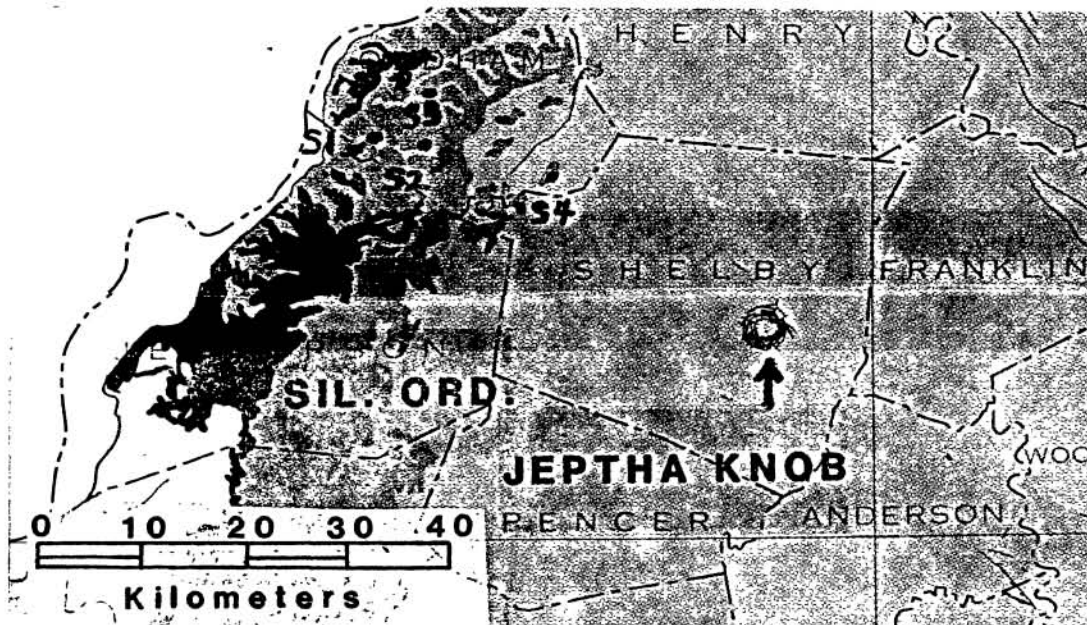


THE SEARCH FOR JEPHTHA KNOB IRIDIUM, CONTINUED; C. Ronald Seeger, Western Kentucky University, Bowling Green, KY, USA 42101, Frank Asaro and Helen Michel, Lawrence Berkeley Lab: MS 110A, University of California, Berkeley, CA, USA 94720, Anne V. Noland, University of Louisville, Louisville, KY, USA 40208

In 1985 Seeger, *et al.* (1) reported the finding of an iridium anomaly in the Silurian caprock breccias central to the Jephtha Knob, Kentucky, USA cryptoexplosion structure.

Next, in an attempt to investigate the lateral extent of the iridium occurrence, ten samples from the lowermost Silurian Brassfield formation or lower Osgood formation closest to Jephtha Knob were analyzed.

We found no enhanced iridium level sufficient to show, unequivocally, an extraterrestrial source, but the level in the matrix of a Brassfield breccia is  $0.052 \pm 0.008$  P.P.B. (1 S.D.) compared to an average of 0.019 (range 0.001–0.035) for nine other samples (2). This exposure of lower Silurian is in a quarry about 26 KM (16 MI) to the west of Jephtha Knob.



A portion of the Geologic Map of Kentucky. S1, S2, S3, S4 are the latest sampling locations.

We have now conducted further field investigation and sampling in the same general locations as those last reported (2). The locations are shown on the map above. We have tried to sample across the stratigraphic boundary as carefully as possible and to include each indentifiably separate unit in these samples including small layers not included in the last series. The analyses of these samples will be reported.

We have not eliminated or confirmed any of the three hypotheses explaining the iridium occurrence at Jephtha Knob (1), which were:

- A. It was deposited as the result of a world-wide event at the close of Ordovician times;
- B. It was deposited as the result of a much larger regional event;
- C. The iridium was incorporated during the formation (3) of the Jephtha Knob structure itself as presently mapped (4) or the possible original extent (1,5).

The third hypothesis (C) would seem to be favored by the results so far, but this last investigation may shed more light on the topic.

References:

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