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PRELIMINARY NOTE ON HOWARD SPRINGS RADIOACTIVE PROSPECT.

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by

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Howard Springs are situated about 3½ miles north-east of a point on the Stuart highway about 16 miles south of Darwin. They are seepage springs on a branch of the Howard River.

Radioactive material was found in the area by Mr. L. Good, Box 273, Darwin, during October, and samples were sent to Rum Jungle for testing.

A brief inspection of the area was made by the writer and Dr. N.H. Fisher on 7th November, 1952.

The point referred to as Howard Springs is where seepage water issues from below a laterite capping, and a retaining wall was built about 400 yards downstream from this point by the Army during the war.

Black alluvial clay occurs downstream from the Spring, and the surrounding country is laterite covered.

The presence of porcellanite in a few potholes and as fragments in the laterite in places indicates that the underlying rocks are part of the Mullaman Group of Cretaceous age. Judging from the thin section of Cretaceous rocks overlying the Brocks Creek group in the Darwin area, it is probable that the Cretaceous section is also thin at Howard Springs.

At the point of issue of the Springs the laterite ledge and also the black clay in the vicinity gives 400 counts per minute on the Geiger Counter. A sample of the lateritised material (A4120) assayed 0.024% equivalent U_3O_8, and mineralogical work to determine the source of the radioactivity in this material is being undertaken. The radioactivity falls off going downstream, but readings of 150 counts and 200 counts per minute were given at a number of points tested in the black clay to a distance of about ½ mile downstream. Readings up to 100 counts per minute were obtained in the surrounding laterite, while the general background for the area is 50 counts per minute.

Shallow pits have been sunk through the black clay at several points in the area, and have indicated that its thickness is about 1 foot and it is underlain by white clay. Tests carried out with the Geiger Counter showed that the high radioactivity was confined to the surface black clay.

It seems likely that the mineral causing the radioactivity has been precipitated, probably by organic matter, from the spring water in the black clay layer, but the original source of the material is not at present clear.

It may have been dissolved out of the laterite, but seems more likely to have come from a source in the Brocks Creek Group, which could be rather distant. Reference to a plan of the area shows that the source of the water which seeps out at Howard Springs could be up to 4 miles upstream. At the time of inspection there was no flow of water from Howard Springs so it was inopportune to collect any water sample for testing.

In conclusion, the radioactive clay deposit at Howard Springs is unimportant, but may provide a useful lead in locating an important deposit further afield.

Further work is warranted in this area in 1953.