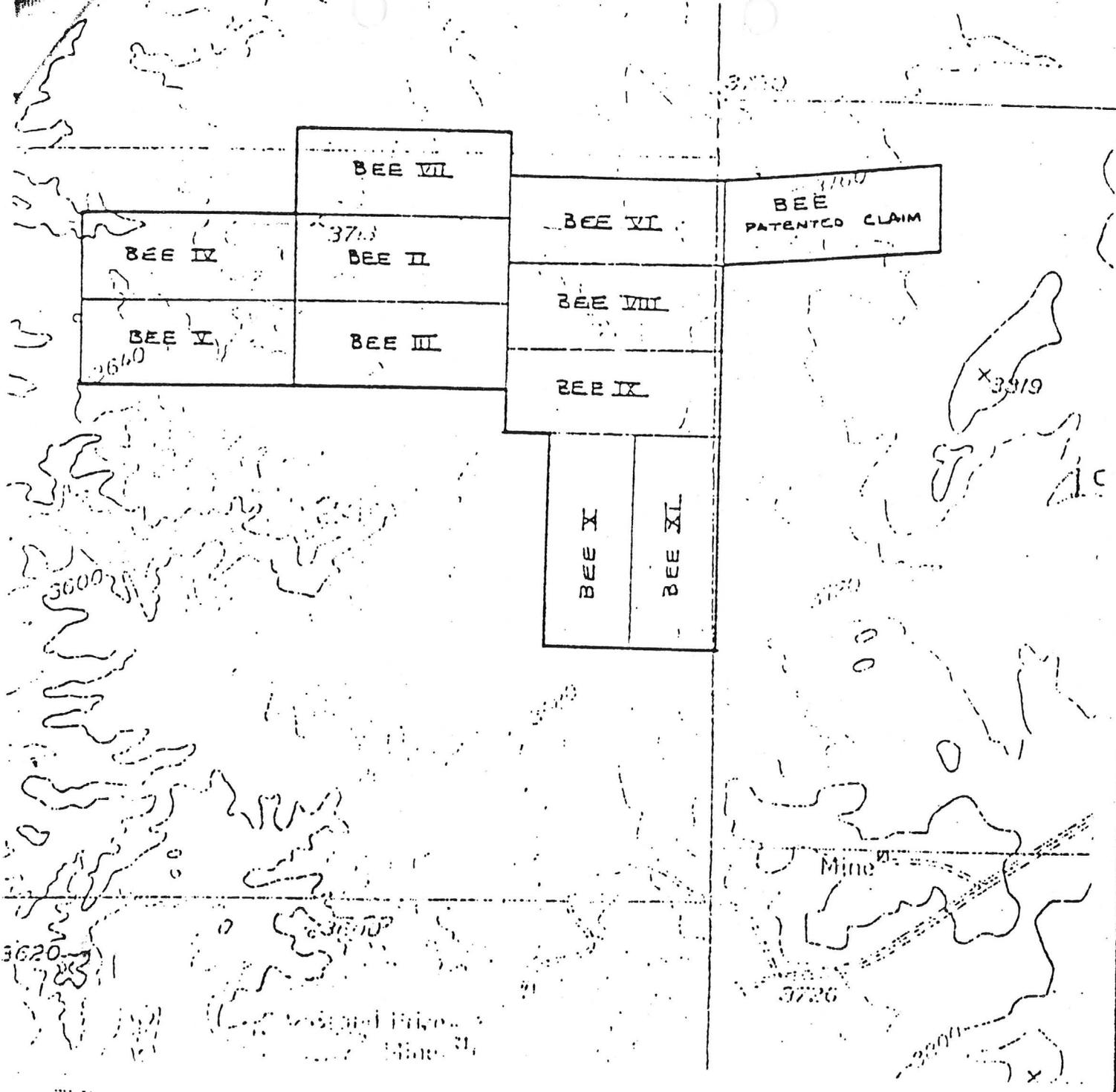
COMMODITIES Gold and lead.

RESERVES 10,000 tons (inferred)

VALUE \$500,000.00

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COMMENTS



BEE CLAIMS

SAN PEDRO MINING DISTRICT  
 Pinal County, Arizona



# DEL TIERRA ENGINEERING & MINING CORP.

U. S. Mineral Surveys

Mining

Exploration

HARVEY W. SMITH, E.M. President

Registered Mining Engineer U. S. Mineral Surveyor

6016 N. Kachina Lane Scottsdale, Arizona 85253

Tel. 602 948-5517

November 22, 1972

To: Mr. John Rothermel  
3016 West Mercer Lane  
Phoenix, Arizona



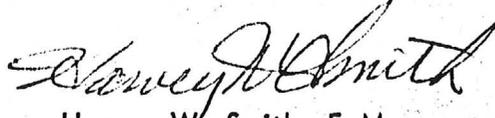
Reproduction of the Claim  
Kachina Mine  
Lawrence S. Hoffman Esq.

## STATEMENT

For professional engineering services pertaining to the examination of the Bee claim and adjacent area.

One day plus report	\$200.00
210 miles @ 20¢/mile	<u>42.00</u>
Total	<u>\$242.00</u>

Respectfully submitted,

  
Harvey W. Smith, E.M.

HWS:ebj

AFFADAVIT OF PERFORMANCE OF ANNUAL LABOR

STATE OF ARIZONA )  
COUNTY OF MARICOPA ) ss.

Larry M. Kersey, being duly sworn, deposes and says that he is a citizen of the United States and more than twenty-one years of age, and resides at 8501 E. Camino Vivaz, Scottsdale in Maricopa, County, State of Arizona, and is personally acquainted with the Mining Claim(s) known as Bee Group (See Exhibit "A" for a more detailed description)

situated in the San Pedro Mining District, more specifically located in Section(s) 24, Township 6 South, Range 13 East; and Section(s) \_\_\_\_\_, Township \_\_\_\_\_, Range \_\_\_\_\_; G&SRB&M, County of Pinal, State of Arizona. The Location Notices of which are recorded in the Office of the County Recorder of said County, as contained in Exhibit "A", attached hereto, and as reflected in the Records of the State Office of the Bureau of Land Management, Serial Number(s) See Exhibit "A"

that between the first day of September, 1984 and the first day of September, 1985, at least (\$1,000.00) One Thousand and no/100 Dollars worth of work and improvements were made by and at the expense of: Charter Mining Corporation (Leased from Thomas Beard)

Owner(s) of said claim(s) for the purpose of complying with the laws of the United States pertaining to annual assessment work performed, and that Employees of Alanco Ltd.

were the men employed by said Owner(s) and who labored upon said claim(s), performing said work and improvements, the same being as follows, to-wit: Road rehabilitation, shaft rehabilitation

Subscribed and sworn to before me, the undersigned notary public, on this 12 day of July, 1985

My commission expires: 12-31-87

## EXHIBIT "A"

NAME OF CLAIM	COUNTY RECORDATION			B.L.M. - AMC#
	DATE	BOOK	PAGE	
Bee II		681	871	90436
Bee III		681	872	90437
Bee 4		682	819	90438
Bee 5		683	104	90439
Bee 6		684	259	90440
Bee VII		684	260	90441
Bee VIII		687	906	90442
Bee IX		696	602	90443
Bee X		703	542	90444
Bee XI		705	789	90445

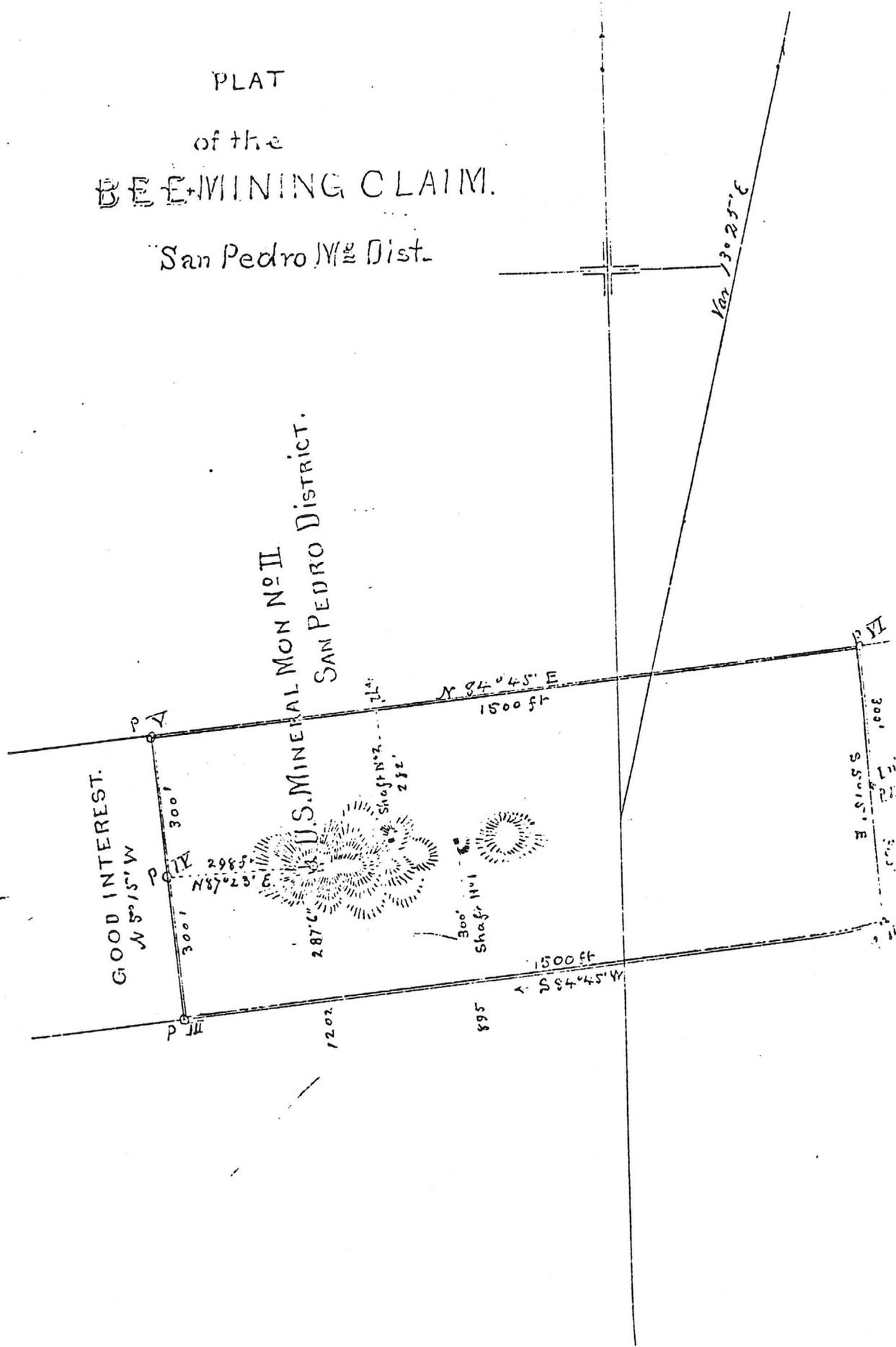
<u>Sample No.</u>	<u>ppm Copper</u>	<u>ppm Molybdenum</u>	<u>ppm Lead</u>	<u>ppm Zinc</u>	<u>ppm Gold</u>	<u>ppm Silver</u>
3046	0.96%	14	0.67%	70	0.1	80 = 2.0 oz.
3047	105	12	740	110	-0.1	4
3048	55	21	0.32%	160	-0.1	-1
3049	35	10	200	-5	-0.1	3
3050	0.23%	.225%	4.84%	0.09%	0.3	38 = 1.4 oz
3151	1.26%	13	2.00%	500	7.0	120 = 3.5 oz
3152	0.92%	3	1.31%	11.9%	-0.1	50 = 1.4 + oz
3153	0.95%	6	18.8%	7.90%	1.2	170 = 5.2 oz
3154	45	6	0.12%	140	1.2	27
3155	15	54	0.27%	30	0.4	29
3156	70	1	710	150	4.4	1
3157	130	15	0.11%	130	7.2	-1
3163	60	16	0.21%	520	0.4	100

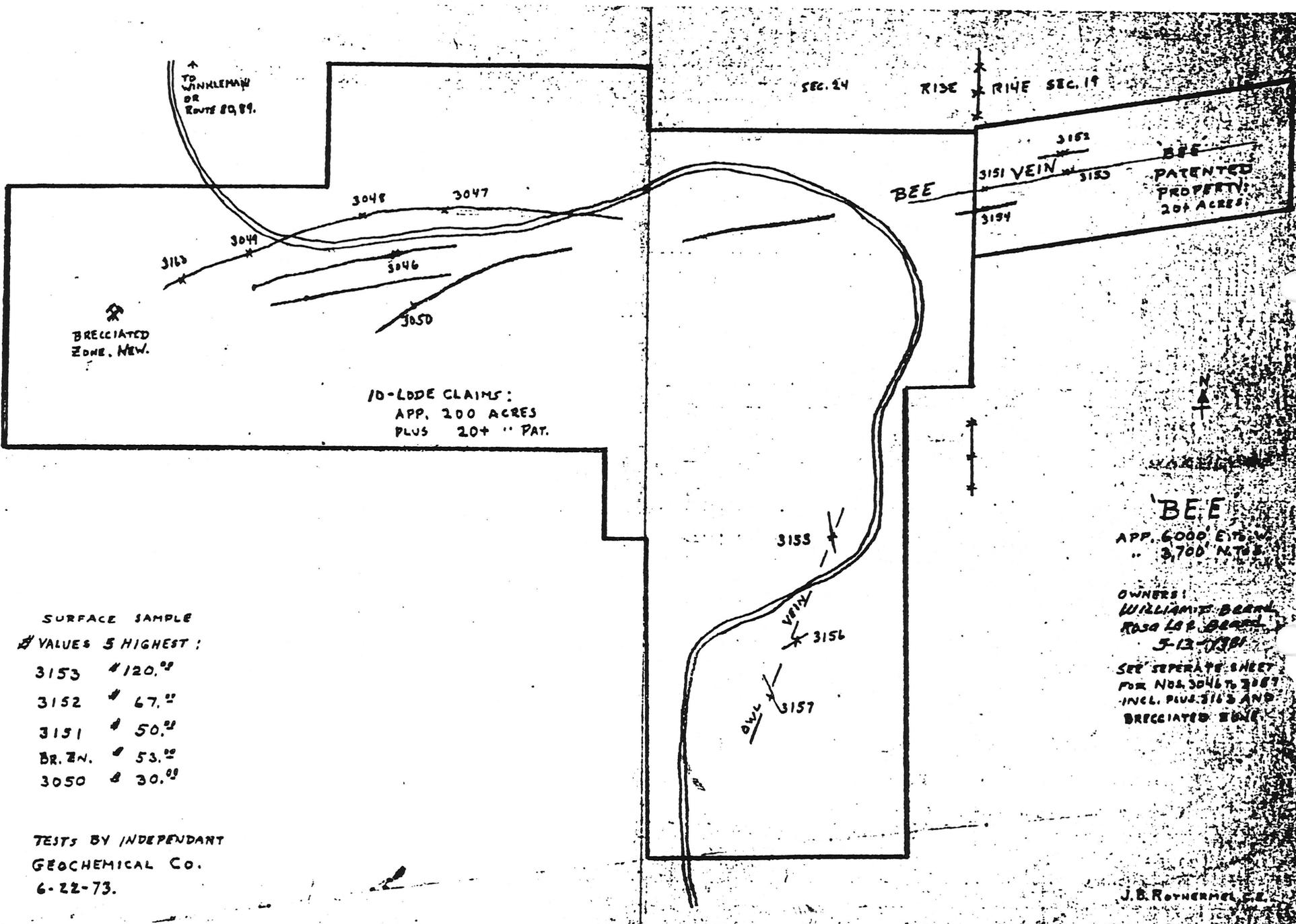
By *Martin H. Habetts*  
 Martin H. Habetts

1 ppm = 0.0292 Troy oz / ton  
 1 Troy oz = 34.286 ppm  
 1 ppm = 0.0001%

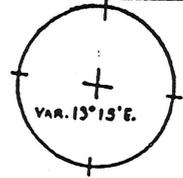


PLAT  
of the  
BEE-MINING CLAIM.  
San Pedro M<sup>o</sup> Dist.





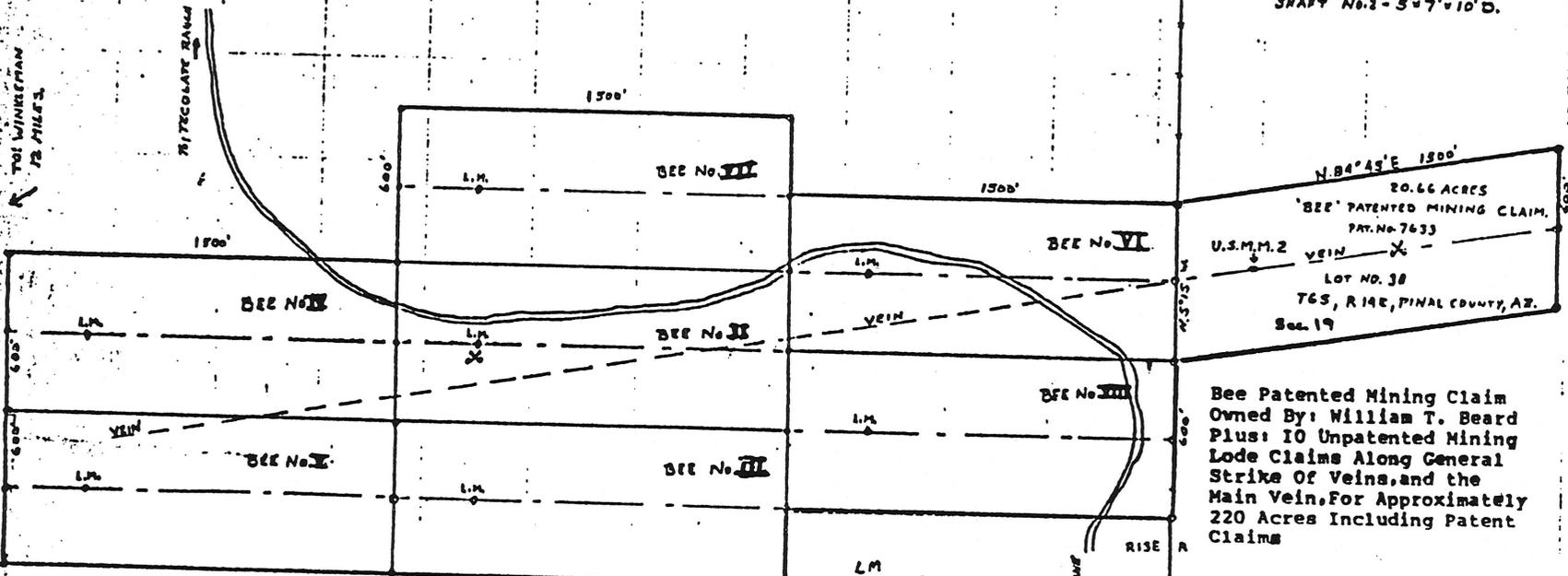
**BEE MINE**  
AND  
ADJACENT AREA OF  
THE BEE LODE.  
SILVER ET AL.



SCALE 1" = 400'

EL. APP. 3800 FT.  
TWN. 6 So., RANGE 13-14 EAST.

**BEE MINE**  
SHAFT No. 1 - 5' 7" x 10' D.  
SHAFT No. 2 - 5' 7" x 10' D.



20.66 ACRES  
**'BEE' PATENTED MINING CLAIM.**  
PAT. No. 7633  
U.S.M.M.2  
VEIN X  
LOT NO. 38  
T6S, R14E, PINAL COUNTY, AZ.  
Sec. 19

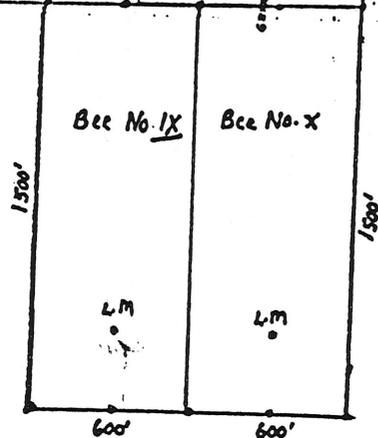
Bee Patented Mining Claim  
Owned By: William T. Beard  
Plus: 10 Unpatented Mining  
Lode Claims Along General  
Strike Of Veins, and the  
Main Vein, For Approximately  
220 Acres Including Patent  
Claims

Surface Samples Values In Dollars  
Of The Five Highest Samples.

- # 3153 - \$ 120.00 Per Ton
- " 3152 - \$ 67.00 " "
- " 3151 - \$ 50.00 " "
- " BR.2N \$ 53.00 " "
- " 3050 \$ 30.00 " "

These Tests Were Done By Independant  
Geochemical Company on 6-22-1973

12-5-72.



RECNO M051201  
REC\_TYPE S  
USER\_FIELD \*U94/5, KEITH 76 - 2  
REP\_DATE 76 04  
REP KEITH, WILLIAM J.  
REP\_AFF USGS  
DIST HORSE RANCH DISTRICT  
COUNTY PINAL  
STATE\_CODE AZ  
CTRY\_CODE US  
PHYS 12 BASIN AND RANGE  
DRAIN 15050100  
LAND\_ST 01  
UTM\_N 3640116  
UTM\_E 504116  
UTM\_Z +12  
ACC ACC  
TOWNSHIP 006S  
RANGE 013E  
SECTION 24?  
MERIDIAN GILA AND SALT RIVER  
LOCATION INFO FROM LAND.ST :(1964)  
SITE BEE GROUP  
LAT 32.9008  
LONG -110.9561  
CTRY\_NAME UNITED STATES  
COMMOD CU  
ORE\_MAT CHALCOPYRITE, MALACHITE, AZURITE  
MAJOR CU  
CLH\_USE 94/08/17  
PROD N  
STATUS 2  
DEP\_TYPE VEIN  
DEP\_FORM TABULAR  
MAX\_LEN 1000  
M\_L\_U FT  
MAX\_WID 6  
M\_W\_U FT  
DEP\_SIZE S  
STRIKE N 80 E  
DIP 85 S  
QUAD250 TUCSON  
NORE\_MINS PYRITE  
ORE\_CNTL QUARTZ VEINS  
ALTER QUARTZ-SERICITE-PYRITE ALTERATION;  
PYRITE-CHALCOPYRITE-GOSSAN ALTERATION  
HRU\_AGE PREC  
HRU\_NAME RUIN GRANITE  
CONT\_CODE NA  
GEN\_COM INFO.SRC : 1 PUB LIT  
REF W.J. KEITH, FIELD EXAM  
CONT\_NAME NORTH AMERICA  
STATE\_NAME ARIZONA  
ID\_COM THIS RECORD IS NOT DUPLICATE WITH M051209.  
COMMOD\_TYP M  
QUAD24 CROZIER PEAK  
DATE\_ISSUE 95/5/18  
PROF\_ID 100  
PROF\_LOC 100  
PF\_COMMOD 100

PROF\_EXPL 50  
PFDESC DEP 50  
PROF\_GEOL 42  
PROF\_REF 100  
PROF\_ALL 60  
HR\_AGE MV PREC  
HR\_TYPE MV GRANITE  
HR\_NUMBER 1  
DEP\_CODE 11000  
HUC 15050100

RECNO M051209  
REC\_TYPE S  
USER\_FIELD \*U94/5, KEITH 76 - 22  
REP\_DATE 76 04  
REP KEITH, WILLIAM J.  
REP\_AFF USGS  
DIST HORSE RANCH DISTRICT  
COUNTY PINAL  
STATE\_CODE AZ  
CTRY\_CODE US  
PHYS 12 BASIN AND RANGE  
DRAIN 15050203  
LAND\_ST 01  
UTM\_N 3640248  
UTM\_E 505123  
UTM\_Z +12  
ACC ACC  
TOWNSHIP 006S  
RANGE 014E  
SECTION 19?  
MERIDIAN GILA AND SALT RIVER  
LOCATION INFO FROM LAND.ST :(1964)  
SITE BEE GROUP  
LAT 32.9022  
LONG -110.9453  
CTRY\_NAME UNITED STATES  
COMMOD CU PB AG  
ORE\_MAT MALACHITE, AZURITE, CHALCOCITE, GALENA  
MAJOR CU PB  
MINOR AG  
CLH\_USE 94/08/17  
PROD S  
STATUS 8  
DEP\_TYPE VEIN  
DEP\_FORM TABULAR  
MAX\_LEN 1800  
M\_L\_U FT  
MAX\_THICK 4  
M\_T\_U FT  
DEP\_SIZE S  
STRIKE N 75 E  
DIP 62 S  
QUAD250 TUCSON  
NORE\_MINS PYRITE  
ORE\_CNTL FAULT & QUARTZ VEINS  
ALTER QUARTZ-SERICITE-PYRITE ALTERATION;  
PYRITE-CHALCOPYRITE-GOSSAN ALTERATION  
HRU\_AGE PREC

HRU NAME RUIN GRANITE  
CONT CODE NA  
GEN COM INFO.SRC : 1 PUB LIT  
REF W.J. KEITH. FIELD EXAM  
CONT NAME NORTH AMERICA  
STATE NAME ARIZONA  
ID COM THIS RECORD IS NOT DUPLICATE WITH M051201.  
COMMOD TYP M  
QUAD24 CROZIER PEAK  
DATE ISSUE 95/5/18  
PROF ID 100  
PROF LOC 100  
PF COMMOD 100  
PROF EXPL 50  
PFDESC DEP 50  
PROF GEOL 42  
PROF REF 100  
PROF ALL 60  
HR AGE MV PREC  
HR TYPE MV GRANITE  
HR NUMBER 1  
DEP CODE 11000  
HUC 15050100

# DEL TIERRA ENGINEERING & MINING CORP.

U. S. Mineral Surveys

Mining

Exploration

HARVEY W. SMITH, E.M. President

Registered Mining Engineer U. S. Mineral Surveyor

6016 N. Kachina Lane Scottsdale, Arizona 85253

Tel. 602 948-5517

November 22, 1972

Mr. John Rothermel  
3016 West Mercer Lane  
Phoenix, Arizona

Dear John:

I have reviewed the material you sent to me and my notes concerning your Bee claim and the adjacent area. As you already know, I also attempted to get a copy of the original patent application for the Bee claim from the Bureau of Land Management. Unfortunately, it is one of the missing records from the archives in Washington, D. C. However, from your reports and my notes, the following are my comments:

The Bee claim covers a mineralized area within a Precambrian granite host rock located in Pinal County about 12 miles southwest of Winkelman, Arizona. The main shaft, put down in the 1880's on a mineralized east-west trending structure, is recorded as being 100 feet deep. The collar of the shaft is presently in a condition which makes access rather precarious. Because of this collar condition, the vein cannot be examined up close and it has not been opened up elsewhere.

Northwest of the main shaft is a pit, about 8 to 10 feet deep, which shows another mineralized structure. This was partially filled with water at the time of my examination.

Approximately one-half mile west of the Bee shaft is another shaft put down on a quartz dike showing some mineralization. The shaft is reported to be 60 feet deep, and an 8 foot wide zone exposed there assays 16 ounces of silver and 3% copper (your assay). The dike strikes approximately east-west and is nearly vertical in dip. On the surface, it can be traced 400 to 500 feet in length. South of this main dike are other, narrower and shorter quartz dikes on which there are some shallow pits. These all show some iron staining.

There is undoubtedly some relationship between the Bee structure and the quartz dikes because they are both east-west trending structures, but it is doubtful if one is a continuation of the other. However, I believe the Bee shaft was put down for silver as it was done during a time of rising silver prices and the collar of the shaft does not show sufficient oxide copper mineralization to justify a shaft. The existence of good silver mineralization in the shaft west of the Bee and the probability of the Bee shaft being sunk on silver values leads one to speculate on what is at the bottom of the Bee shaft.



Photograph of the Bee  
Shaft - 11/22/72

Harvey W. Smith

Mr. John Rothermel  
Page 2  
November 22, 1972

The merits of this particular situation are very difficult to assess. While the quartz dike, west of the Bee shaft, at the surface appears to be too massive and dense to be a good ore carrier, the assay of the sample from the bottom appears quite promising.

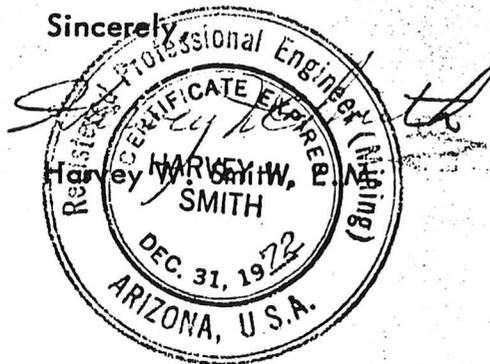
The Bee shaft undoubtedly has some possibilities, but they are purely speculative. If it were known whether work were stopped because of falling silver prices or the values pinched out, a decision would be much easier to reach. The cost of gaining access to this shaft would be several thousand dollars--road improvement for equipment access, collar timbering to make it safe, pumping water from the bottom for examination. However, the rewards might be good if the values are better than found in the shaft one-half mile to the west. And it must be assumed that the Bee mineralization was better in the beginning as considerably more work was done there and a patent was granted.

A second approach and less costly would be to sample the shaft on the quartz dike at regular intervals. If the assays improve with depth and confirm your sample assay, then further work would be justified. This would be less costly as there is a road which could be easily improved for equipment and the collar could be made safe much easier. A project of this type probably would run \$3,000 to \$4,000. However, before carrying this idea through, I would want another sample from the vein at the bottom of this shaft to confirm your original assay.

I hope this gives you some of the answers you were looking for. However, if you have any questions, please feel free to contact me at any time.

I have included copies of your two reports to me so that anyone reading mine can also have the benefit of Mr. Johnson's comments as well as yours. Also, I have included a copy of your assay report.

Thanks for calling on me to assist on this project and, if you need any further help, I shall be glad to be available.



HWS:ebj

Enclosures

**NEWMONT EXPLORATION LIMITED**

200 West Desert Sky Road  
R. R. No. 6  
Tucson, Arizona 85704  
(602) 297-1142

July 6, 1973

Mr. John Rothermel Jr.  
1942 W. Larkspur J-12  
Phoenix, Arizona 85029

Dear John and Fred:

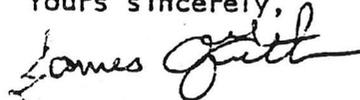
Enclosed is a copy of the assay results and sketch map of the vein system with location stations. Besides the day spent with you, several other days of reconnaissance in the area were undertaken.

The veining on the Bee claims is fairly large, but lacks both continuity along strike and area of influence across its strike. Much of the alteration is spacially associated to the veining and does not occur elsewhere. The general reconnaissance done suggests that this is the only well altered-mineralized area of any consequence for any distance. For these reasons, Newmont does not feel it would be interested in the property at the present time.

The general size of the vein system and the assay results may make it attractive to a smaller company. There is some silver, but the gold is low and apparently spotty. Much would be contingent on how persistent the veining is downdip and what the mineralization is at depth.

I want to thank you for bringing this property to our attention and for taking the time to show it to me. I also appreciate all the additional information you have supplied us. Please keep us in mind should any new information turn up or any new areas come under your interests. This general area may have a potential. There seems to be a lot of smoke and hopefully in time, the fire may be found. At present, not enough is there to stimulate any in-depth investigation.

Yours sincerely,



James O. Guthrie  
Expl. Geologist

JOG:lk  
Encls.

<u>Sample No.</u>	<u>ppm Copper</u>	<u>ppm Molybdenum</u>	<u>ppm Lead</u>	<u>ppm Zinc</u>	<u>ppm Gold</u>	<u>ppm Silver</u>
3046	0.96%	14	0.67%	70	0.1	80 = 2.6 oz.
3047	105	12	740	110	-0.1	4
3048	55	21	0.32%	160	-0.1	-1
3049	35	10	200	-5	-0.1	3
3050	0.23%	.225%	4.84%	0.09%	0.3	38 = 1.2 oz
3151	1.26%	13	2.00%	500	7.0	120 = 3.5 oz
3152	0.92%	3	1.31%	11.9%	-0.1	50 = 1.4 oz
3153	0.95%	6	18.8%	7.90%	1.2	170 = 5 oz
3154	45	6	0.12%	140	1.2	27
3155	15	54	0.27%	30	0.4	29
3156	70	1	710	130	4.4	1
3157	130	15	0.11%	130	7.2	-1
3163	60	16	0.21%	520	0.4	100

By *Martin H. Hibbetts*  
 Martin H. Hibbetts

1 ppm = 0.0292 Troy oz / ton  
 1 troy oz = 34.286 ppm  
 1 ppm = 0.0001%



Field Engineer F. T. Johnson

4-12-73  
Date

1. Information from: John Rothmann  
Address: 3016 - W. Mesquite Lane  
944-6196 or 271-4439 Tex

2. Mine See Mine (1892) 3. No. of claims- Patented 1  
Unpatented 10

4. Location 10 mi SW Winkelman  
5. Sec. <sup>24</sup>19 Township T6S Range 13E 6. Mining District 14E

7. Owner \_\_\_\_\_  
8. Address \_\_\_\_\_

9. Operating Co. \_\_\_\_\_  
10. Address \_\_\_\_\_

11. President \_\_\_\_\_ 12. Gen. Mgr \_\_\_\_\_

13. Principal Metals Cu Pb Ag Au 14. Men Employed \_\_\_\_\_

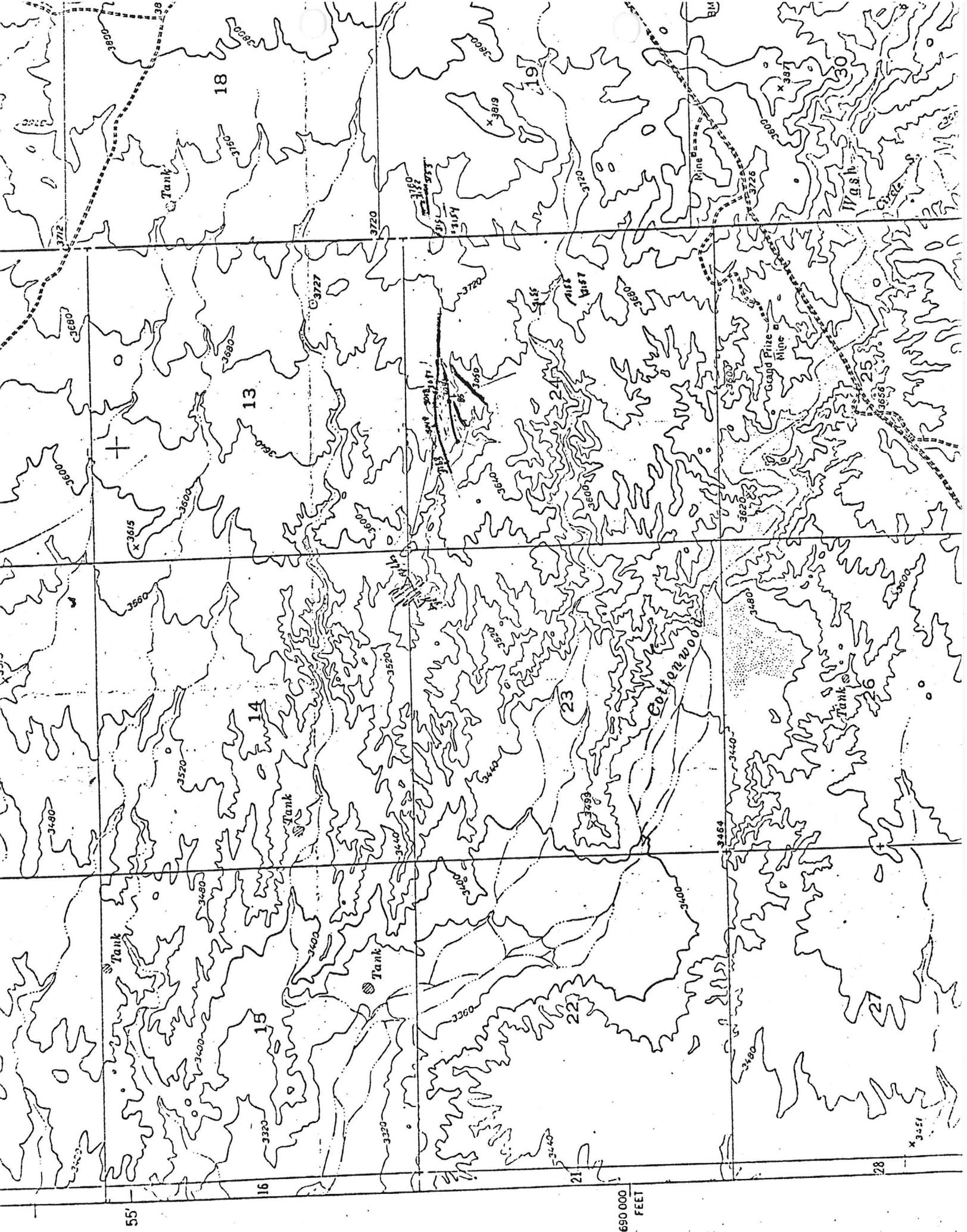
15. Mill, Type & Capacity \_\_\_\_\_

16. Present Operations (a) Down \_\_\_\_\_ (b) Assessment Work   
(c) Exploration  (d) Production \_\_\_\_\_  
(e) Rate \_\_\_\_\_ tpd.

17. New work planned \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

18. Misc. notes \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature F. T. Johnson  
Field Engineer.



55

650 000  
FEET

28

# ARIZONA TESTING LABORATORIES

A DIVISION OF CLAUDE E. McLEAN & SON LABORATORIES, INC.  
 817 WEST MADISON ST. PHOENIX, ARIZONA 85007 PHONE 254-6181

For **Mr. Fred Rothermal**

Date **November 8, 1972**

Sample of **Ore**

Received: **11-6-72**

Submitted by: **Same**

### ASSAY CERTIFICATE

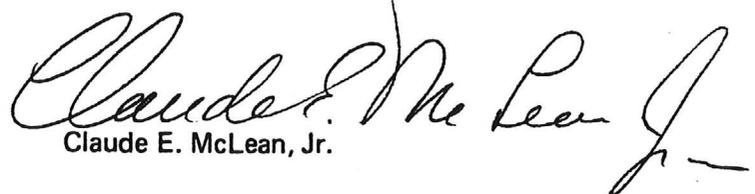
Gold figured at \$ **38.00** per ounce

Silver figured at \$ **2.00** per ounce

LAB. NO.	IDENTIFICATION	GOLD		SILVER		PERCENTAGES	
		OZ. PERTON	VALUE	OZ. PERTON	VALUE	COPPER	
3451	Crosscut Sample on Bee Lode, Bottom of 60' Shaft, West of Bee Patented Claim	0.02	\$0.76	16.0	\$32.00	3.05%	

Respectfully submitted,

ARIZONA TESTING LABORATORIES

  
 Claude E. McLean, Jr.

## NOTES ON THE BEE MINE

The Bee patented lode claim with United States Mineral Number 348, lies in Section 19, Township 6 South, Range 14 East, comprising some 20 plus acres.

The Bee mining group also includes 10 unpatented lode claims comprising 20 acres plus each along an east west traverse mineral anomaly, in Section 24, Township 6 South, Range 13 East of the Gila and Salt River Meridian also of Pinal County, Arizona.

There is a total of 220 plus acres of the patent and unpatented mineral lands, at an elevation of 3800 feet along low rolling hills, some 12 miles southwesterly of Winkleman, Arizona, in the Tortilla Mountains.

The mineral anomaly of the Bee Mine claims is a traverse east west faulting zone which has widths of from 20 to 50 feet with smaller parallel veins on each side of the main outcrop structure.

The general area is composed of a massive structure of brecciated quartz monzonite porphyry and intercalated conglomerates and arkoses, and granite porphyry.

The rhyolite intrudes this massive area, and is further brecciated on the granite porphyry contact, indicating that earlier solidified rock was brecciated and engulfed by a later surge of the intruding mass.

The intrusion of the rhyolite seems to have occurred during varied periods of faulting, in which the veins were developed. These faults seem to be the only control of the original mineralizing solutions, that appear to be the genesis of the silver, lead, zinc, copper and gold ores.

The veins seem to have resulted from a combination of replacement processes, in which the most severe sections produce the higher grade ore. Shoots of from three to eight feet wide. In the breccia zones, the values are irregular in sulfide and gangue minerals.

In general summary, the top mantle appears to be in both oxides and some sulfides, and can only be generalized, as the shaft is only one hundred feet deep in a vertical position, and the more shallow development of cuts and pits appear to be inclined to the oxidation process.

The overall length of this traverse mineral anomaly is 6000 feet, with variable parallel veins and fissures in occurrence along this main general strike to the east and west zones of enrichment.

It is generally estimated that should the present depth of the shaft at 100 feet be in mineral values with 10 feet wide and 6000 feet in length from east to west would indicate some 600,000 tons of valuable ores.

Should the brecciated zones along the parallel course of the strike be mineralized in an area 6000 x 50 x 100 feet with a ratio of 10 cubic feet per ton, would indicate some 3,000,000 tons of valuable ores.

There are two attached maps that indicate the general area of the claims comprising the one patent and ten unpatented lode claims, together with some assays made by the Rothermal Brothers on June 6, 1973.

These claims lie in a highly productive region of mines to the north, south and east that have produced economic mineral values for over 100 years, and have the potential to become productive as well if they are exploited and developed.

The depth to water is not specifically known on the claims. However, windmills for cattle water are predominate over the adjacent areas, and water at from 300 to 500 feet has been developed to the north in San Manuel, to the east in Winkleman, and to the south in the Oracle and Black Hills Mine areas, and water wells at ranches to the west of the mine including Brady Wash, with Gila River some 12 miles northwesterly.

Working conditions at the mine are excellent, with year round climate for operations, and power facilities are available within a few miles of the mine.

The general area of Tucson, Arizona is some sixty miles south from the mine, where economics are good for general supplies, fuel, transportation, banking, assayers, and labor pools for mining purposes.

There are several custom milling plants in central and southern Arizona, that will accept mine run mineral ores for beneficiation processing for the liberation of the mineral values.

A PRELIMINARY REPORT  
ON  
MINES HOLDING COMPANY PROPERTIES  
Pinal County Arizona.

*100-100-100-100*

Phoenix, Arizona,  
August 10th, 1932.

*Cottonwood, Grier PK.*

## INTRODUCTION.

The following text and the accompanying map constitute a brief report on the fundamental geological features of an area, approximately two miles from east to west by one mile from north to south, in the Cottonwood mining district, Pinal county, Arizona.

Detailed discussion of rock classification, ore genesis and similar precise particulars have been avoided as far as possible. Only four formations have been mapped: granite, diabase, vein quartz, and a formation within the diabase ("intradiabase") the full significance of which is not entirely clear.

Since practically all of the area covered by these holdings is composed of granite, or the soil derived from the disintegration of the granite, this is not colored. In designating the diabase areas only the outlines are shown. Some small, scattered, disconnected outcrops of diabase are omitted. Numerous aplite and pegmatite dikes are also omitted because they seem to bear no close relation to the problems of economic geology. For the purpose of clearness neither roads, trails nor washes are shown.

Due to the fact that the soil covering is relatively thick in many places and has covered probable continuation of known outcrops, particularly the lesser-resistant parts of the veins, the probable vein extensions have been indicated ("continuous float") where there has been sufficient volume of such material to justify its recognition.

The aim of the report is to present a concise statement of the important geological features and thereby assist in determining the most advantageous points at which to attack the problems of development.

The properties of the Mines Holding Company, An Arizona corporation, consist of forty unpatented lode mining claims, situated in the Cottonwood mining district, Pinal county, Arizona. This same district was formerly called the San Pedro mining district, and nearby claims, patented in 1882, are described as being in the San Prdro district

By road the properties are thirty-three miles from Florence, the county seat of Pinal county. They are a little south of east of Florence. Hayden, where there is an American Smelting and Refining Co., plant, is approximately ywelve miles north in an air line. Ray is about the same distance northwest. Mammoth and Oracle are to the southeast. Phoenix, by road, is just 100 miles distant.

The first sixteen miles out of Florence is over the Flornce-Kelvin highway, a well graded hard surfaced county highway. For the next twelve miles the Barkerville road is followed, a graded, unsurfaced highway. The last five and one-half miles is over an unimproved road which presents no diff&iculties in it's present condition. This can be improved at very small expense. However, old roads north and west from the property but slightly used now, can be made good highways easily and cheaply. Connection would be made with the Florence-Kelvin highway at a point seven miles from the Southern Pacific railroad (at Wooley) which would reduce the haul to the railroad to twenty miles.

The properties are on a high plateau, south of the Gila River, in an area of low relief. The elevation ranges from 3600 to 3800 feet above sea level. The drainage is north and west, principally through the Cottonwood wash. Several small tributaries to this main channel cross the claims

The soil is moderately deep and supports typical desert flora. Large cedar trees are numerous and in the ravines there are thick growths of oak, cottonwood, hackberry, willow and other trees common to this elevation in the Southwest. The climate is ideal. Some snow falls in winter but it is of very short duration. The rianfall is greater than at lower elevations south and west.

Sufficient water for all purposes can be procured with little effort or expense. An abundant supply of excellent water has been developed in a shallow well near the camp. This is sufficient for domestic purposes. Larger supplies for milling can be developed at reasonable cost.

The principal formation of the district is a light colored, coarse grained granite which weathers rapidly. Residual boulders of la large size occur here and there. The disintegrated granite makes ideal road surfacing material. The granite is seamed with lighter colored, fine grained phases, dikes of aplite and a moderately coarse pegmatite. If any generalization is possible it may be said that these dikes usually strike in a northeasterly direction. On the map which accompanies this report no attempt has been made to show these dikes. It is assumed that this is a part of the great underlying mass of Pre-cambrian granite

standing at very steep angles. They often occur as a series of parallel veins, rather closely spaced and interconnected by cross veins, narrower, with irregular strike and dip. This is particularly true on the Jack Rabbit and Birthday Group, to a lesser degree on a part of the Yucca Group. The Cedar Ridge vein is more of the nature of a compound vein, - a wide quartz vein four to five feet or even wider, with a narrower quartz vein four to ten inches wide, paralleling it and separated from it by a few inches or a foot of crumbling granite which is frequently veined with interlacing quartz veinlets. The intervening granite usually carries values of some importance.

The individual quartz outcrops vary in width from four feet to twelve feet. Compound veins, two distinct bodies of quartz with an intervening mineralized country rock, have about the same range of width. The lodes, or vein systems, composed of several distinct quartz veins, seemingly more or less interconnected by narrow stringers running in every direction between them, will range from forty to fifty feet in width. The surface conditions indicate that a considerable amount of crosscutting will be required in such zones.

The minerals of the quartz veins are gold, pyrite, galena, rare grains of chalcopyrite, one or more unidentified primary silver minerals, silver bromide, wulfenite and possibly vanadinite, together with such usual secondary minerals to be expected from such a primary mineralization. The free gold is conspicuously yellow, indicating a probable high degree of fineness.

Quartz veins in close proximity to granite-d diabase contacts, or such veins as cross the larger diabase areas, reveal some changes in their nature. In those veins partly within and partly along the diabase-granite contacts the quartz is somewhat clearer, free gold is usually coarser and galena-chalcopyrite intergrowths are conspicuous, the galena frequently very fine grained. The character of quartz in veins crossing diabase is only slightly changed, and there is not much change in the other minerals of the vein.

There are no authentic records as to the early history or the production, if any, from this area. There are all sorts of rumors but no records to substantiate any of them. In recent years to the north small amounts of very high grade ore/gold have been mined and shipped very irregularly. To the south, on an adjoining property, which is opened up to a depth of one hundred feet and has been explored along the strike at this depth for about three hundred feet, work has been in progress, intermittently, for two years and several cars of run-of-mine ore have been shipped. These shipments were said to run from twenty-three to thirty-five dollars in gold. The vein on this property is a typical compound vein, the wider quartz streak being from twelve to thirty inches separated from the four inch streak, by from one to two feet of soft granite carrying appreciable values in gold. Rich stringers come into the vein and often carry several hundred dollars in gold to the ton.

The development work on the properties of the Mines Holding Company is limited. The deepest work is a shaft sixty-eight feet deep,

described in the U.S. Geological Survey publications covering the Ray and Globe quadrangles, adjoining on the north.

The granite is intruded by diabase in conspicuously irregular form. Dikes of diabase with well defined, relatively straight walls are rare. No doubt this formation is to be correlated with the diabase, or diabase porphyries, of assumed Mesozoic age, which is described in the publications mentioned above. This diabase is a typical diabase in character. The characteristic color is dark green on fresh surfaces, weathering to brown on exposure. The usual boulders resulting from spheroidal weathering are scattered over the largest diabase area. The contact-metamorphic effect of the diabase is inconsequential. Marginal phases are fine grained, lighter in color and more resistant to erosion. Though quartz veins sometimes occur between the diabase and granite there is no conclusive evidence that there is any genetic relation between the diabase and vein. In several instances the diabase positively cuts off a vein. In other cases a vein still continues on through the diabase with no appreciable change in strike. It is reasonable to expect that whatever diabase is encountered underground its outlines will be very irregular and in all probability masses of diabase will be found which are not indicated on the surface.

Within the broad belt of diabase stretching southeastward across the Birthday group there are certain dike-like formations which seem to be of sufficient importance to deserve special mention. Their full significance cannot be determined until they have been studied in more detail.

As has been stated elsewhere in this report the majority of the veins on this group are cut off at the granite-diabase contact. A few persist, retaining most of their original characteristics, through the diabase and on into the granite again, with little observed change in strike or dip. This is the case where the diabase occurs as narrow dikes. The apparent termination of a quartz vein is best illustrated in the discovery shaft on the Birthday No. 5 claim.

The lighter material appear to be composed principally of quartz and feldspar, with a few dark constituents some of which are pyroxene and some of which are biotite. The greater part of the feldspar is not plagioclase though some may be. An occasional grain of pyrite is seen and possibly some sericite. The true character can be determined only by the aid of the microscope.

The interesting fact about this occurrence is that when followed across the diabase area these bands lead to, or nearly to, outcrops of vein quartz in the granite, which are presumably the continuation of the vein cut off at the opposite contact. Whether this "intra-diabase formation" is the same quartz vein, changed in character due to the difference in wall rock or not, is a matter not to be decided without further investigation, and wholly outside the scope of this report.

The mineralization of economic importance occurs in quartz veins with well defined walls, striking usually nearly east and west and

sunk many years ago and re-opened within the last ten or fifteen years. This is an irregular piece of work and would serve no useful purpose in any plan for development. On the Yucca No. 2 are two or three holes of unknown extent, partially filled, which are probably not deep. On the Cedar Ridge No. 1 are two shafts about fifteen feet deep. From the bottom of one a short crosscut was made to the southeast. It is reported that ore was shipped from the shaft on the Jack Rabbit, -the 68-ft shaft, and a small pile of very fine material, where ore may have been sorted, would tend to support this statement. It is probable that ore was shipped from Cedar Ridge also.

No systematic sampling of the property has been made. Such scattered sampling as has been done returned values from six to thirty dollars in gold. No determinations have been made of silver or lead values. The nearest producing mine is the one mentioned above. That vein, structurally and mineralogically, is much the same as many veins on the property under discussion.

There are several points at which development may be undertaken advantageously. It is probable that the vein on Cedar Ridge No. 1 will be the easiest to develop and most likely to produce early returns. Either one of two shafts would serve as starting points, the most easterly one seeming to offer the greater number of advantages. Because of the likeness to the neighboring producing property it is not unreasonable to expect that at a depth of one hundred feet some shipping ore might be developed. A year of intensive development should block out a considerable tonnage of milling ore.

On the Jack Rabbit group it would be desirable to sink a vertical shaft from three to five hundred feet, approximately four hundred feet east of the west end line of Jack Rabbit No. 2. From this shaft the network of veins could be opened up satisfactorily by crosscuts and drifts. The logical point of attack on the Yucca Group is just east of the west end line of Yucca No. 2. On the Birthday Group a choice should be made between the east end of No. 6 or the east end of Number 1.

From a geological point of view the conditions are favorable for the discovery of large ore bodies. The mineralization covers a large area and the veins appear to be continuous for long distances. These indications warrant systematic development. As local conditions are favorable this work can be carried out rapidly and inexpensively.

Respectfully submitted,



Phoenix, Arizona,  
August 10th, 1932.

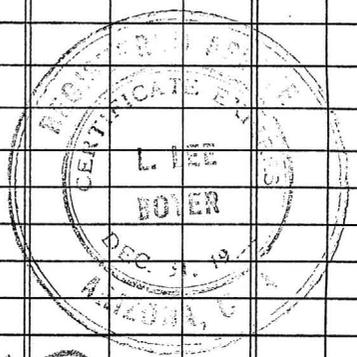
# SUPERIOR ASSAY OFFICE And Ore Testing Laboratory

MEMORANDUM OF ASSAY

Made for Newton Walcott

Superior, Arizona 4/10 1940

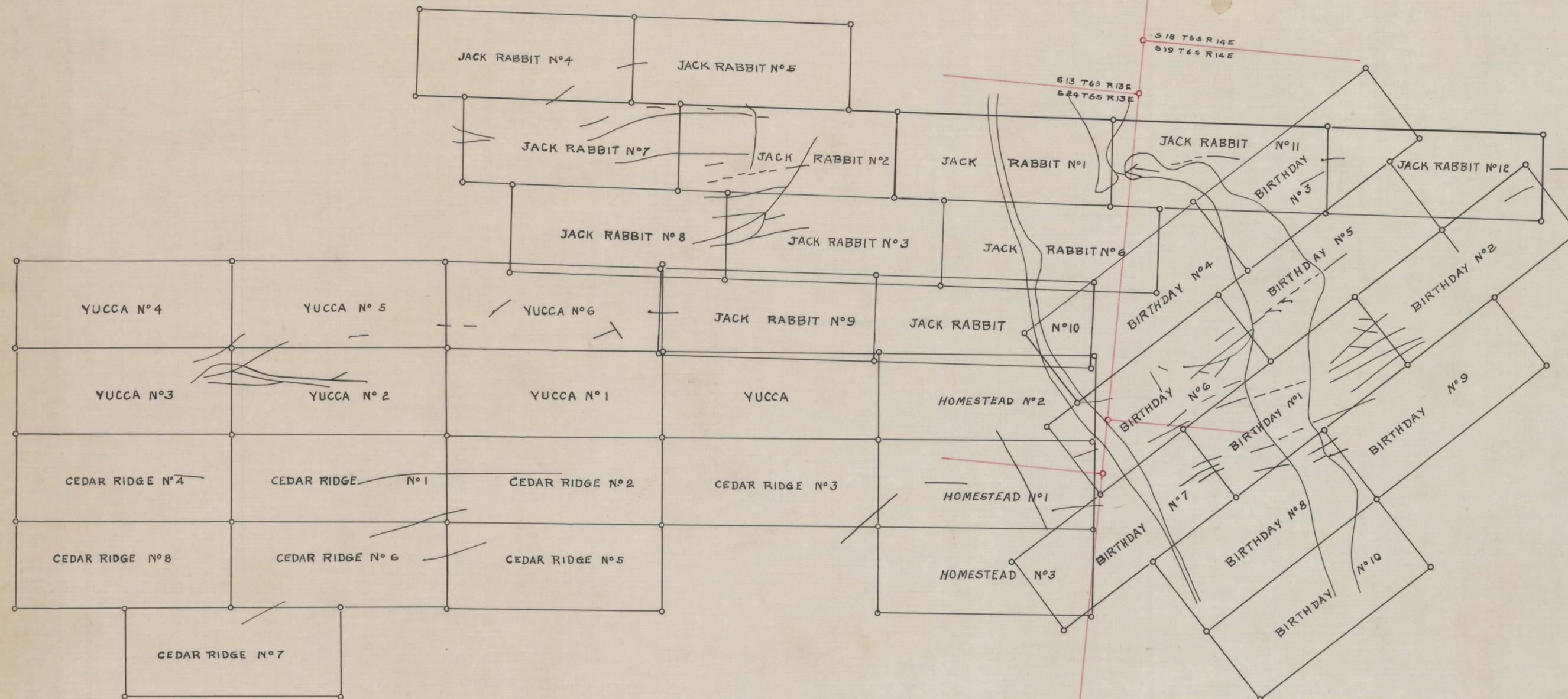
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# 1 A		06			9	00						550				
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2-F - Cedar Ridge Open Cut - Flag																



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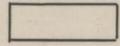
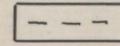
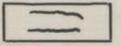
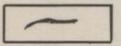
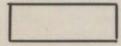
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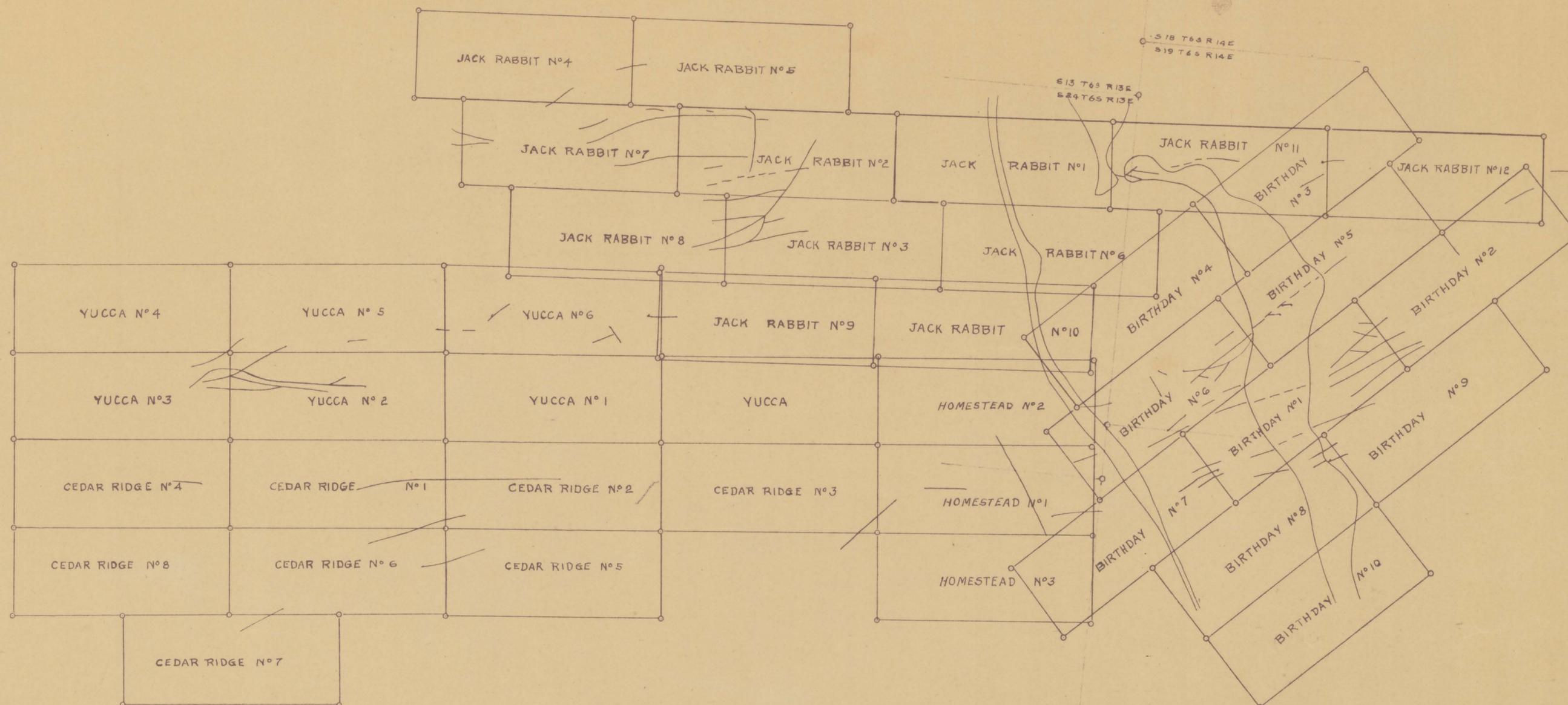


MINES HOLDING COMPANY  
 PINAL COUNTY ARIZONA

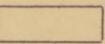
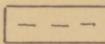
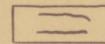
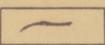
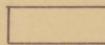
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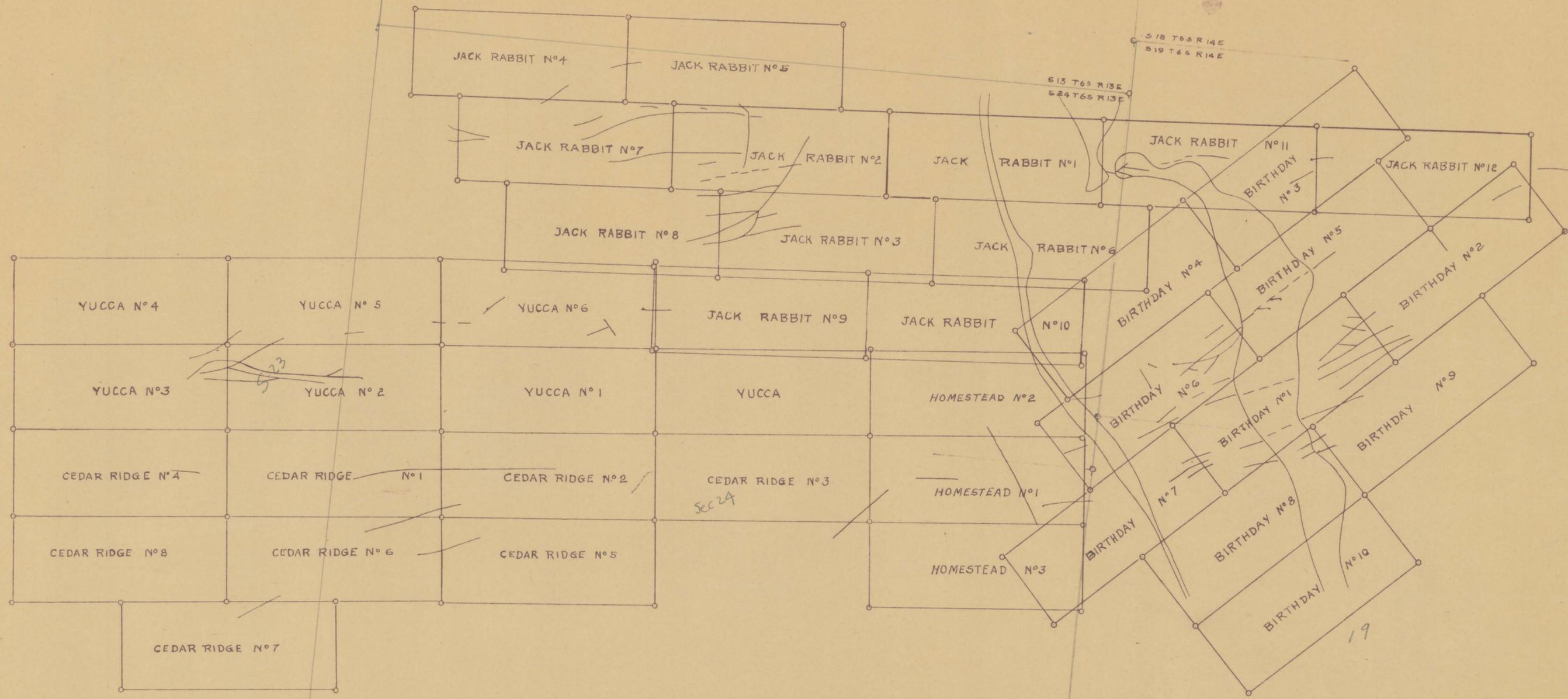


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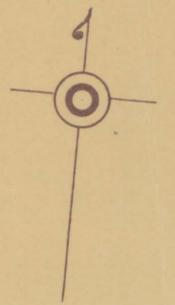
MINES HOLDING COMPANY  
 PINAL COUNTY ARIZONA

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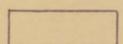


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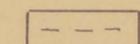
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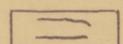
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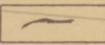
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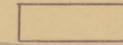
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DIABASE



VEINS



"CONT. FLOAT"

MINES HOLDING COMPANY  
PINAL COUNTY ARIZONA

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