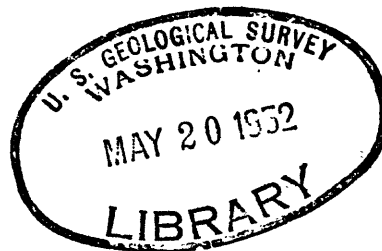


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✓ U.S. Geological Survey.  
[Reports - Open file series]



A Memorandum Report

on

FOUR MANGANESE CLAIM GROUPS

NEAR SOCORRO, NEW MEXICO

Red Hill Group  
Van Pelt Group  
Cliff Group  
Black Crow Group

52-107

<sup>report</sup>  
This map is preliminary and has not  
been edited or reviewed for conformity  
with U. S. Geological Survey standards  
and nomenclature.

Sherman K. Neuschel  
April, 1943

For release May 26, 1952

## FOUR MANGANESE CLAIM GROUPS NEAR SOCORRO, NEW MEXICO

### General Summary of the Four Properties

#### Location and Accessibility

Four adjoining manganese claim groups, the Red Hill, Van Pelt, Cliff and Black Crow Groups, lie in Sec. 20, T. 4 S., R. 1 W., eight miles southwest of Socorro, New Mexico. The manganese deposits on each of the claims is similar in geologic occurrence and thus the four properties are discussed under one report.

The deposits are reached from Socorro by taking U. S. Highway #85 south for  $6\frac{1}{2}$  miles and then a fair desert road west for  $4\frac{1}{2}$  miles to the section line fence between Sections 20 and 21 (see Location Map). There is no road from the line fence to the various properties. Shipments by rail could be made at Socorro, New Mexico on the Santa Fe Railroad.

#### Past Production

During World War I, this group of deposits was divided into two claim groups, the Fischer-Van Pelt Claims and the Everhart-Dodds-Wilson Property. Shipments during this period amounted to about 100 tons of sorted ore of 35% grade. This amount came primarily from the shaft on the present Van Pelt Group. Recently the claims were relocated into four new groups by several owners.

## Geology and Character of the Ore

✓ The country rock of the area covered by the deposits is pink rhyolite porphyry of Cretaceous-Tertiary age. The most common manganese mineral is hard psilomelane type though occasionally pyrolusite and some wad are present. These minerals occur as narrow fracture fillings in the sheared or brecciated rhyolite of fissure veins. The fracture fillings may vary from a stain or thin film to layers one inch thick. Although the operators have tended to sort out pure manganese oxide bands which in some of the veins lie adjacent to the well developed fault along either the hanging or foot walls, the deposits are not generally suited to the production of ferro grade ore by hand sorting. Such high grade bands are narrow and discontinuous and could not be worked profitably. Gangue minerals are calcite and chalcedony which also occur as fracture fillings. Following the filling of fractures by manganese oxide and gangue minerals there is evidence of some refracturing with the subsequent fractures filled with calcite.

## Reserves and Recommendations

All of the reserves are considered to be in mill type or concentrating ore; too low in grade to be mined and shipped profitably to the stockpile. The reserves may be utilized, however, by milling locally. Most of the manganese oxide of the "breccia ore" could be freed by crushing to  $\frac{1}{4}$  inch size and concentrating by jigging.

### Red Hill Group

The Red Hill Group is the easternmost of the four groups. A portion of this claim group extends into Section 21 but all of the mineral showings are in Section 20. Six unpatented claims, Red Hill #1-#6, make up the group which is held by George W. Miller, J. L. Jackson and W. P. Quinn of Socorro, New Mexico.

The property is developed by numerous trenches, pits and open cuts (see Sketch Map of Workings). Most of this work was done during the summer of 1942. No shipments have been made from this group. To the north of the stream flowing southeast through the claims the trenching in the rhyolite exposes a broad fractured area striking N 10° E. Manganese mineralization is confined to 6 well developed shear zones paralleling the strike of the fractured area and dipping vertically. These zones vary from 1 foot to 2½ feet in thickness. Pailomelane type manganese occurs as fracture fillings ½ inch to ½ inch in thickness firmly cementing the brecciated rhyolite in the shear zone. The breccia ore is judged to assay between 20% and 25% of manganese. Gangue minerals are a little calcite and chalcedony which occur also as fracture fillings.

The development work and outcroppings suggest a total length of 350 feet for the shear zones, and it is probable that the ore may extend to a depth of at least 50 feet. There is no chance to recover any appreciable amount of ferro grade by hand sorting the larger stringers. The only way this deposit could be utilized is by

by milling locally. A very good product could be obtained by coarse crushing and jigging. An analysis of clean sorted psilomelane is as follows: 49.0% Mn, 1.5% SiO<sub>2</sub>, 0.6% Fe, 12.3% BaO.\*

To the south of this series of parallel shear zones are three veins prospected by trenches and an adit (see Sketch Map of the Workings). These are not considered as a probable source of manganese as the fracture filling is predominately calcite.

#### Van Pelt Group

The Van Pelt Group lies just to the west of the Red Hill Claim Group. Three unpatented claims designated Van Pelt #1-#3 are held by J. J. Baca, Mrs. James Romero, L. C. Baca, and James Romero all of Socorro, New Mexico.

There have been no recent shipments but most of the World War I production of the deposits in Sec. 20 came from the present Van Pelt Group.

A fissure vein striking N 35° W and dipping 70° W is developed by an inclined shaft 50 feet in depth and by two small pits. The vein is 3 feet in width and is composed of manganese fracture filling  $\frac{1}{4}$  inch or less in thickness. The "breccia ore" across the vein is judged to assay not more than 15% manganese.

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\* Sample collected by writer. Assay by Ira L. Wright, Mining Engineer, Silver City, New Mexico.

Outcroppings give a total length of 100 feet for this vein. It is reported that drifts extend from the bottom of the shaft for a total length of 30 feet. The shaft, however, was inaccessible at the time of examination.

About 1000 feet northwest of the shaft are two veins 3 feet in width striking N 25° E. Each has been prospected by a shallow trench about 70 feet in length. Rhyolite "breccia ore" estimated to assay 15% manganese is exposed.

Manganese oxides crop out or have been exposed by development over a total length of 250 feet, and may well extend to a depth of 50 feet. From the available showings there seems no chance to produce any ferro grade ore by hand sorting operations.

#### Cliff Group

Three unpatented claims designated Cliff #1, #2, and #3 were located in June 1941 by J. W. Whitman, Albuquerque, New Mexico.

A small amount of sorted ore was shipped from this property during the last war but no recent shipments have been made.

A fissure vein or crushed zone about 5 feet in width striking N 15° W and dipping 75° W has been prospected by an open cut 30 feet in length and 12 feet in height at its face. A shallow trench extends for about 50 feet north of the face of the open cut.

The fracture fillings of manganese in this vein are so narrow and few that the "breccia ore" will probably carry less than 5% manganese.

In operations during the summer of 1942, Mr. Whitman accumulated about 3 tons of ore which is judged to assay 35% manganese. This was obtained by careful sorting of a psilomelane band 2 inches to 5 inches in thickness adjacent to a well developed fault on the hanging wall. This narrow high grade band appears to be worked out.

#### The Black Crow Group

This claim group consists of three claims designated Black Crow #1, #2, and #3 and is held by J. J. Baca, L. C. Baca, James Romero and Mrs. James Romero all of Socorro, New Mexico.

There is no evidence of recent development work. The property has never produced.

A 3 feet wide crushed zone in rhyolite has been prospected by an adit 10 feet in length into the stream valley wall. Manganese oxide is present as little more than a stain in the fractures. It is estimated that the brecciated rhyolite would assay not more than a few percent of manganese.

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LOCATION MAP  
OF  
FOUR MANGANESE CLAIM GROUPS  
NEAR SOCORRO, NEW MEXICO

N

1 1/2 0 1 2 MILES

UNITED STATES GEOLOGICAL SURVEY  
SHERMAN K. NEUSCHEL 4/43

SOCORRO, N.M.

TO MAGDALENA N.M.  
22 MILES

U.S. HIGHWAY NO. 60

U.S. HIGHWAY NO. 85

U. S. GEOLOGICAL  
SURVEY  
WASHINGTON

MAY 20

LIBRARY

T45, R1W N40M

CLIFF GROUP

VAN PELT GROUP

SEC. 17

SEC. 18

RED HILL GROUP

SEC. 20

SEC. 21

BLACK CROW GROUP

SMALL SQUARE IS  
AREA COVERED BY LARGE  
SCALE SKETCH

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been edited or reviewed for conformity  
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