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REPORT ON AN INSPECTION OF A URANIUM PROSPECT
NEAR MOSQUITO CREEK, NORTHERN TERRITORY.

by

J.H. Lord.



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REPORT ON AN INSPECTION OF A
URANIUM PROSPECT NEAR MOSQUITO CREEK, NORTHERN TERRITORY.

Records 1955/62 [BY J.H. LORD]

GENERAL INFORMATION

An inspection of this new 'find' was made on 17th May, 1955. This prospect was discovered by Mr. W.R. Cairns, who has been prospecting on the Mosquito Creek tungsten field for a few years. He has pegged two mineral leases known as Munadjee No. 1 and No. 2 and has applied for an Authority to Prospect over ten square miles surrounding the 'find'.

The Mosquito Creek tungsten field is reached by leaving the Stuart Highway 0.8 miles south of the McLaren Creek (approximately 50 miles south of Tennant Creek) and by travelling east along a graded track some 29 miles. The 'find' is to the south-west of the field, some 6.8 miles from the Viking lease. On the Bonnie Well 4 mile to-an-inch mosaic it is 31 miles N. 52° E. of Wauchope and on air-photograph run 5 No. 5026 it is 4.5 inches East and 2.25 inches North of the south-west corner.

GEOLOGY

The 'find' occurs in an area of rocks that belong to the Lower Proterozoic. These are conformable sedimentary and volcanic rocks, which have been intruded by granite.

The uranium prospect occurs in a saddle which has formed where a break of approximately 40 feet exists in a quartzite ridge. The quartzite, which is almost vertical and bounded by altered acid volcanics, is intruded by numerous quartz veins accompanying strike faulting.

The rock occupying the break in the quartzite appears to be a highly sheared and contorted acid volcanic rock, which has been leached and altered where mineralised. Through the saddle it would appear as if there were an east-west shear which extends only a few feet to the east but may extend much further under the soil to the west. There has been considerable movement on this shear, but no great horizontal displacement.

There is evidence of some minor east-west faulting to be found along the quartzite ridge.

The uranium minerals present are torbernite, autunite, carnotite (?) and probably other minor yellow minerals.

RADIOACTIVITY

The radioactivity occurs on the southern side of the saddle, and costeaning has defined the area of visible uranium mineralisation to approximately 130 square feet.

The area was gridded roughly using a Phillips Geiger Counter (background $1\frac{1}{2}$ counts per second) and by calibration with assayed samples it is estimated that the average grade of the mineralised area would be 0.75% U_3O_8 (see attached sketch

plan). Beyond the area of visible mineralisation the readings decrease very rapidly.

The surrounding area for a radius of some 1000 feet was checked with a geiger counter but no further radioactivity could be located.

At a point approximately 28 chains from the first 'find', Mr. Cairns has located several boulders of hematized quartzite and quartz, which give readings up to 8 times background. These boulders are on a rubble-covered slope and the exact position of origin cannot be found, but it is doubtful if any mineralisation of importance would occur nearby.

FURTHER PROSPECTING

As there appears to be little chance of a surface extension of the prospect, the best method of development would be by shaft sinking in the area of mineralisation to test the extent at depth.

Careful radiometric gridding of the soil-covered area to the west of the prospect should be carried out to test for any extension of the shear, with accompanying mineralisation.

Regional prospecting should be carried out for suitable geological structures, in which uranium mineralisation may occur. In this type of country car-borne geiger equipment would be suitable for prospecting and also air-borne scintillometer, preferably in a slow low-flying aircraft.

CONCLUSION

This find of uranium mineralisation warrants a reward, as it will attract prospectors to the area, which may result in more substantial deposits being located.

J. H. LORD.
Senior Geologist

15th June, 1955.

W. H. Cairns
15th June 1955

SKETCH PLAN OF URANIUM PROSPECT AT MOSQUITO CREEK

NORTHERN TERRITORY

SHOWING POSITIONS OF COSTEANS
AND GEIGER COUNTER READINGS
IN COUNTS PER SECOND.
(BACKGROUND $1\frac{1}{2}$ C/S.)

Quartzite
with numerous
quartz
veins

SCALE IN FEET

