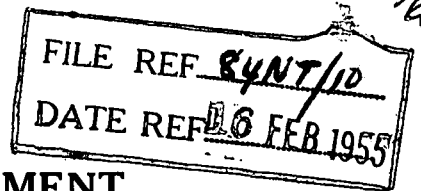


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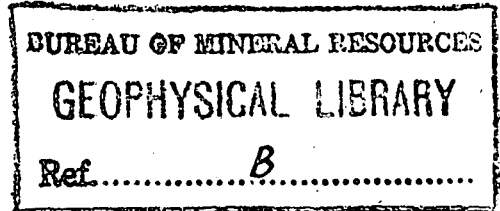
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BUREAU OF MINERAL RESOURCES
GEOLOGY AND GEOPHYSICS.

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RADIOACTIVE SURVEYS KATHERINE - DARWIN AREA

REPORT ON ACTIVITIES

of the

DARWIN URANIUM GROUP

October, 1954

by

J. H. Lord



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C O N T E N T S

Page

ADMINISTRATIVE SECTION

Staff	1
Housing and Office Accommodation	2
Winnellie Store	2
Radiometric Laboratory	2
Transport	2
Visitors	2

TECHNICAL SECTION

A.B.C. Prospect	2
Adelaide River Prospect	3
Brocks Creek Prospect	3
Burrundie Prospect	3
Edith River Prospect	3
George Creek Prospect	3
Airborne Scintillometer Anomalies	4
Coronation Hill Prospect	4
Regional Geological Party	4
Sleisbeck Prospect	4
New Finds	5
Miscellaneous Items	5

APPENDICES

1 Report on a Radioactive Find North of Pinnacle Well, N.T. by D.E. Catley	7
11 Uranium Companies and Syndicates operating in the Northern Territory	9

PLATES

1 Radiometric Find of George Creek Prospect, N.T.	
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ADMINISTRATIVE SECTION

STAFF

Movements

Members of the regional geological party departed from Darwin by land and air on 30th and 31st October.

Additions

(Mrs) A.E. Tunbridge, cleaner, commenced duty on 4th October.

A.G. Richards, drill helper, commenced duty on 25th October.

Resignations

(Mrs) A. Alchin, cleaner, resigned on 3rd October.

L.G. Baker, drill helper, was dismissed on 5th October.

J.F. Sheridan, cook, resigned on 25th October.

I. Magnoler, field assistant, resigned on 29th October.

A.H. Randall, field assistant, resigned on 29th October.

HOUSING AND OFFICE ACCOMMODATION

The construction of twelve houses at Fannie Bay continues. Six houses are roofed and have the outside walls completed. The remainder are in various stages from the erection of the piles to readiness for roofing.

Some of the minor work required to complete the Darwin Office has been done by the Department of Works.

WINNELLIE STORE

The store has been busy with the return of equipment from various parties and with equipping a party for Coronation Hill.

The Department of Works has commenced the installation of water and power in the proposed Chemical Laboratory at Winnellie.

RADIOMETRIC LABORATORY

There was a great reduction in the number of assays handled this month, due to the cessation of drilling in the ore at the A.B.C. Prospect and the commencement of the wet weather, which has reduced the number of prospectors. Fifty-five assays were completed.

During the month 44 instruments were repaired, of which 15 were for private persons.

TRANSPORT

The Commer 4-ton table top truck has been modified in an attempt to make it suitable for transporting the bulldozer. The attempt has been partially successful, but the springs must be strengthened.

The regional party has left some vehicles to be serviced during the wet; while most of the vehicles based on Darwin require extensive overhaul.

VISITORS

Mr. H. A. Condon, Acting Chief Geologist, visited the Darwin Office on 11th October.

Mr. C. Campbell, British Atomic Energy Division, arrived in Darwin on 22nd October and departed for London on 4th November. During his stay visits were arranged for him to Rum Jungle, Adelaide River Prospect, Brooks Creek Prospect, South Alligator and Coronation Hill Prospects and the new discovery at George Creek. He also had discussions with resident geologists regarding their operations.

Mr. F. Frawley, Accountant, arrived in Darwin on 25th October to investigate clerical and stores sections of the Darwin Office.

Mr. W. Bonini was in Darwin on October 27th to record gravity observations. He was given all the assistance that he required by Mr. G. F. Clarke.

TECHNICAL SECTION

A.B.C. PROSPECT

One drill operated at this Prospect throughout the month completing three holes with a total footage of 265.

The hole located to investigate the magnetic anomaly

was caused by an inversely polarised dolerite dyke.

A plane-table survey has been made of the area in the volcanic valley, where copper mineralisation was located.

The geologists concerned have been compiling the report on the original A.B.C. Prospect throughout the month. The rate of progress with this report has been disappointingly slow.

ADELAIDE RIVER PROSPECT

The company concerned has continued active operations on this Prospect. High-grade ore has been stoped from below the original find. The chief effort has been concentrated on the shaft No.5 to intersect the pitchblende located in bore hole No.4.

The cross-cut from No.5 shaft at the 111 foot level intersected the ore body. The lode is approximately 4 feet wide carrying pitchblende, chalcopyrite, pyrite, and some secondary uranium minerals.

One drill hole was completed during the month and probed by the Bureau. This hole did not intersect the lode.

BROCKS CREEK PROSPECT

The company concerned has continued the underground exploration of this find. Although patches of secondary uranium mineralisation are being located mainly along shears, it is considered that the workings should be deepened to locate and test the primary mineralisation.

One of the drill holes put down on the Prospect last month was probed by the Bureau. No uranium mineralisation was indicated.

BURRUNDIE PROSPECT

The Bureau commenced drilling at this Prospect on 22nd October. The hole was advanced to a depth of 60 feet where the rods were stuck. Attempts are now being made to free the rods.

EDITH RIVER PROSPECT

Drilling was completed on this Prospect when hole No.A2 was stopped at a depth of 270 feet. The holes are being probed, but, although the shear-zone was intersected, there does not appear to be any uranium mineralisation.

The drill from the Prospect will be moved to the A.B.C. Prospect.

A detailed report on the drilling at this Prospect is being prepared.

GEORGE CREEK PROSPECT

A radiometric gridding has been done on a limited

area near the original find. This work disclosed several areas worthy of closer investigation (see Platel).

On 1st November the geological investigation commenced and torbernite mineralisation has been discovered in three pits. These pits are distributed over a length of 200 feet. The mineralisation appears to occur in shears and near the contact of the siltstones and micaceous sandstones. More work is required to determine the control of uranium mineralisation.

This is an ideal site for drilling during the "wet" season.

AIRBORNE SCINTILLOMETER ANOMALIES

During the month 106 anomalies on the Reynolds River sheet were investigated. They consisted of 2 first order, 27 second order and 77 third order anomalies.

No uranium mineralization or high radioactivity, which would justify further investigation was found.

Standard reports on these anomalies are being prepared.

CORONATION HILL PROSPECT

On instructions from the Chief Geologist a field party was organised to commence work at Coronation Hill. The party left Grove Hill on 28th October, and arrived at Coronation Hill on 31st October. It consists of a geophysical assistant who will do radiometric gridding and a bulldozer, which will cut benches in the hill up to the cliff face.

No suitable geologist is available at present to re-map this area.

As there has been record early rain in the area it is possible that the bulldozer will be unable to leave the area when the work is completed.

REGIONAL GEOLOGICAL PARTY

The regional party completed operations in the area and departed at the end of October. No written monthly report was received for September or October.

The regional party completed mapping the following one-mile sheets:- Table Top (east and west), Ban Ban (east and west), Burrandie (west), Tipperary (east and west) and Burnside (east).

A copy of the Tipperary and Burnside sheets was not available for the Darwin Office at the end of the field season, as previously requested. The Tipperary sheet would be most useful as the scintillometer anomaly map of this area is being issued shortly.

GLEISBECK PROSPECT

At the request of the company five drill holes were probed. One showed radioactivity.

NEW FINDS

Heavy rain fell in the Darwin-Katherine area during October. Darwin recorded over 13 inches compared with the previous highest October recording of 6 inches. Tracks have become boggy and grass is growing rapidly. The weather is particularly humid. As a result prospecting activity is reduced and such work arduous.

Another new find has been made along the South Alligator near Stag Creek by United Uranium B.L. A specimen sample submitted to the Darwin Office assayed 20% U_3O_8 . The lode is said to be approximately eight feet wide and can be traced for a length of approximately 100 feet.

A few weeks ago there was a report that radioactivity had been located to the north-east of Alice Springs. Arrangements were made for Mr. Catley of the Alice Springs resident staff to visit the area, and his report is attached as Appendix 1. The find proved to be of no importance.

The following companies are engaged in active development work:- Brooks Creek Uranium Co., North Australian Uranium Corporation (at Sleisbeck), United Uranium (completing work on the Waterhouse reserve and commencing near Stag Creek), Uranium Development and Prospecting (Adelaide River) and Rio Tinto Co. (near Mt. Tolmer). Several other companies and syndicates are continuing on their areas.

There were 41 Authorities to Prospect held at the end of October and 33 pending.

MISCELLANEOUS ITEMS

Geobotanical Investigations.

Mr. A. Debnam, geochemist, attempted to locate further uranium prospects on the A.B.C. Reservation at the beginning of the month, until directed by the Acting Chief Geologist to do geochemical work on the new lead prospect at Hancock, 20 miles N.E. of Goodparla Homestead.

Manton Dam Area

Mr. J. Darlow has continued radiometric and self-potential investigations on this area. He has located some interesting self-potential anomalies. Details of these have been forwarded by him to the Geophysical Section.

A few days were devoted to electro-magnetic work.

Rum Jungle Area

The metalliferous group of the Geophysical Section completed the operations at Rum Jungle and returned south on 27th October.

Monthly Conference

This was held in Darwin on 11th October and was

attended by all resident geologists and geophysicists and
Messrs. Walpole and White from the regional geological party.

October, 1954

J. H. Lord

APPENDIX 1

REPORT ON A RADIOACTIVE FIND NORTH OF PINNACLES WELL. NORTHERN TERRITORY

LOCATION:

The area lies on the Alice Springs 4 mile mosaic and can be found on the air photograph Alice Springs Run 1 No. 5156. Access is by a well-graded road which leaves the Stuart Highway 32 miles north of Alice Springs, and runs eastwards to Pinnacles Well and thence northwards through The Strangways Range to join the main Harts Range Road at Mud Tank.

The area described lies about 8 miles south of Mud Tank and 14 miles north of Pinnacles Well.

TOPOGRAPHY

Low ridges rising about seventy feet above an extensive belt of plains country lying to the north.

GEOLOGY

The area lies on the extreme northern foothills of The Strangways Range, and contains a suite of rocks which may be considered typical of the Strangways area.

From north to south the sequence is -

- (a) A belt of steeply dipping limestones and sandy limestones, which are quite unaltered by metamorphism. They have, however, been intruded parallel to the bedding by multiple veins of magnetite, accompanied by apatite and topaz.
- (b) A belt of psammitic rocks of a moderate grade of metamorphism, carrying augen of recrystallized quartz.
- (c) A thin but persistent band of andradite-biotite gneiss.
- (d) Thinly bedded, rapidly alternating beds of green mica schist and micaceous flaggy sandstones which constitute the bulk of the area.
- (e) In the middle of the above sequence, a rock which is remarkably fresh compared to its neighbours, and appears in hand specimen to be a meta-dolerite, carrying fresh porphyritic anthophyllite.

STRUCTURE

The rocks are folded into a syncline plunging 5 degrees west with an axial plane dipping south.

The area pegged lies on the northern limb of this structure.

Strike faulting cuts out beds along the strike, and the only really persistent bed is south of the southern-most strike fault.

RADIOACTIVITY

- A. Background count on limestone belt = 60 counts per minute. Counts range from 75 to 100 counts per minute.
- B. Counts on three traverses N to S over the pegged area range from 90 to 200 counts per minute. Average 105 counts per minute.

of/

The counts of 200 per minute were obtained on a band/fresh dyke rock, containing fresh felspar, and the reading can be regarded as twice background, a very low order anomaly.

CONCLUSIONS

No radioactive minerals were seen, and although there is abundant quartz veining, there is no associated metallic mineralisation, excepting that described in the limestone belt. The greatest anomaly is 2 times background and is probably due to potash felspar.

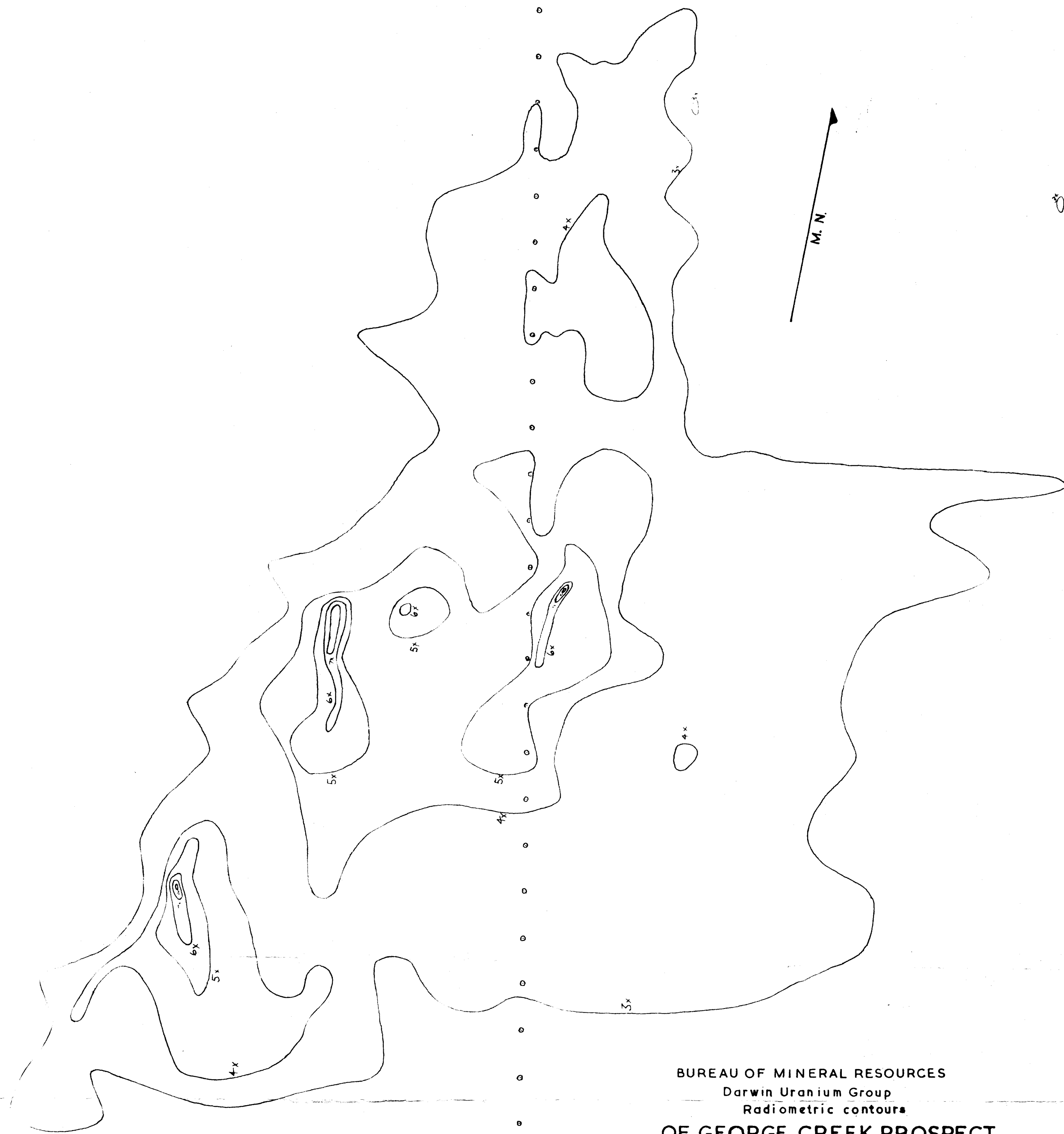
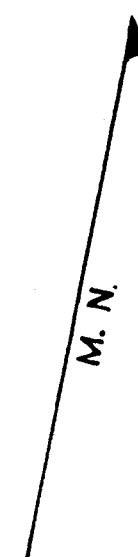
The average anomaly is 1.25 - 1.5 times background. Failure to find radioactive mineral specimens either by myself or the lessees, combined with the disappointing radioactive results, indicate that further work is not warranted.

(D.E. CATLEY)
Resident Geologist

15th October, 1954.

APPENDIX 11 - URANIUM COMPANIES AND SYNDICATES OPERATING
IN NORTHERN TERRITORY - 31-10-1954

Name	Local Represent- atives or Geologist	Southern Connections
Austral Uranium Co., N.L.	H.W.G. Good	
Australian Mining & Smelting Co. Ltd.,	H. Brennan	Zinc Corp.
Brocks Creek Uranium Co. N.L.	E. McDonald	
Centralia Mines N.L.		
Central Uranium N.L.		Mr. Goodsir
Coronation Investments Pty. Ltd.,		
Enterprise Exploration Co. Pty. Ltd.,	H. Brennan	Zinc Corp.
Gold Mines of New Guinea		
Hidden Valley Mining Syndicate	W. Power	
Metals Exploration Pty. Ltd.,	R. Hare	H.J.C. Connelly
North Australian Uranium Corporation	E. Becker	
Northern Mines Development N.L.	K. Summers	Dr. Garretty
Northern Territory Prospecting & Development Co. Ltd.,		Hopkins
Red Ned Gold Mines N.L.	J.S. Higgins	
Rio Tinto Company	R.S. Matheson	
United Uranium	J. Fisher	Frank Jones
Uranium Corporation of Australia Pty. Ltd.,	Trestrail	Mr. Wharton Rye Park Scheelite
Uranium Investigations (N.T.) Syndicate	Cutlack	
Uranium Holdings		C. Donaldson
Uranium Oxide N.L.	Jensen	
Uranium Prospecting & Development N.L.	Coxon & Macdonald	Mr. R. Sprigg
Utinium Pty. Ltd.,		
Y.M.C. Syndicate	Young, Maslin & Cousins	



BUREAU OF MINERAL RESOURCES
 Darwin Uranium Group
 Radiometric contours
OF GEORGE CREEK PROSPECT
 NEAR GEORGE CREEK N.T.

G. F. Clarke.

Oct. 1954