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COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

1953/127

GEOLOGICAL REPORT ON WATERHOUSE URANIUM PROSPECT NO. 4.

NORTHERN TERRITORY.

by

P.B. Rosenhain.

RECORDS

C O N T E N T S.

Plate No.	Plan.	Scale.
1	Plane table and Telescopic Alidade Survey, Waterhouse Uranium Prospect No. 4, Rum Jungle Area, N.T.	1 inch - 200 feet.

SUMMARY.

The Waterhouse uranium Prospect No. 4 is located 3½ miles south of Batchelor siding on the North Australia Railway line, and was discovered by aerial scintillometer survey. A ground examination recommended radiometric gridding of the area.

The Prospect is in lateritised rocks and is a broad area of twice the radiometric background count. Within this area are small local zones, rising to four times background, associated with quartz veins. The future of the Prospect is not encourgaging.

INTRODUCTUON.

The Waterhouse Uranium Prospect is one of the radiometric anomalies discovered by the aerial scintillometer survey, carried out by the Bureau of Mineral Resources in 1952. The Prospect is 3½ miles south of the Batchelor siding on the North Australia Railway line. It is located at military co-ordinates 032 303, Batchelor sheet. Aerial Photograph coverage is obtained on Pine Creek Survey 1375 Run 17 Photographs 5090, 5091.

Access is by a good gravel road from the south end of Gould Airfield. This road meets the Railway line at the Prospect and is suitable for heavy motor transport in all seasons.

Preliminary inspection of the area was carried out by Dr. N. Fisher and J. Sleiss in November 1952. Radiometric gridding was recommended and this was done in August 1953. To supplement the radiometric work a geological map was also made, and owing to the large size of the area mapping was done on a scale of 200 feet to one inch. The grid was laid out by J. Wyatt and geological mapping was done by P. Rosenhain.

Topographically the Prospect is situated in an area of very low relief and is generally flat.

GEOLOGY.

REGIONAL GEOLOGY.

The Prospect is located 2½ miles east of the northern edge of a granite mass known as the Waterhouse Granite, and 4½ miles south of the Rum Jungle granite. These granite masses intruded the sediments and arched them into two domes. Thus a synclinal trough was developed in the sediments between the granites. The axis of this syncline cannot be located exactly in the area owing to the scarcity of outcrops, but regional mapping shows that it must pass very close to the prospect.

The exposed sediments are thought to be Lower Proterozoic in age and of the Brock's Creek Group (Noakes 1949). Stratigraphically the beds approximate to the Rum Jungle slate formation and brown slates and shales can be observed in a railway cutting at the south east of the Prospect.

DETAILED GEOLOGY.

The geology of the area is obscured completely by lateritisation and soil cover. The only outcrops in the area are shales and slates in a cutting 3000'S and 150' E of the 00 peg. These beds strike north and dip 30 degrees E. Outcrops of quartzite and hematised quartzite breccia can be seen 2500S and 2100W of the 00 peg. The attitude of these rocks cannot be determined because of the massive nature of the outcrops.

THE ANOMALY.

The radioactivity of twice background covers a broad area of 1200 by 600 feet. Inside this area, which is largely laterite, occur some small localised areas of the order of 100 x 50 where radioactivity increases up to four times background. Three of these higher zones are associated with quartz veins which remain unaffected by the process of lateritisation. These areas appear to overly immediately the visible quartz which dips westerly. Thus the possibility exists of an association of uranium mineralization with the quartz, though the two need not have been contemporaneous.

CONCLUSIONS.

The area does not appear to warrant a great deal of further work. However, the association of the local radioactive highs with the quartz veins could have some significance. It is recommended that any further work should involve penetration of the laterite cap in the vicinity of one of the quartz veins. This could be done either by digging costeans across one of the higher zones or some close subsurface radiometric gridding involving the use of a post holing machine. However, the radioactivity does not appear to be high enough, nor extensive enough to take an encouraging view of the prospect.

PLATE I

Geological Plan

WATERHOUSE URANIUM PROSPECT NO 4

RUM JUNGLE AREA

NORTHERN TERRITORY AUSTRALIA

100' 50' 0 100' 200' 300' 400' 500'

SCALE

Reference

QUATERNARY

- Alluvium

TERTIARY

- Ferruginous Laterite

PRE CAMBRIAN

- Hematised Quartzite Breccia
- Quartzite
- Q Quartz
- 300 Topographic contours.
- x2 Radiometric contours
- Tracks
- Railway.

To Darwin 64 Miles

True 4° 30' Magnetic

LINE BASE

Soil

Soil cover.

Plane Table & Telescopic Alidade Survey
by
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