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DISCOVERY OF TWO RADIO-ACTIVE PROSPECTS

CORONATION HILL RESERVATION

by

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AJC 14/3/55

LCB:MJH.

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History:

High Geiger readings in the vicinity of the Number 1 prospect were first obtained by Sidney Fabian (a prospector for Northern Uranium Development) who drew my attention to this fact and showed me the area on Sunday 14th November, 1954. No detailed work was done.

The area was re-visited by the author on Tuesday, 23rd November, 1954. It was on this date that the region of radio-activity and the rock responsible for it were established.

The Number 2 prospect was discovered independently by the author on Tuesday 23rd November, 1954, while prospecting along the line of the South Alligator Fault Zone.

Situation:

Both prospects are on Mt. Evelyn four-mile sheet, Run 9, photo. 5023, quadrant D.

Number 1 prospect: x = 3.24 inches, y = 0.75 inches, diagonal = 3.33".

Number 2 prospect: x = 3.65 inches, y = 0.38 inches, diagonal = 3.66".

Access:

The area of both prospects may be entered as follows:-

The Goodparla-Coronation Hill bush track is followed to the vicinity of Pull Pull, where a track turns off to Zamu Creek. The turn off may be obscured by high grass. This track is followed across the South Alligator River, continue for an additional quarter of a mile, then leave the track and turn approximately north-west across Bamboo Creek to the above localities.

The bush tracks are impassible in the "wet" season. The rivers cannot be crossed by vehicle or foot after short periods of heavy rain.

PROSPECT NUMBER 1.

Topography:

The region of high counts is situated on a col between two elongate ridges of moderate relief, trending 169 degrees (true bearing).

Geology:

The radioactivity is confined to two rock types:

1. Angular quartzose conglomerate with haematitic matrix. This rock crops out in the area.

2. Haematitic boulders which occur as surface "floaters" in the soil and appear to have been shed from the conglomerate outcrop.

On the southern slope of the col, the conglomerate talus has a siliceous matrix and contains traces of copper.

Limestone outcrops within 500 yards south-east of the prospect. The conglomerate may have been a fragmental limestone which was later silicified and in part haematised.

The strike and dip of the conglomerate could not be determined in the vicinity of the prospect.

Radioactivity:

High Geiger readings can be obtained over an area approximately 200 yeard by 100 yards (20,000 square yards), the elongation bearing 044 degrees across the line of the ridge. Some of this radioactive rock is undoubtedly talus, indicating that the areal extent of the radioactive rock in situ, may be less than the figures quoted.

The instrument used was an Austronic P.R.M. 200. "Dead Background" for the area is equivalent to 50 counts per minute obtainable on barren quartz. "Local Background" is equivalent to twice this value.

The highest reading obtained was 4000 counts per minute on the haematitic boulders. Counts of 2000 to 4,000 are quite common on this rock over a wide area.

Assay results are as follows:

Specimen number : B8390

Rock Type : haematitic rock occuring as floaters in the soil

Radiometric assay : 0.168% equivalent U_3O_8.

PROSPECT NUMBER 2.

Topography:

The prospect is situated on a narrow col between an elongate ridge to the south and a rounded hill to the north. Both features have an elevation of about 300 feet above the level of the South Alligator River.

Geology:

Fine grained quartzose sandstone striking 339 degrees, dipping 80 degrees to the north-east, crops out in the region of the prospect. The beds are transected by a fault striking 091 degrees oblique to the line of the South Alligator fault zone. The fault plane dips at 80 degrees towards the south. The pitch of the slickensides on the fault plane is 25 degrees towards the east.

Torbernite was discovered at the surface in the sheared sandstone, occurring principally as coatings on the joint planes.

Radioactivity:

High Geiger readings can be obtained over an oval-shaped area extending approximately 100 feet along the fault, the greatest width being approximately 50 feet at right angles to the fault. The area narrows towards the west.

Background readings were the same as previously stated.

Readings of 2,000 counts per minute on the surface rock were common. The readings on surface rubble were in the order of 800 counts per minute rising to 2,000 to 4,000 counts per minute at a depth of one foot.

Assay results are as follows:-

Specimen number	Rock type	Radiometric Assay.
B 8388	Sheared sandstone	0.111% equivalent U_3O_8.
B8389	Sheared sandstone	0.065% equivalent U_3O_8.

Conclusions and Recommendations:

The following is recommended :

1. Detailed regional mapping in the Coronation Hill area should be undertaken to obtain more information regarding structural and stratigraphical relationships.

2. The geology of each of the above prospects should be mapped in detail preparatory to any shallow surface exploratory work or diamond drilling.

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