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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: HOVATTER MINE

ALTERNATE NAMES:

BARBIE
BOMBOY
HILLTOP

YUMA COUNTY MILS NUMBER: 283

LOCATION: TOWNSHIP 1 S RANGE 14 W SECTION 7 QUARTER SE
LATITUDE: N 33DEG 21MIN 04SEC LONGITUDE: W 113DEG 44MIN 32SEC
TOPO MAP NAME: LITTLE HORN MTS - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

MANGANESE OXIDE

BIBLIOGRAPHY:

KEITH, S.B., 1978, AZBM BULL. 192, P. 174
ADMMR HOVATTER MINE FILE

HOVATTER MINE

YUMA COUNTY

See: ABM Bull. 180, p. 219

HOVATTER MINE

YUMA COUNTY

RRB WR 8/26/83: Visited the Hovatter millsite on the Kofa Game Preserve. There was a house trailer with shade and utility room and a smaller older trailer. An old 10 wheel International truck with a D4 Cat in the bed and a small front end loader-scraper on a trailer were parked by the house trailer. The remains of a 150 ft. diameter rock and cactus garden and a dirt airstrip were nearby as was a well and water tank.

T1S R14W Sec. 7 SE

27

April 26, 1958

To: Mr. Ray Hovatter, ^{Mine}
Salome, Arizona.

BARBIE MANGANESE GROUP.

Co 2

Per your request I have examined your Barbie Group of manganese claims. The group consists of 22 unpatented mining claims and is located about 35 miles southwest of Salome, Ariz. The quarter corner of Sec 7, Range 14 and Sec 12, Range 15, both Township 1 south, lies within the group and is marked on the accompanying map.

The group is situated on a large zone or belt in which there are a great many manganese deposits. Generally this zone is about $\frac{1}{2}$ mile wide and several miles long. The general course is from the northwest to the southeast, and somewhat over 100 mining locations have been made northwest of the Barbie group, and a large number, also, to the southeast. Some of these have been heavy producers.

The terrain consists of andesite flows and the andesite is of the same type that contained the manganese orebodies which produced six million units for the Wenden stockpile, and other millions of units for the carlot program and shipments direct to consumers.

Generally speaking the manganese orebodies in this part of Arizona are of two types - bog, and vein. The bog deposits are flat-tabular, and of moderate thickness. They were formed by the precipitation of manganese dissolved from the andesite and precipitated in bogs. In the vein type the orebodies are more vertical and commonly lie between walls, although further depositions in veinlets or irregular bodies often occur to a considerable extent beyond the walls. These extensions may well constitute much larger tonnages, though of lower grade ore, than the core of the vein itself. As a rule such mineralized extensions have not been developed or mined in the district because they were too low grade to be profitable under the marketing conditions available. They do, however, constitute a much greater potential for heavy and permanent production.

As far as could be observed all of the deposits on the Barbie group are of the vein type.

In the vein type the surface exposure is often a very low grade leached capping - locally called "froth". This capping may be from 5 to 25 feet thick. Below the capping the ore usually comes in quite rich, and this enriched ore may or may not extend to considerable depth.

Although these vein deposits probably at one time contained primary manganese minerals I know of no instance in southwestern Arizona where the veins have been explored sufficiently deep to encounter primary manganese ore. The enrichment of the zone below the leached capping was probably the result of a combination of three causes: (1) oxidation of primary ore in place; (2) deposition of manganese leached from within the vein above; (3) infiltration and precipitation of manganese leached from the andesite itself, and deposited in the vein as a circulation channel.

Faulting and shearing, both pre-mineral and post mineral may well control the location and limits of individual ore bodies. These may be parallel to the general strike, or at any angle to it. It is thus sometimes difficult to tell whether one is drifting or crosscutting.

On the Barbie Group the principal showings have been spotted on the accompanying map, and may be briefly described as follows:

Hilltop 3. On the Hilltop 3 there is a surface (underhand) stope about 200 feet long, 4 to 10 feet wide and 50 ft deep. Somewhat over 3000 tons of ore, said to average 31.50% Mn was shipped from this stope. There are slabs of good ore hanging on both walls, and manganese mineralization extends well out into both walls.

Barbie 6. Here a tunnel has been run some 200 feet into the hill toward the southeast. It is a bit difficult to determine the strike of the orebody, and it may well be that the orebody exposed may be angling off toward the Hilltop #3. In that case most of the tunnel would be a crosscut, and it is reported that 52 feet of this tunnel, carefully channel sampled, assayed 15.31% Mn.

Barbie 15 & 11. Here there is a wide area showing veinlets, bands, and bunches of high grade manganese. There has been no development.

Barbie 1 & 2. These locations are high in the desert hill and were not visited. There were apparently sporadic outcrops from which several hundred tons of ore averaging over 30% were shipped.

It is the desired purpose of the owner to explore and develop the manganese showings within the group with view to proving a large tonnage of moderate grade ore - preferably for open pit mining. Sufficient tonnage of ore should be developed to justify the installation of reduction works to convert the

ore into a form of manganese that will be acceptable in a consumers market at a higher price than that paid for the crude ore.

I have advised that such a program be attacked in three stages:

- (a) Exploration by diamond drilling and underground work followed by a moderate amount of coordinate drilling.
- (b) Coordinate drilling to prove sufficient tonnage to warrant the installations of stage "c" and determine the mining methods.
- (c) Installation of equipment necessary to produce a product having a ready market in a higher priced bracket.

A report at this time can go no further than stage "a". To accomplish stage "a" I would suggest the following specific items, with estimated costs:

<u>Location</u>	<u>Work</u>	<u>Unit Cost</u>	<u>Total Cost</u>
Hilltop 3	24 vertical small rotary drill holes. Both sides of vein. 200 ft average - one or two deeper.	\$4.00	\$20,000.
Barbie 6	Extend tunnel (ore in face at present) Underground exploration with drifts and crosscuts. Total 600 ft.	\$32.00	20,000.
Barbie 15 & 11.	4 - 500 ft exploratory diamond drill holes - followed by 20 - 200 ft vertical rotary holes	8.00 4.00	16,000 16,000
Barbie 1	12 - 2-- ft vertical rotary holes on coordinates	4.00	<u>10,000</u>
Total drilling and underground . .			\$ 82,000.

Certain accessory work would be necessary and will be estimated below.:

Road. Mr. Hovatter is to be commended for building approximately 35 miles of private road across desert flats and mountains. However this road will cause costly delays with increased traffic, during extended wet or dry periods, or following severe rains. I would advise that \$6000 be budgeted for this purpose and feel that the road can be made sufficiently reliable with that amount. The problem should be met by continually improving the worst places and staying within the budget, rather than starting at one end and trying to make a boulevard. The latter method might leave some of the worst places still untouched.

Water. Mr. Hovatter is most fortunate in having several excellent wells on his domain. These are deep cased wells and some have furnished a heavy flow in times past. Pumping equipment, however would be required, as well as pipe lines to carry the water to drilling operations. Work could be so organized that it would not be necessary to have lines to all sites at any one time. I estimate the total cost of these facilities at \$4000.

Camp. The only housing on the premises at present is the Hovatter home. Distances are too great for employees to live at any existing facilities. Temporary provision should be made for at least a dozen men but they can be very crude. Better spend an extra .50 per day to feed them well than furnish any fancy housing. \$5000. should cover the item.

Engineering check-ups. The drilling and underground work is estimated on a contract basis where the contractor furnishes all of his own equipment - possibly even some housing. Frequent check-ups should be made however by an independant engineer who should also have control of samples. Such part-time arrangements should not cost over \$250.00 per month and not over 10 months should be required. This therefore totals \$2500.

Sampling and Assaying. The contractor can well be required to prepare and store samples. Whether or not Bureau of Mines facilities are available for the assaying I do not know. It would seem that \$500 would be sufficient for preliminary assays to make positive determinations regarding the project. After the preliminary assays, if it is decided that complete, systematic assaying is necessary the expense thereof should properly come under stage("b). In the meantime all samples should be properly stored.

In general the Barbie Group lies within a manganese zone of excellent potential. Geological conditions, and showings as far as developed are good. The reason why it has not been more extensively developed, or had greater production, is because of the long expensive haul to the Wendon Depot.

The United States imports a large portion of its manganese requirements but we could become much more self-sufficient if manganese showings like that on the Barbie group were attacked with sufficient capital and vision.

If that were done Arizona could compete with foreign imports at world prices. Such is the situation at the Barbie Group, and the total sum for the exploration and semi-development stage works out at the rather modest amount of \$100,000.

Respectfully Submitted,



DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Hovatter Mine ✓

Date January 10, 1958

District Yuma Co.

Engineer Lewis A. Smith

Subject: Owners Report

Location: Sec. 12, and 7 T1S, T1N, R14-R15W, 35 miles south of Salome
Sheeptanks Area. Yuma Co.

Owner: D. Ray Hovatter, Salome, Arizona

Metal: Manganese

Property: 3 Divisions. 36 Claims (complete ownership)
14 " " "
7 " (part ownership)

Development: Shafts and cuts sunk for over 1 mile length along the outcrop on a large shear vein which has been traced for some 5 miles .
Deepest shaft 165 feet still in ore.
(To West the King of Arizona has manganese to 1200' of depth)
He has a screening plant capable of an output of coarse ore, amounting to over 20 car loads. Some fines have been shipped to Mohave. Plans have been drawn up for a new mill to utilize sink-float and flotation and sinter. Tests indicate that a 56% Mn sinter can be produced. Recently 8 wells have been sunk and which have developed adequate water. 1000 feet of 18" casing were used in them.

Geology: The manganese development is along a big vein which lies in a major fault (shear type) which has been traced on a SE-NW trend for 5 miles. The vein has been developed for a mile and dips 82° NE. The vein ranges up from 2 to 50 feet in width, the latter being about the width of the brecciated shear. The country rock is partly volcanic (probably andesite) and underlying pre-Cambrian Schists and granitic rocks. The manganese minerals are pyrolusite and psilomelane.

Rate of Mining: Shipments to Dallas ranged (1957) from 10 to 20 cars per month, but now are on a 6 to 10 car rate. The grade was 40% on the average. The ore runs 35-%.

BARBIE MANGANESE GROUP

RAY HOVATTER owner

YUMA COUNTY, ARIZONA

To accompany report by
Chas H Dunning

Scale 600'-1" April 1958.

