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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: ELEPHANT HEAD

ALTERNATE NAMES:
EUREKA
DANIELS GROUP
QUENTRALL
RED MT. MINE

SANTA CRUZ COUNTY MILS NUMBER: 191

LOCATION: TOWNSHIP 20 S RANGE 14 E SECTION 8 QUARTER NW
LATITUDE: N 31DEG 42MIN 40SEC LONGITUDE: W 110DEG 55MIN 26SEC
TOPO MAP NAME: MOUNT WRIGHTSON - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
LEAD
SILVER
COPPER
ZINC
GOLD

BIBLIOGRAPHY:
KEITH, S.B., AZBM 1975, INDEX OF MINING PROP.
IN SANTA CRUZ CO., BULL. 191, P. 85
USBM FIELD NOTES PB36
SCHRADER, F.C., 1915, USGS BULL. 582,
P. 182-183
ADMMR ELEPHANT HEAD MINE FILE
MINES & COPPER HANDBOOK 1918

Form 1580

INTRA-COMPANY CORRESPONDENCE

EAGLE PICHER

OFFICE Tucson, Arizona.

DATE November 15, '56.

TO Mr. J. P. Lyden,

FROM William E. Arndt.

SUBJECT Elephant Head Mine report.

Dear Mr. Lyden:

At your request, I made arrangements with Mr. G.W.Irvin and on November 1,1956 examined the workings of the Elephant Head Mine.

Mr. Edmund Loera, one of the lease holders, accompanied Mr. Irvin and me. Mr. Loera supplied a four-wheel drive vehicle which was necessary to traverse the last six miles of mountain trails.

Mr. Loera and his partner, Mr. J.L. Mercer of Texas, have only recently acquired this lease. They have, as yet, done no work on the property except to make the roads passable.

Yours very truly,

WEA/tp.

William E. Arndt.

REPORT ON THE PRELIMINARY EXAMINATION OF THE ELEPHANT HEAD MINE, SANTA CRUZ COUNTY, ARIZONA.

INTRODUCTION:

The Elephant Head mining property consists of eleven (11) patented claims in the Santa Rita Mountains in the northwest corner of the Tyndall Mining District. Messrs. Edmund Loera of Tucson, Arizona and J.L.Mercer of Texas hold the lease with an option to purchase the property.

Previous assays indicate that the ore contains primarily lead, zinc, and silver with small amounts of gold. These figures are from reports made in 1911 by Thomas M. Park and by Charles J. Price in 1912. No percentages are given, but the indicated values run from $12.00 to $15.85 per ton. Mr. Charles F. Willis, in a 1917 report, states that assays indicate 2-4% Pb, 4-6% Zn, and $5. - $8. of Ag.

The ore is in sulphide form and is disseminated through a granite porphyry.

LOCATION AND ACCESSIBILITY:

The mine is located in sections 4, 8, and 9, Range 14 East, Township 20 South, Santa Cruz County, Arizona, approximately 29 miles southeasterly from Sahuarita, Arizona. It is, therefore, about 30 miles from the Eagle-Picher Company's mill.

Fifteen miles of the distance from Sahuarita is by highway U.S. 89. The remaining 14 miles is by unpaved one-lane roads across the desert and over mountain roads. It is possible, in a four-wheel drive vehicle, to drive to the mine but the last six miles of mountain roads are in very poor condition.

The mine is only 10 road miles from a main power line between Tucson and Nogales, and only 12 miles from the Southern Pacific railroad which passes through Sahuarita.

DEVELOPMENT:

Development on the property has been confined primarily to the Quantrell, Grand Prize, and Horseshoe Claims which are shown in Figure 1.

The most important work has been done on the Quantrell claim (Fig.2). Here a shaft which is reported to be 225 feet deep with levels at 50 feet, 100 feet, and 150 feet has been sunk. At the present time, the shaft is caved around the collar

and filled with water to the 50-foot level.

It is reported by Mr. Harry Barnes, of Tucson, Arizona, former mechanic at the Elephant Head Mine, that the shaft was sunk in ore all the way. Sample G-475 was taken from an ore bin near the shaft and Mr. Barnes indicated that the material now in the bin came from the bottom of the shaft. Sample G-475 assays trace of Au, trace Ag., 1.8% Pb, 1.8% Zn, and trace Cu.

The remainder of these workings consist of some 140 feet of drifts and crosscuts, a winze which apparently connects with the 50-foot level, and a raise to the surface which is now caved. Figure 2 shows these workings.

The workings are all in a very coarse granite, which in previous reports has been referred to as a porphyry, except the one wall indicated differently in Figure 2. This wall seems to be a highly altered aplite which is in its present position because of faulting.

No mineralization is found in the walls for the first 15 feet from the entrance and only a very little can be seen in the most southerly 10 feet of the workings. Varying amounts of the disseminated sulphides can be seen throughout the remainder of the tunneling with the highest concentrations near the raise and the winze. Neither the raise nor the winze are accessible.

Representative samples were taken from the walls, as indicated on Figure 2. Sample G-474 was taken completely around the walls of this small working. Each sample contained about 20 pounds of material.

SAMPLE	Oz Au	Oz Ag	% Pb	% Zn	% Cu
G-470	Tr	Tr	0.3	Tr	Tr
G-471	Tr	0.2	3.6	2.7	Tr
G-472	Tr	Tr	0.6	1.3	Tr
G-473	0.005	0.2	0.3	0.5	0.5
G-474	Tr	0.2	1.8	2.7	0.05

A dump of considerable size, and with a considerable amount of sulphides showing, is located by the shaft. Sample #8 was taken from this dump. It is a 20-pound sample of selected grabs from different places on the dump and consists of what appeared to be an average grade of the dump material. The assay shows a trace of Au, trace Ag, 0.4% Pb, 1.4% Zn and trace Cu.

Mr. Park, in 1911, estimated this dump to contain 227 tons of $12.00 ore. No break-down of the value was given. At the present time, the dump contains a larger tonnage than this. The mine was worked for some time after Mr. Park's examination.

About 3,000 feet southerly and across a ridge from the shaft, a tunnel was started on the Horseshoe Claim and continued into the Grand Prize Claim. This is shown in Figure 1. The tunnel is about 400 feet lower than the shaft and was evidently planned as a haulage-way for ore from the Quantrell workings. It extends about 800 feet toward the shaft but is some 2,200 feet short of its goal.

The drift was driven along fault structures for its entire length. Cross-faulting was prospected throughout. The long crosscut near the end of the drift follows a fault along which a great deal of movement has apparently taken place. The north walls of the crosscut are of much coarser grained granite than the south walls. However, only very minor amounts of mineralization can be seen in the entire workings.

GENERAL GEOLOGY:

Only a little information is presently available on the geology of the Santa Rita Mountains in which the Elephant Head mine is located.

According to Frank C. Schrader,"Mineral Deposits of the Santa Rita and Patagonia Mountains, Arizona", United States Geological Survey, Bulletin 582, 1915, the Santa Rita Mountains resulted from low overthrusts. The mountains are composed of Tertiary igneous rocks, Pre-Cambrian granite, and Paleozoic sandstone and limestone as set forth by N.H. Darton, "A Resume' of Arizona Geology", University of Arizona Bulletin, October 15, 1925. Apparently the Elephant Head Mine is located in a zone of the Tertiary igneous rocks.

In the report of Charles F. Willis, of March 14,1917, it is stated that,--"the district is occupied principally by a north-south belt of quartz diorite and quartz monzonite several miles wide on the east, bordered by granite on the north and overlain and blanketed by Tertiary volcanic rocks, chiefly andesite, rhyolite, and quartz latite porphyry on the west. In the northwestern part of the district there is a small belt of the underlying Paleozoic shales and limestones."

LOCAL GEOLOGY:

The country rock in the vicinity of the Elephant Head Mine is primarily a coarse granite porphyry. Slightly west of the mine some aplite can be found.

A large fault zone which strikes slightly east of north and dips steeply to the west can be traced several hundred feet from the mine. This fault crosses a ravine about 600 feet northerly

from the mine. At this point, the fault is cut by an andesite dike which averages about 3 feet in width and follows the bed of the ravine which runs southwesterly. The fault is not offset at the dike and was traced for some distance beyond the ravine. I did not attempt to trace the fault any great distance as it shows only slight mineralization. However, it should be stated that the fault is not highly mineralized over the mine workings and they are only 25 feet below the surface.

A small grab sample was taken from the slightly mineralized zone surrounding the fault where it was seen in the side of the ravine. This was sample G-469 (see Figure 1) and shows 0.005 oz. Au, 0.9 Oz. Ag, 0.4% Pb, 1.8% Zn, and 0.05% Cu.

The following is an excerpt from a report on this mine by Richard R. Kennedy (B.S. Geology) written in August, 1956:

> "The Elephant Head mine is situated in an area of intrusive granite and granite porphyrys. It appeared to be that the ore zones may be facies members of granite, rather than dikes, as were supposed in the previous reports. The porphyry material is coarse grained and somewhat irregular in width. The material, however, is traceable, definitely, for several hundred feet, and in all probability, much greater distances.
>
> "Several faults are evident in the area, although the displacement along these faults was not determined. With the exception of one fault zone, it is not thought that the faults in this particular area will carry significant mineralization.
>
> "Mineralization consists essentially of altered zones in the porphyry and fault zones in which the rock-forming minerals have been changed to clay material. Metallic minerals consist mainly of lead, zinc, and copper minerals. The minerals appear to be disseminated throughout the porphyritic materials. In the process of dissemination there have occurred, as would be expected, richer portions interspersed with leaner portions."

CONCLUSIONS:

I do not feel that, at the present time, enough of the mine workings are accessible to permit an examination thorough enough to fully evaluate the possibilities of the property. If, in the future, the remainder of the workings are made accessible, a further examination would yield more necessary information as to the property's potential. However, the grade of the samples

taken does not seem to be high enough to make the property interesting.

It appears, from the information available, that the extent of the orebody along the strike of the main fault would be rather limited. The most southerly 10 feet of the workings show only minute amounts of mineralization. At the ravine, which cuts the fault about 600 feet northerly from the workings, only slight mineralization is present as evidenced by sample G-469. This location is lower than the mine workings. Apparently the length, therefore, would be limited to some distance between the present workings and the ravine.

The width of the orebody cannot be determined from the present information as the most easterly working is still in ore. Sample G-474 is from this area. Present information indicates that the orebody is at least 30 feet wide.

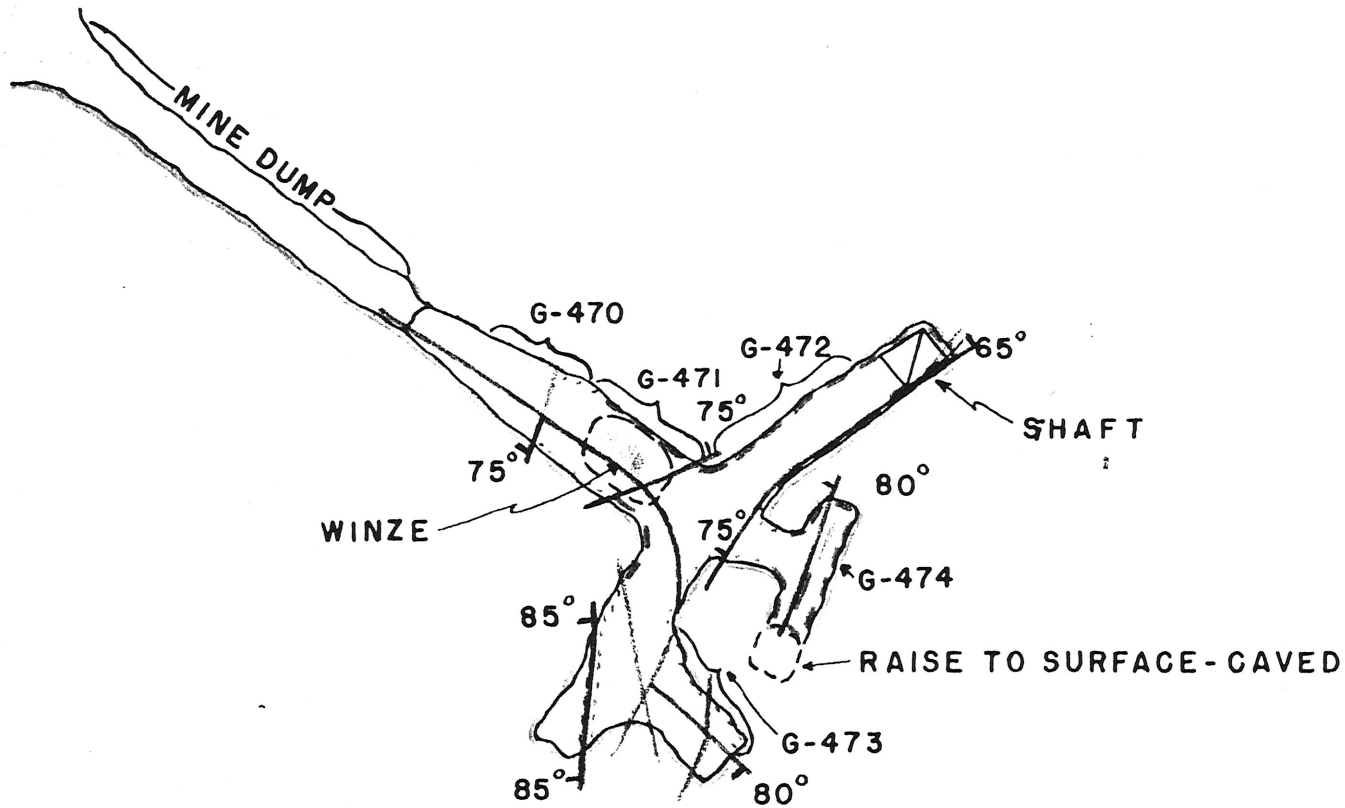
It would seem then, that the mineralization would have to continue to a considerable depth at the same areal extent to be of interest. Sample G-475 is from material which is reportedly from the bottom workings. The extent of this material, if it is from the lower levels, cannot be determined under the present conditions.

After confirmation of the presence of any extent of this material on the lower levels, a drilling program to determine the depth and extent of the orebody below the present workings would be necessary. If conditions permitted, this might best be done from the bottom workings of the mine by Diamond drilling. Drilling from the surface is possible, but the terrain is steep and drilling other than vertical holes into the ore zone would necessitate a considerable amount of work for drill sites.

WEA/tp.

Respectfully submitted.

William E. Arndt.



APLITE (?)

GRANITE

ELEPHANT HEAD MINE

FIGURE 2 SCALE 1"= 20'

NOVEMBER 1956 W E ARNDT

1. Elephant Head Mine
2. Santa Cruz County, Arizona
3. Paul Catlin, owner, Tucson, Arizona
4. E. A. Stone
5. Visited April 10, 1946
6. Lead-zinc-copper sulphide mineralization
7. "The ore is too low grade to be mined profitably."
8. ———

* * * * *

THE EAGLE-PICHER MINING & SMELTING COMPANY
MIAMI, OKLAHOMA

INTRA-COMPANY CORRESPONDENCE

TO Grover Duff - Tucson Office DATE April 6, 1951

FROM John W. Chandler - Miami Office

SUBJECT: Exploration Work

Dear Grover:

We are presently compiling a record of all the mines and prospects which we have examined for the Company during the past 10 years.

Starting with 1940, and listing the work done by years, such as 1940, 1941, 1942, etc., we would like to have the following information tabulated:

1. Name of property
2. Location - (State and County)
3. Who it was submitted by
4. Who made the examination
5. Time spent on the examination
6. Metals involved
7. General conclusions drawn from examination
8. Remarks - Under this heading could be shown whether we have done drilling or any other work in addition to the examination. Give brief outline. If the property subsequently became a mine unit and was operated so state.

We do not have a complete file in this office on all properties examined by the Company and we will combine your report with the one being made up from our files to make the final report complete. I would appreciate it if you could put someone on this work until it is completed, sending me three copies of your tabulation.

Best regards,

Jack.

John W. Chandler.

JWC/jm

4-25-51 - Mr. Chandler will send us a list of the properties on which they have reports in their files, and we will then send him the information on the others.

GJD

SECTIONS 4-8-9 T20S R14E

FRACTION A

FRACTION B

ALL UNSURVEYED AND OWNED BY C.D.B. HOWELL

SUMMIT

RANCHA

JULIA

JULIA NO 2

TO CORNER OF TS 19,20S, Rs 13, 14E

N 67° 18' 15" W 13033.74 ft.

N 65° 42' 09" W 11585.08 ft.

N 6° 59' 21" W 12841.98 ft.

N 62° 52' 33" W 11764.00 ft.

N 57° 45' 18" W 122.56.00 ft.

N 56° 34' 59" W 11526.56 ft.

N 58° 13' 32" W 18773.65 ft.

N 52° 06' 59" W 11352.88 ft.

N 49° 02' 38" W 11321.04 ft.

N 43° 57' 36" W 11111.25 ft.

N 40° 10' 41" W 34945.8 ft.

ALL UNSURVEYED AND OWNED BY C.D.B. HOWELL

ELEPHANT HEAD NO 2

LOOKOUT NO 2

ELEPHANT HEAD

QUANTRELL

LOOKOUT

STONEWALL

EUREKA

HOMESTAKE

ROSE (UNSURVEYED) C.D.B. HOWELL, OWNER.

QUANTERO

G-469

TIP TOP

VACANT

GRAND PRIZE

HORSE SHOE

AGUA FRIO NO 2

ELEPHANT HEAD MILL SITE

VALLEY NO. 2

TOPEKA NO. 2 — UNSURVEYED, OWNED BY C.D.B. HOWELL-TOPEKA NO. 1

N

FIGURE I

SURVEY NO. 3212 A & B
TYNDALL MINING DISTRICT
SANTA CRUZ COUNTY - ARIZONA
CORONADO NATIONAL FOREST
SURVEYED JULY 19-30, 1915.
BY WM. C. GOETZ
U.S. MIN. SUR.
SCALE: 1 IN. = 300 FT.

TRUE SCALE

0' 1500'