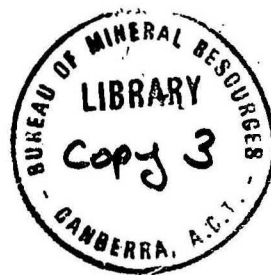


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Report on an inspection of the
Uranium discovery near Mosquito Creek,
Northern Territory.

by

J. H. LORD.

REPORT ON AN INSPECTION OF THE
URANIUM DISCOVERY NEAR MOSQUITO CREEK, NORTHERN TERRITORY.

GENERAL INFORMATION

The uranium discovery made by Mr W.R. Cairns near Mosquito Creek was inspected on 23rd September, 1956. A previous inspection was made in May, 1955 and a report submitted as Appendix 1 of the monthly report of the Darwin Uranium Group for May. It is intended to discuss only the progress since the last report.

DEVELOPMENT

At the time of the previous inspection, the only work, which had been completed, was several costeans.

Since that inspection two vertical shafts (see Plate) have been sunk. The No. 1 or water shaft was sunk to 50 feet. At the bottom of this shaft, a drive was extended 8 feet to the south and showed secondary uranium mineralisation but, as it is now under water, it could not be inspected. On the 30 foot level, cross-cutting has shown secondary uranium mineralisation over a width of 21 feet. A drive to the south has been extended to the No. 2 shaft in mineralised material.

The No. 2 shaft has been sunk to 60 feet and cross-cutting at that depth has disclosed mineralisation over a width of 17 feet.

GEOLOGY

This uranium prospect is in the Warramunga Group of rocks of Lower Proterozoic age.

As explained in the earlier report, the discovery is situated in a break in a quartzite ridge. The underground development has shown that the secondary uranium mineralisation is in an intensely sheared and brecciated acid volcanic rock.

Cross-cutting from the No. 1 and No. 2 shafts has shown that the mineralisation has an average width of 19 feet and is bounded by an acid porphyry.

In the north wall of the No. 1 shaft the sheared mineralised zone is terminating against the quartzite. On this wall there occurs a mixture of quartzite and sheared mineralised material.

The No. 2 shaft shows only sheared mineralised material on the south wall.

The drive from the No. 1 shaft to the No. 2 shaft on the 30 foot level shows mineralised sheared and brecciated volcanic material.

The mineralisation is of a secondary nature throughout, consisting of torbernite, sutunite and other yellow secondary minerals.

RADIOACTIVITY

All accessible workings were examined using a Phillips geiger counter. It is apparent from the results that the uranium content is decreasing with depth. The counts, which were recorded on the surface, do not occur underground. In No. 2 shaft the count decreases from an average of 100 per second at a depth of 20 feet to 50 per second at a depth of 60 feet.

The No. 1 shaft was not accessible for detailed examination.

The average counts obtained along the drive on the 30-foot level are shown on the attached plate. The better counts are near the shafts with an impoverished zone midway between the two shafts.

ORE RESERVES

It is estimated that 5,000 tons of mineralised material has been disclosed between the surface and the 60-foot level.

The grade is not known because no systematic sampling has been done. Some assays of surface material were in excess of 1% eU_3O_8 , but the grade has decreased rapidly with depth, as is shown by the readings taken with a Phillips geiger counter in accessible portions of the workings.

From the evidence available, it is considered that the grade may average between 0.2 and 0.25% eU_3O_8 .

CONCLUSIONS

Underground development on the Mosquito Creek uranium discovery has shown secondary uranium mineralisation in sheared acid volcanic material to a depth of 60 feet.

The ore body is limited in extent and as the grade is estimated to be only between 0.20 and 0.25% eU_3O_8 , it is doubtful, if further work on the prospect is warranted, because of the distance from a treatment plant.

The grade of ore is decreasing with depth and it is doubtful if any primary mineralisation will be encountered.

17th October, 1956.

J.H. LORD.
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SKETCH PLAN
of
URANIUM PROSPECT
at
MOSQUITO CREEK
N.T.
showing position of
Shafts, Costeans and
Phillips Geiger Counter
readings in counts/sec.
(background 1.5 c/s)
Scale: 1"=5'

