

BEAVER CREEK MANGANESE DEPOSIT, BIG HORN MOUNTAINS, JOHNSON CO.

Location and Ownership

The deposit is located near Beaver Creek in Secs. 30 and 32, T. 47 N., R. 83 W. It may be reached from Buffalo, Wyo. by following U.S. Highway 16 west for approximately 29 miles to the Hazelton road. At this point, turn south and continue for approximately $4\frac{1}{2}$ miles to the abandoned post office of Hazelton. Approximately $\frac{1}{4}$ mile south of Hazelton, turn east and follow the dirt road approximately $11\frac{1}{2}$ miles to the manganese deposit at Beaver Creek.

The deposit consists of six unpatented claims owned by Bud Meade and Roger Larsen of Bud's Barber Shop. Buffalo, Wyo.

The writer spent the days of August 20 - 22, 1952 examining both the manganese and allanite deposits shown on the map accompanying this report.

Geology and Mineralization

The manganese is exposed in isolated outcrops in an area of $\frac{1}{2}$ by 1 miles and occurs in two stratigraphic horizons. The major occurrence is in the Cambrian Flathead formation which strikes N. 14° W. and dips 20° NE. The best exposure of the manganese is found in the NW $\frac{1}{4}$ Sec. 32. Here, weathered blocks of manganese-impregnated sandstone are found covering the knoll of an easterly-trending ridge about 150 feet above the pre-Cambrian-Cambrian contact. Four bulldozer trenches and several pits have been cut in the Flathead formation exposing a tabular-like lense of manganese about 25 feet thick that appears to parallel the bedding. The manganese here occurs immediately

above an alternating series of reddish-brown and tan sandstone beds. Overlying the manganese is a clay bed (White River formation ?) that contains a little nodular manganese. Pyrolusite and some psilomelane are the principal minerals. In addition to the lense-like bodies, these minerals are found in veins lining fractures, joints, and bedding planes. Viewed under the microscope it is seen that the manganese has replaced the cement and coated the sand grains in the sandstone. Assays of the manganese-impregnated sandstone, provided by the Natural Resources Research Institute, Laramie, Wyo., average about 9 % MnO_2 .

The second major occurrence of manganese outcrops in the $N\frac{1}{2}$ Sec. 30. The mineralization here is in the form of pyrolusite nodules in the clays of the Tertiary White River formation. and as pyrolusite stringers in the pre-Cambrian granite. A representative sample of the nodular ore, as reported by the NRRI, assayed 33.8 % MnO_2 .

The mineralization is post-White River in age, but little is known about the origin except that it is secondary. The ore seems to be controlled by the contact of the White River formation with the underlying rocks. The manganese could have been derived either from the White River formation or the pre-Cambrian rocks, transported by ground water, and precipitated in a favorable host rock.

Conclusion

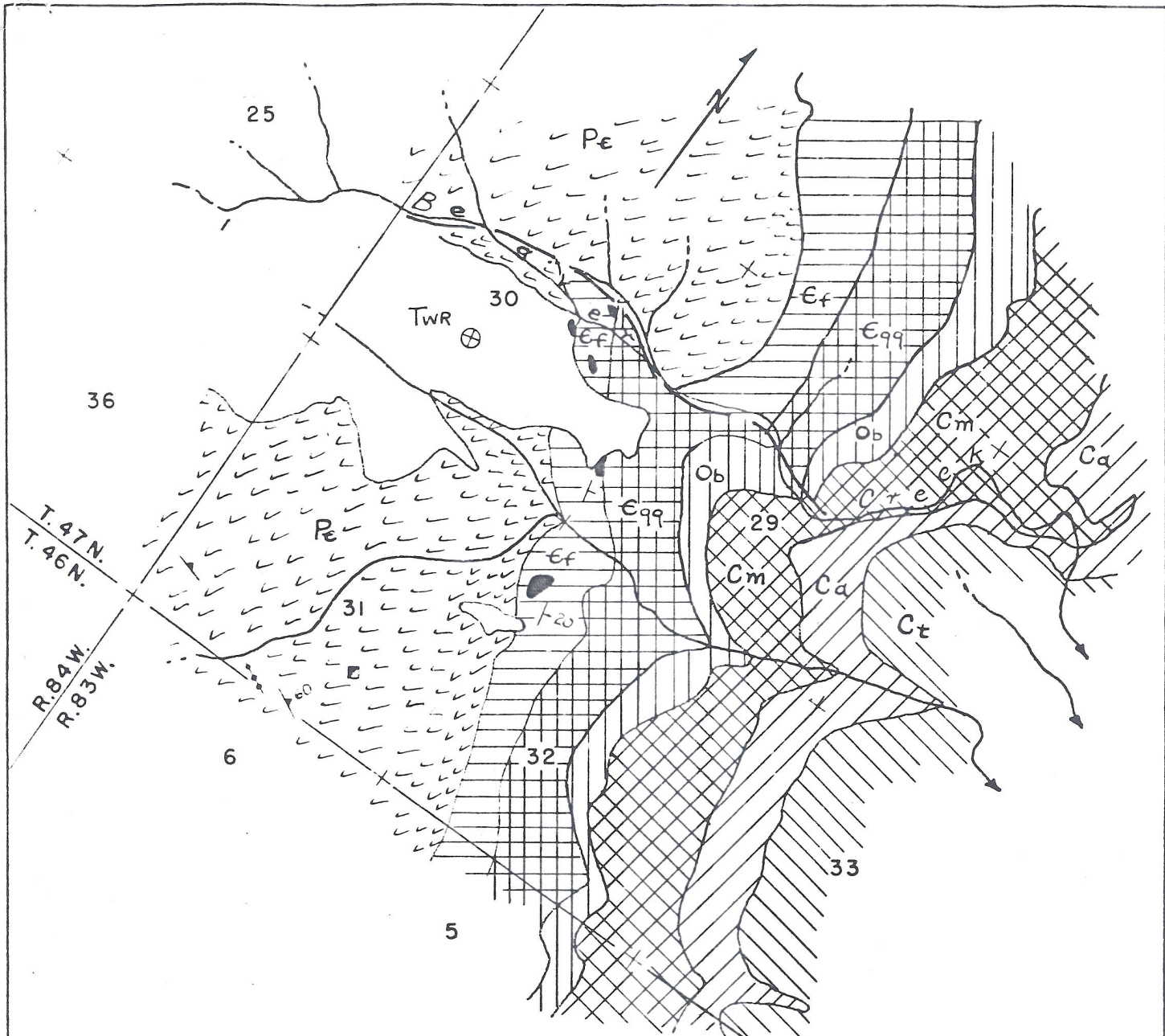
The tonnage does not appear to be very large, but due to the heavy cover it is impossible to evaluate this with any accuracy.

Considering the low tonnage available, the low grade of the deposit, and the absence of a nearby purchasing depot or mill, it is felt by this writer that this deposit could not be exploited successfully under present economic conditions.

Signed

William H. Wilson

William H. Wilson
Ass't State Geologist
Geol. Surv. of Wyo.
November 4, 1952



- | | | |
|---------------|---|--------------------------|
| TERTIARY | Twr | White River fm. |
| | Ct | Tensleep fm. |
| CARBONIFEROUS | Ca | Amsden fm. |
| | Cm | Madison fm. |
| ORDOVICIAN | Ob | Big Horn fm. |
| CAMBRIAN | Eqq | Gros Ventre-Gallatin fm. |
| | Ef | Flathead fm. |
| Pre-CAMBRIAN | Pe | |

ALLANITE
 MANGANESE

SCALE: 2 inches = 1 mile

Base Map: Aerial Photo TPRB 10400, U.S. Bur. Reclamation

GEOLOGIC SKETCH MAP OF ALLANITE & MANGANESE DEPOSITS
JOHNSON COUNTY, WYOMING