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03/01/91

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: DESERT ROSE

ALTERNATE NAMES:

BLACK BART  
TWENTIETH CENTURY

MARICOPA COUNTY MILS NUMBER: 106

LOCATION: TOWNSHIP 4 N RANGE 9 W SECTION 2 QUARTER SW  
LATITUDE: N 33DEG 43MIN 09SEC LONGITUDE: W 113DEG 09MIN 15SEC  
TOPO MAP NAME: BIG HORN MTS - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

MANGANESE

BIBLIOGRAPHY:

USGS BIG HORN MTS QUAD  
SEE ADMMR WHITING MILL FILE  
ADMMR DESERT ROSE FILE

REFERENCES

7843  
See: I. G. <sup>1</sup> Mn Deposits of Western Arizona p. 14 and 20

"U" File

MILS Sheets sequence numbers 0040130166 and 0040130023 (Black Bart)

Ambrosia Minerals, inc. (file)

MILS Sheet sequence number 0040130252 (Desert Rose)

Reference: IC 7843

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Approved  
TSN, R9W

Mine Desert Rose, Black Bart, & some prospects

Date April 3, 1958

District Big Horn, Maricopa County

Engineer Lewis A. Smith

Subject: Ore occurrence in part of the Big Horn Manganese District.

Owners: Rico Mining Co. Leasee from W. House of Aguila, Agent is Elwood Wright  
P. O. Box 935, Aguila.

Generally there are two sets of fractures as follows:

(a) Persistent fissures and shears which strike from N 20° W to N 60° W and which vary in dip. The predominant strike is N 50° W.

(b) Persistent fissures which strike throughout a range of 10° to the east or west of north and are variable in dip. These offset the E-W group and are consequently later. Post-mineral faults moved blocks horizontally as well as vertically, the horizontal shift ranging from a few to 50 feet.

(c) "Finger shears" or "feather shears" which extend out from both sets of major or persistent fracture sets.

The NS (b) group appear to have acted as dams against the free movement of the primary manganese bearing solutions causing the precipitation of rhodonite, rhodochrosite, or rarely alabandite, in veinlets, masses, or fracture coats, within limited areas to the west of these NS fractures. Later the hypogene manganese minerals were oxidized to pyrolusite, manganite and psilomelane. The concentration of the manganese minerals therefore tends to decrease proportionally with the distance away from the two sets of fractures, or to the north and west or southwest. Most of the field evidence indicates that the hydrothermal solutions moved from west to east.

We therefore appear to have in effect a checker board pattern of distribution of the deposits in large part controlled by fracture intersections, and to a lesser and more local degree by the secondary "finger" and "feather" spears. The faults have been reopened and moved since the deposits were formed as evidenced by the notable brecciation and shearing of the already oxidized deposits. This pre-mineral horizontal movement is also demonstrated by small stringers of manganese-bearing material extending northward or southward from the E W fractures and parallel to and along the west sides of the NS fractures. These extend well past the average mineralized zones. These also demonstrate that the NS fractures are pre-mineral even though later movements did occur.

The third controlling factor is the distribution of the early Tertiary andesitic flows. This distribution controls the depth of the manganese concentrations in many cases except where they continue downward into the pre-Cambrian granitic rocks. The granite deposits are apt to be confined to the main fractures with little mineralization out from them. In some places where the original manganese-bearing andesite bed was down thrown by faulting, the ore zones are deeper as a result of having been protected from the Quaternary erosion. The Black Rock can be cited as an example of this where the block northwest of the EW <sup>and</sup> NS fracture <sup>intersection</sup> was down dropped. Here the down throw is greater than in most other instances. The strong and relatively high grade concentration there

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Desert Rose, Black Bart, & some prospects  
(continued)

Date April 3, 1958

District

Engineer

Subject:

is abetted by a strong system of "feather" and "finger" angled shears which are spread north and west to as much as 300 feet. The downward extension of most commercial deposits is terminated by the <sup>contact between</sup> bottom of the andesite flow and a coarse, red arkosic sandstone or clay rich lake beds. Mineralization in these beds is in stringers which are too far apart to make good ore. They do not appear to shatter as intimately as the overlying and more brittle andesite or, if fractured, they sealed easier. The clay beds lie west of the Black Bart and north-west of the Apache. Where the andesite lies directly on the granite or gneiss, mineralization, largely ~~is~~ confined to the main fractures, may occur in the granite as at the Apache. Usually the areas of mineralization show a purple cast in the outcrops. The mineralization weakens out from the main fractures to the northwest mainly by the thinning of the fracture coats of manganese minerals and by lessening of replacement of the shattered andesite fragments.

The andesite therefore, is the most favorable locale for mineralization, because it is more easily shattered as compared to the other rocks. The fractures are sharp and do not "seal" easily, and the and andesite seems to be more readily replaceable by manganese bearing solutions.

The variable thickness of the andesite bed is because of differential weathering and erosion, except where it was depressed by faulting. In some areas it has been completely removed, indicating that a great amount of mineralized material has been denuded, considerably more than now remains.

The purplish coloring is probably due to minute impregnations of manganese minerals into the rock fragments and to fracture coats of combined manganese and iron oxides.

The principal accessory mineral is calcite, with lesser siderite and quartz. The quartz appears, in some cases, to be supergene and may have been derived from the weathering of silicates which may have been partly rhodonite. The calcite may have come from rhodochrosite.

From a milling standpoint there appear to be three physical types:-

(1) Relatively wide veins or lenses of relatively high grade manganese oxides readily separable by gravity methods.

(2) Fine stringer material (7-12%) which is partly "free" and partly as a thin replacement of the andesitic fragments. This gives relatively high tails by gravity methods but would give much better recoveries by flotation and sintering.

(3) Fracture coats which are very difficult to recover since they are very thin and tightly adhered to the fragments. This material may give fairly good,

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Desert Rose, Black Bart, & some prospects  
(continued)

Date April 3, 1958

District

Engineer

Subject:

but deceptive assays in drill holes. This material is low grade and only recoverable by fine grinding and flotation. This material appeared to contain less carbonates and a little more silica than the first two types.

The Rico Co. is operating the Ambrosia Mill at about one-half of its rated capacity, under a lease agreement. The heads currently are averaging about 7-8% Mn, but 10% Mn would be better, since the present rate is barely profitable. It is hoped that two new prospects lying between the Desert Rose and the Black Bart will yield ore of sufficient grade to elevate the grade to over 10%. Generally, it would seem advisable to use more selective mining in the Desert Rose and the Black Bart Mines. Since dilution is high, test drilling is done ahead of <sup>mining</sup> ~~mining~~ by a rotary drill.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Desert Rose, Black Bart and some  
other prospects  
District Big Horn

Date 4/1/58

Engineer Lee Hammons

Subject: Cursory Examination

Comment: I accompanied Mr. Lewis A. Smith on a one day trip to take a look at these properties. The Rico Mining Company had asked for help on the geology of these deposits. Mr. Smith's report on the trip contains most of the geological data and conclusions.

Ownership: Claims are owned by W. House, Aguila, Arizona. Rico has them leased.

Status: Active -- exploring, developing, and shipping to the Ambrosia Mill which is leased by Rico. Concentrates are shipped to Fort Worth, Texas on the Carlot Program.

Geology and Mineralization: The manganese ore minerals are psilomelane and pyrolusite. They occur chiefly in shears in andesite, but there are some occurrences as stringers in the granite that underlies the andesite. The area is cross-faulted, the faults acting as dams to concentrate the mineral.

Conclusions: We concluded that exploration programs in the area should consist of detailed mapping of structural features and changes in lithology.

Active

**DEPARTMENT OF MINERAL RESOURCES**

STATE OF ARIZONA

**FIELD ENGINEERS REPORT**

Mine      **The Desert Rose &  
Twentieth Century Mines**  
District   **Big Horn Mining Dist. Maricopa Co.**

Dated **January 10, 1958**

Engineer **Lewis A. Smith**

Subject: **Visit to the Mine.**

Location:   **1 mile south of the Whiting Mill in the Big Horn Mining Dist.**

Owner:      **W. House, Aguila, Arizona**

Operator:   **Al Buell et al, Wickenburg, Ariz. and Aguila, Arizona**

Minerals:   **Manganese**

Development:   **The Twentieth Century and the Desert Rose are on the same vein system  
an                    and are adjoining each other. The former was worked during World  
War 11, but the latter is a new mine. Test drilling is being done  
on parts of the Desert Rose and some production is being made from  
a new open cut. The Twentieth Century is partly open pit, but  
future work will probably be underground, or as restricted open  
cuts.**

Shipments to the Whiting Mill have averaged about 15-25 tons  
per week. The other mine is to produce about the same. It is  
hoped that developments at the Desert Rose can be increased  
40-50 tons weekly, enabling the lessees to cut off the 20th  
Century which is of sub-grade. Ore shipped, so far in  
January averaged about 9-11% MN, but as the mine is further  
developed the grade should be better.