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COMMONWEALTH OF AUSTRALIA.

DEPARTMENT OF NATIONAL DEVELOPMENT.
BUREAU OF MINERAL RESOURCES
GEOLOGY AND GEOPHYSICS.

RECORDS.

1954/19

RADIOACTIVE SURVEYS KATHERINE - DARWIN AREA
REPORT ON ACTIVITIES, MARCH, 1954.

by

J.H. Lord.

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ADMINISTRATIVE SECTION:

STAFF.

Movements:

I.A. Mumme, geophysicist, proceeded south on leave and duty on 5th March.

W. Burns, senior radio technician, resumed duty after leave on 8th March.

A. Stern, draftsman, arrived for duty in Darwin on 9th March.

J.H. Lord, geologist, departed for Melbourne and Canberra on 12th March and returned on 22nd March.

P. Frankovich, geologist, returned to Darwin from Canberra on 12th March.

E.J. Simpson, foreman driller, arrived in Darwin on 29th March.

H.R. Thomas, field assistant, commenced leave on 31st March.

Resignations:

B. Wells, foreman driller, resigned on 12th March.

J. Charters, drill assistant, resigned on 19th March.

J.D. Wyatt, geologist, resigned on 26th March.

OFFICE ACCOMMODATION.

The contractor continues to make good progress on the construction of the new office, but there is no possibility of occupying the office for at least two weeks.

HOUSING.

No houses were made available to the Bureau during March. The house, which was ready for inspection at the end of February, has not yet been passed by the Department of Works. The latter, despite constant requests, appears to take no action to force the contractor to finalise or adjust small items which prevent its acceptance as complete.

As recently as the 24th March, the Department of Works stated that four houses would be completed by the end of March.

The construction of twelve houses at Fannie Bay has not yet commenced because the Department of Works has not constructed the roads to the sites.

Furniture:

Seven refrigerators have arrived in Darwin, but none of the furniture has been received although some items should arrive by boat arriving on 1st April.

WINNELLIE STORE AND LABORATORY.

The storemen have continued repairing equipment ready for issue to the field parties during the coming season.

The laboratory has completed 55 radiometric assays and 26 absorption tests during the month, while fifty-one instruments have been

checked and repaired.

The air conditioners operated satisfactorily throughout the month.

When the field season commences, the work of laboratory will increase and additional assistance will be required.

TRANSPORT.

The repair of all vehicles will be completed by the commencement of the field season, with the exception perhaps of those still waiting for the parts from Adelaide. The necessary parts have been on order for a considerable time.

VISITORS.

General J.E.S. Stevens called at the Darwin office on 11th March. He discussed our operations, inspected the laboratory and was shown the new office and houses in process of construction.

TECHNICAL SECTION.

EDITH RIVER PROSPECT.

Due to the resignation of drillers one drill ceased on 12th March and the other on 19th March, but one drill will re-commence operations early in April.

Bore hole A1 at Deposit A was stopped at a depth of 215 feet after passing out of the shear zone. Hematised sheared quartz was encountered between 202 and 205 feet, which gave a count of 1,400 per minute when probed and the sludge assayed 0.023% eU_{308} .

Bore hole F1 at Deposit F had been drilled to a depth of 166 feet when drilling was suspended. There remains about 20 feet of drilling to be done to reach the target zone. Fine and course-grained granite has been encountered. The probing has averaged 400 counts per minute.

The shaft being sunk by Uranium Development and Prospecting N.L. has reached 67 feet, and the company is now cross-cutting in a north-easterly and south-westerly direction. The company is also extending the cross-cut at a depth of 80 feet in the shaft at Deposit A.

A. B. C. PROSPECT.

Due to sparse rainfall during March the A.B.C. Prospect is now accessible. Geophysists returned to the Prospect on 29th March to continue work interrupted by the wet season. When available, a geologist will be assigned to do detailed work on the Prospect in preparation for drilling.

GEOPHYSICAL SECTION.

Due to limited staff, the operations of this section have been confined to the laboratory and the probing of the drill holes at Edith River.

NEW FINDS.

Field work and prospecting have been limited this month because most of the tracks are impassable and the surface is obscured by tall grass. However the moonsoonal rains appear to have ceased and tracks and the grass are drying out rapidly. When it is possible to burn the grass, many companies, syndicates and prospectors will be in the field.

Twenty-nine Authorities to Prospect were held at the 31st March, 1954, with 17 pending. Although there has been no increase in the total number of Authorities to Prospect held this month, many have been cancelled and a few converted to leases; but these have been balanced by new ones granted.

Two areas were inspected for the Mines Branch of Northern Territory Administration and copies of the reports on the inspection are attached as Appendix I.

No important discoveries have been reported in Darwin.

The Inspector of Mines at Tennant Creek submitted three samples from a reported find 40 miles north-west of Tennant Creek, which received considerable publicity last month. The results were as follows:-

Sample No.A9906. Moonlight Rock-hole locality, 40 miles north-west of Tennant Creek. G.M.L. 359E. Bottom shaft (8 feet deep.)
Assay: 0.0033 % eU_3O_8 .

Sample No.A9907. Same shaft as sample No.A9906, on east wall, six feet below surface.
Assay: 0.0067 % eU_3O_8 .

Sample No.A9908. Same locality as sample No.A9906 from a costean $\frac{1}{4}$ of a mile north-east of G.M.L. 359E.
Assay: 0.0095 % eU_3O_8 .

The Inspector of Mines described the Area as sandstone striking at 110 degrees and dipping 40 degrees to the north.

The following persons are known to be actively engaged on developmental work:-

Territory Uranium Syndicate, Brock's Creek, have continued a vertical shaft to 57½ feet with traces of torbernite over the last 10 feet. The inclined shaft has been deepened from 17 to 25 feet.

Uranium Development and Prospecting N.L. Edith River, has continued the vertical shaft at Deposit E to 67 feet and have cross-cut 8 feet to the south-west and north-east. At a depth of 80 feet in the shaft at Deposit A the company is cross-cutting in a south-easterly direction.

North Australian Uranium Corporation is carrying out extensive costeaning on some of the areas in which they are interested.

INSPECTION OF AUTHORITY TO PROSPECT NO.74.

Description of Area Applied For:

Commencing at South West corner of Enterprise lease and thence 24 chains West being extension of Southern boundary of the Enterprise Lease: thence South East for a distance of 60 chains on a bearing of 130.3 approximately and thence North East on a bearing of 40.2 degrees for 30 chains, and thence on a bearing of approximately 284 degrees following boundary of Eleanor/Kohinoor lease to North West corner and from thence to datum at S.W. corner of Enterprise Lease.

Access:

Leave the Stuart Highway at a well-defined track to the West one-half a mile south of the turn-off to Pine Creek. After one third of a mile the track branches. Take the middle track past W. Henry's banana plantation and thence one quarter of a mile to an old sluicing well.

The main anomaly is found in the middle of the track thirty yards beyond the old well.

Topography:

The prospect is in alluvium. The country is steep and hilly to the east with a broad flat to the west.

Geology:

The rocks are of the lower Proterozoic Brock's Creek group. The radioactivity is found in pebbly alluvium derived from the gold bearing slates and sandstones to the east.

No uranium minerals were visible but an ultraviolet light was not tried.

Radioactivity:

A high count of about 5,000 per minute was recorded at a point in the middle of the track. A pit (about one foot deep) had been dug at this point and later refilled. After cleaning out the pit the count dropped to 300 per minute. Background count was 75 counts per minute in the vicinity.

Another pit was found 15 feet up the slope from the first. A two-times-background was registered in it. Another 6 inch pit nearby gave a count of 1,500 per minute which did not diminish with cleaning out. Contamination around the surface could be responsible for the count.

Radioactivity extended 10 to 20 feet away from the pit in the track in all directions.

Remarks:

The radioactivity found is high enough to justify the issuance of a prospecting authority. However, additional work should be done to ensure that the radioactivity is "in situ" and not transported.

March, 1954.

P. FRANKOVICH.

INSPECTION OF AN AUTHORITY TO PROSPECT AT EDITH RIVER.

Description of A.P.

"From starting point 2.5 miles south along the North Australian Railway from the Edith River, running 2½ miles west, then south for 2 miles making an area of 5 square miles."

Access:

From a point on Stuart Highway about ¼ a mile south of the 190 mile pet, take turn-off to west and follow in a westerly direction 4.5 miles to costeamed area.

Topography:

The area consists of low rolling hills with low granite outcrops.

Geology:

Access road and radioactive area inspected are over the Edith River granite.

Radioactivity occurs in parallel or en echelon, hematized shears.

Small specks of a mineral which appears to be torbernite were visible in two costeams.

Radioactivity:

In one area the shear zone was exposed by a number of costeams. The radioactive area is about 150 feet long and varies from a few inches to 15 feet. Count was irregularly distributed and reached a maximum of 2,000 counts per minute. (Background is 150 counts per minute.)

Another area a quarter of a mile away from the first, and on the same shear zone contained a maximum of 1,700 counts per minute, in one pit. The length of the radioactive area is about 100 feet. Its width is difficult to assess.

Remarks:

The considerable amount of hand costeaning already done has exposed uranium minerals at one point and significant radioactivity. Additional work is justified.

March, 1954.

F. Frankovich.

APPENDIX II URANIUM COMPANIES AND SYNDICATES OPERATING IN
NORTHERN TERRITORY - 31. 3. 54.

Name.	Local Representatives or Geologist.	Southern Connections.
Austral Uranium Co., N.L.	H. W. G. Good	
Australian Mining and Smelting Co. Ltd.	H. Brennan	Zinc Corp.
Enterprise Exploration Co. Pty. Ltd.	H. Brennan	Zinc Corp.
Hidden Valley Mining Syndicate.	W. Power.	
North Australian Uranium Corporation.	E. Becker A. D. M. Bell.	
Northern Mines Development N.L.	K. Summers	Dr. Garretty.
Northern Territory Prospecting and Development Co. Ltd.		Hopkins.
Northern Uranium Development N.L.	Fisher Barrett.	Mott.
Red Ned Gold Mine N.L.	J. S. Higgins.	
Rio Tinto Company.	C. Pegg.	
Territory Uranium Syndicate.	E. McDonald.	Doria Gold Mines, Territory Scheelite.
Uranium Corporation of Australia Pty. Ltd.		Rye Park Scheelite.
Uranium Mines N.L.	Keys.	H. J. C. Connolly.
Uranium Oxide N.L.		Austral Mining Co. Poseidon N.L. Pioneer Mines.
Uranium Prospecting and Development. N.L.	Coxon & Macdonald.	Drummond.
Y.M.C. Syndicate.	Young, Maslin & Cousins.	