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COMMONWEALTH OF AUSTRALIA.

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

RECORDS.

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RADIOACTIVE SURVEYS KATHERINE - DARWIN AREA,

NORTHERN TERRITORY

REPORT FOR QUARTER ENDING 31st MARCH, 1955.

by

J. H. LORD.

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SUMMARY

Due to the heavy rain and growth of grass, operations by the Bureau of Mineral Resources and private enterprise have been curtailed during this quarter. Because of this, no new finds have been reported in the area.

The resident staff has been engaged on the detailed investigation of the George Creek Prospect, writing-up work completed last season and preparations for the 1955 field season.

STAFF

The following staff were based on the Darwin office at the end of the quarter:-

J.H. Lord,	Geologist,	J.B. Misz,	Geophysicist,
D.E. Gardner,	"	G.F. Clarke,	"
J. Rade,	"	W. Burns,	Radio Technician
J.B. Firman,	"	A.D. Parton,	Geophysical Assistant
D.B. Dow,	"	G.C. Canning,	Drill Foreman
(Mrs.) I. Rade,	Draftswoman,		
(Miss) P.A. Miller,	Tracer,	(Mrs.) B.J. Schofield,	Typist
B.C. Thomas,	Clerk,	(Miss) I.A. Brookman,	Clerical Assistant.
T.H. Hocking,	"		

In addition, there are two drill runners and 17 wages hands.

Mr. H. McCulloch, internal auditor for the Australian Atomic Energy Commission, assisted in the office until Mr. B. C. Thomas returned from leave on 28th February. Unfortunately, Mr. McCulloch was ill during the last five weeks of this period.

Several of the staff have taken leave during this quarter while operations were restricted due to weather conditions.

HOUSING.

The construction work on the 12 houses at Fannie Bay for the Bureau of Mineral Resources continued throughout the quarter, but it is doubtful if the first house will be ready for occupation before the end of April.

Power and water have been connected to the area but the sewerage has not yet been commenced. N.T. Administration are supposed to be making arrangements for temporary septic tanks to be installed.

WINNELLIE STORE

The camping equipment in the store has been checked and repaired where necessary. New supplies have been purchased in preparation for equipping the three regional parties, a

detailed party for Coronation Hill and probably a geophysical party. This is in addition to the two camps in operation at Brodribb and George Creek.

The store at Winnellie is still without a stores' clerk, as requested, or a storeman, grade 1, as approved.

TRANSPORT

All Landrovers, Morris trucks, water-trailers and auxiliary engines left by last season's regional parties have been overhauled and now require painting before next season.

The overhauling of the resident staff and mining section vehicles should be completed by the end of April. As these vehicles have all had two seasons or more in the field, they have required a considerable amount of repairing. One mechanic could not repair all 23 vehicles and it has been necessary to pass some to local garages for top overhauls.

RADIOMETRIC LABORATORY

The laboratory has been kept busy during this quarter after a lull towards the end of last quarter.

During this quarter an average of 28 radiometric assays and absorption tests per week have been completed.

There was a decrease in the number of instruments requiring repair. An average of eight were repaired per week, of which two were for private persons.

Two companies were assisted in assembling scintillometers for air-borne operations.

FIELD OPERATIONS

The Katherine-Darwin Area has experienced one of the wettest summers on record. Very little prospecting has been done because it has been almost impossible to leave the bitumen road and grass has flourished making surface prospecting very difficult.

No new finds were reported during the quarter.

There has been an average of 39 Authorities to Prospect held during this period.

A.B.C. PROSPECT

Drilling was completed on this Reservation early in January.

The final reports are in the course of preparation but the authors are delayed while waiting on petrological results requested some months ago.

Burrundie Prospect

The report on the drilling of this Prospect was issued early in January. It has been recommended that this Reservation be surrendered.

Coronation Hill Prospect

The report on the work carried out on this Prospect last season is almost completed. A drilling programme is being recommended for the coming dry season.

Preparations have commenced to establish a camp on this Reservation as soon as practicable to investigate further the original prospect and the two new areas located last season, and to prospect further the Reservation.

George Creek Prospect

Two drill holes to a depth of 143 and 351 feet have been completed. The first hole, which was vertical, encountered shales with flakes of torbernite along the fractures and at 109 feet intersected a narrow quartz-filled shear which contained pitchblende. This hole was probed and the following approximations of the $e U_3O_8$ content were made:-

29 feet to 33 feet	0.06% $e U_3O_8$
29 " to 37 "	0.04% "
69½ " to 70½ "	0.13% "
108 " to 109 "	0.30% "

The second hole was drilled at the same site but inclined at 30 degrees in an easterly direction. The hole was probed and the following approximations of $e U_3O_8$ content were made:-

48½ feet to 49 feet	1.0% $e U_3O_8$
55 " to 55½ "	0.8% "
48 " to 56 "	0.16% "

Although nine other narrow bands of radioactivity were logged between 56 and 245 feet with counts between 1,000 and 4,000 per minute, they were too narrow to make an estimate of the $e U_3O_8$ content.

The core between 48'3" and 49'6" assayed 0.35% $e U_3O_8$.

This rich section can be correlated with the narrow torbernite-rich shear located on the surface.

A considerable amount of bulldozing and costeaning has been done, and the material removed, which could be classified as ore, has been placed in drums to prevent loss and leaching. There are probably five tons of ore at grass now.

Manton Dam Prospect

Drilling has not commenced on this Prospect because owing to the wet conditions it has been impossible to do the bulldozing required by the Geological Section.

Adelaide River Prospect

The only work done on this Prospect by the Bureau was the probing of two diamond drill holes.

Bore hole No. 10 was probed and, when considered with the results of bore holes Nos. 8 & 9, shows the existence of a low-grade lode to the north-east of the original Prospect. Bore hole No. 11 was probed and disclosed several bands of radio-activity, and one of special interest was estimated to average 0.57% U_3O_8 between 182 and 186 feet.

The winze from the 110-foot level has been sunk to a depth of 55 feet in primary ore. The No. 5 shaft is down to 165 feet.

Miscellaneous Operations

Army Bores

Twenty-six bores sunk by the Army during the war were probed while eight others located were blocked with pump rods. Due to the growth of long grass it was found impracticable to continue this work. Further bores will be located when the grass has been burnt.

The results obtained from the probing did not warrant any further investigation on any of the bores tested.

School for Uranium Prospectors.

Plans have been made to conduct a school at the Darwin office for uranium prospectors on 28th and 29th April if sufficient are interested.

A course of eleven lectures has been drawn up to cover geological and geophysical prospecting, care and maintenance of instruments and a lecture on the mining ordinance by the Director of Mines.

Monthly Conference

The monthly conference of resident staff was re-commenced in February.

Prospects

Several small prospects near the Stuart Highway have been visited to assist private prospectors.