

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

Location and Ownership

The deposit is located on the north line of Sec. 6, T. 46 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 miles to the allanite deposit near Beaver Creek.

R. Munkres of Buffalo, Wyo. is the principal claimant.

The writer spent a portion of the days of August 21-22, 1952, examining the vein.

Geology and Mineralization

The allanite is located about $\frac{1}{2}$ mile west of the pre-Cambrian-Cambrian contact. Further east can be seen the prominent escarpment formed by the Ordovician Big Horn formation. The topography consists of gently rolling hills, probably in a sub-mature stage of erosion. The pre-Cambrian rocks of the area are essentially a fine grained granite (aplite) with good foliation and fair lineation. These are intruded by irregularly shaped pegmatites.

The allanite occurs as a vein type of deposit that is concordant to the foliation of the pre-Cambrian. The foliation strikes N. 65° W. and dips 59° NE. The vein is exposed by several trenches and test pits which reveal an approximate length of 300 feet. The maximum width of the vein, as measured in one

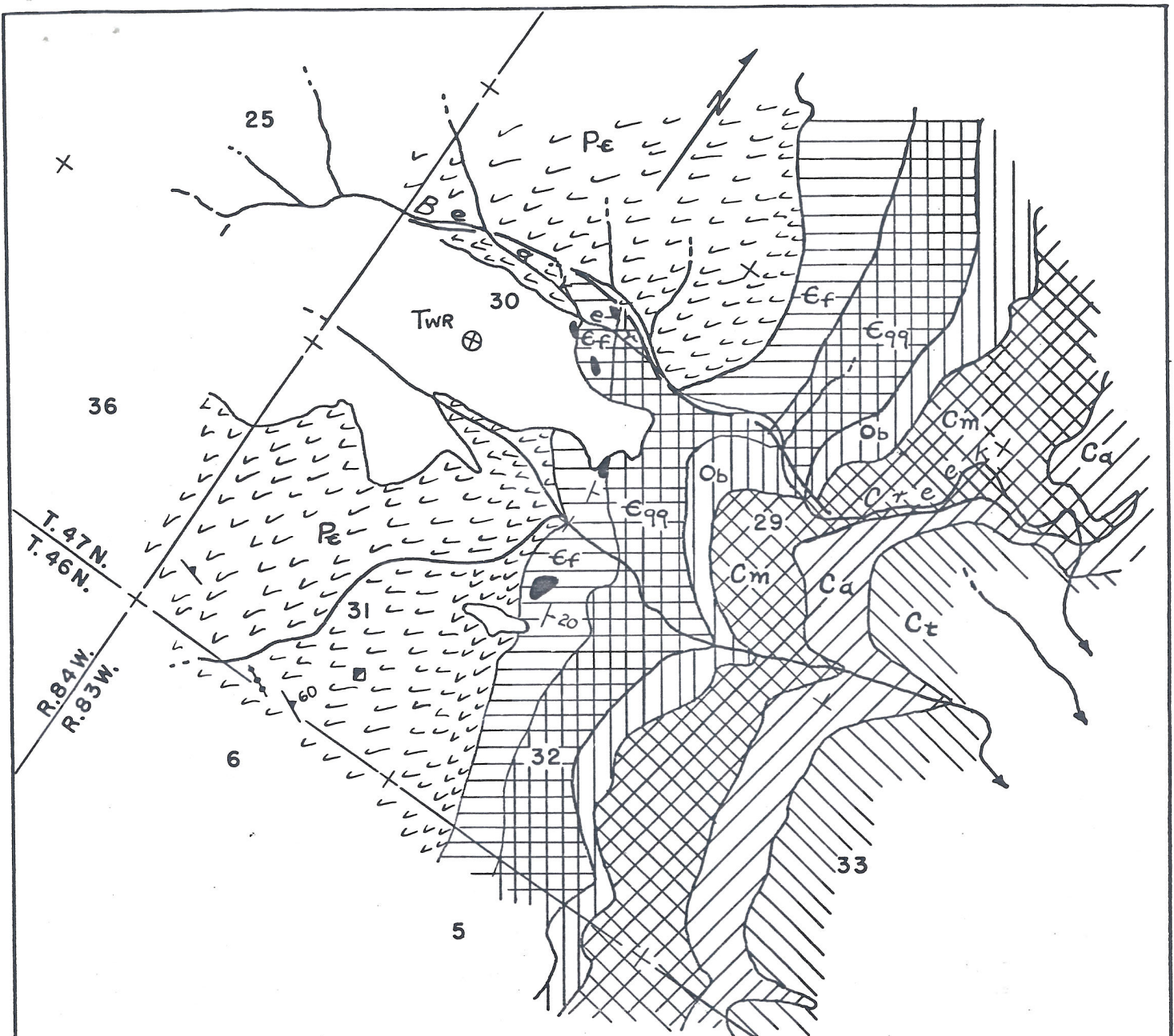
of the trenches, is 90 inches. The presence of allanite here, however, is small with respect to the other assemblage of minerals. One specimen showed a maximum of 300 counts per minute (0.12 milli-roentgens per hour) recorded on the geiger counter. The maximum uranium percentage, as reported by the U.S. Geological Survey who used a scintillation meter, was 0.05%. This reading was made in test pit, near the location notice of the claim. As one traverses the ridge, from this point, in an easterly direction the radioactivity decreases to almost zero in a distance of several hundred feet.

Although the uranium content of the deposit is not high, it is unusual ^{in that} the mineral is found in a vein-type of deposit rather than as an accessory mineral in acidic intrusive rocks. The vein is complex; consisting of bands of epidote, calcite, magnetite schist, sericite schist, and biotite schist, all parallel to the foliation of the country rock. Other minerals noted in addition to the above are: diopside, garnet, soda amphibole, oligoclase, and allanite. The allanite, where found, generally is associated with the epidote as irregular masses. Both the headwall and footwall of the vein are an aplite granite. The only observed difference between the two is the leaching of the ferro-magnesian minerals from the footwall.

Signed

William H. Wilson

William H. Wilson
Ass't. State Geologist
Geol. Surv. of Wyo.
November 28, 1952



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

 ALLANTITE
 MANGANESE

SCALE: 2 inches = 1 mile

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

**GEOLOGIC SKETCH MAP OF ALLANTITE & MANGANESE DEPOSITS
JOHNSON COUNTY, WYOMING**