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COMMONWEALTH OF AUSTRALIA.



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

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RECORDS.

1955/28

RADIOACTIVE SURVEYS KATHERINE - DARWIN AREA

REPORT ON ACTIVITIES

of the

DARWIN URANIUM GROUP

February, 1955.

by

J. H. Lord

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## ADMINISTRATIVE SECTION.

### STAFF

#### Movements:

J.B. Firman, geologist, commenced leave on 1st February.

J.H. Lord, geologist, commenced duty on 2nd February.

L. Geenen, field assistant, departed for Melbourne on transfer on 5th February.

B.G. Thomas, clerk, commenced duty on 28th February.

#### Additions:

Mrs. M. Stone, cleaner, commenced duty on 8th February.

#### Resignations:

Nil.

Mr. H. McCulloch, who is attached to this office from the Australian Atomic Energy Commission, was on duty only 2 days of the month owing to sickness.

### HOUSING

The construction of the houses at Fannie Bay continues, but it is doubtful if any houses will be available before April.

As sewerage will not be connected to the area for some months, arrangements are being made for the installation of "flaming furies" as a make-shift.

### WINNELLIE STORE.

Preparations have been completed for taking stock. Camping equipment has been checked and repaired, where possible.

It has been found impossible to clean mattresses and pillows, some of which have been returned to the store in a filthy condition. Many will have to be written off, but others will be suitable for issue again if suitable covers can be obtained.

It is requested that field parties forward their requisitions for camping equipment at least two months before arrival.

### TRANSPORT.

The regional landrovers have been completely overhauled and the Morris trucks and small engines are now being done. These vehicles will be ready for the regional party.

The overhauling of the resident staff's vehicles and mining vehicles is proving a bigger job than originally

anticipated. Several vehicles have been passed into local garages for repairs and in consequence all vehicles will be ready for the field season.

#### RADIOMETRIC LABORATORY.

The laboratory has been busy, having completed 67 radiometric assays and 40 absorption tests during the month. Experimental studies on the loss of radon during sample preparation have been undertaken.

Forty instruments have been repaired, of which eleven were for private persons. Considerable time has been spent in assisting two companies in the assembling of scintillometers.

#### VISITORS.

U Ba Tun, Secretary for Mines in Burma, was met on arrival from Sydney on 18th February at 5.00 a.m. He was entertained until 9.00 a.m. when he boarded the aircraft. At 11.30 a.m. the flight was abandoned so he spent the remainder of the day at the Darwin office. He was very anxious to visit Run Jungle, but as 15 inches of rain had fallen in as many hours until noon that day, the trip was not attempted. This decision proved correct as the creeks on the Stuart Highway were still impassable on Saturday morning.

#### TECHNICAL SECTION

##### A.B.C. PROSPECT

The geologists concerned are working, when possible, on the revision of the "Geological Report on the A.B.C. Uranium Prospect near Katherine, N.T.", and on the writing of the final report on the A.B.C. Reservation.

##### CORONATION HILL PROSPECT.

The geologist concerned is interpreting the geological and geophysical work done at the Prospect last November. The results will be available shortly.

##### GEORGE CREEK PROSPECT.

Drilling has continued throughout the month. The first hole (vertical) was stopped at a depth of 143 feet. There was torbernite along fractures in the shales and a narrow quartz filled shear at 109 feet contained pitchblende. The hole was probed and the results are shown on Plate II.

The second hole (inclined at 30 degrees) has advanced to a depth of 150 feet. One zone of shale carrying torbernite in the fractures has been encountered.

Although a considerable amount of torbernite is being located, it occurs only in the bores as flakes along thin tight fractures.

Further costeaning is planned, but geological mapping cannot be extended owing to the grass cover.

#### ADELAIDE RIVER PROSPECT.

One bore hole (No. 10) was probed and the results of this and of bores Nos. 8 and 9 are shown on Plates 3, 4 and 5. This drilling shows the existence of a low grade lode to the north-east of the original prospect.

A winze being sunk on the lode from the 110 foot level of No. 5 shaft is down 30 feet in primary ore.

#### ARMY BORES.

A progress report on the probing of old Army bores is attached as Appendix I. Further work on these bores has been postponed until the dry season owing to the thick, high grass.

#### MANTON DAM PROSPECT.

An attempt was made to bulldoze costeans over the self-potential anomaly recently located in the Sun Jungle shales near Manton Dam. It was unsuccessful because, after the top crust of soil was removed, the bulldozer became bogged.

The track to the proposed drill sites is still usable.

#### NEW FINDS.

Prospecting has been almost halted due to the extensive rains and high grass. No new finds have been reported.

There was a report of a find at Ferguson River, and high chemical analyses have been announced. On inspection this was found to be the spot showing radioactivity 54 feet north of the B.M.R. shaft, as reported by E.K. Carter in his report "The Geology of an Area Surrounding the Ferguson Railway Siding, Northern Territory". (Records 1952/68).

A small hole has been sunk and disclosed torbernite similar to that showing in the shaft.

There were 39 Authorities to Prospect held at the end of February with 3 pending.

The following is a brief resume of the known activities of the companies in this area during February :-

Brock's Creek Uranium N.L. - driving and rising on their Fleur de Lys mine at Brock's Creek.

North Australian Uranium Corporation N.L. - diamond drilling at Stapleton Creek and Edith River.

Mineral Ventures N.L. - prospecting.

Uranium Development and Prospecting N.L. - Winzing and drilling at Adelaide River, and prospecting in South Alligator.

Uranium Holdings N.L. - Preparations being made for airborne scintillometer work next month.

MONTHLY CONFERENCE

A conference of local resident staff was held at the Darwin office on 4th February to discuss current work and future activities.

PROGRESS REPORT ON THE RADIONETRIC LOGGING OF ARMY BORE HOLES  
DARWIN - ADELAIDE RIVER AREA, NORTHERN TERRITORY

In October, 1954, geophysical assistant F. West began the search for army bore holes sunk along the Stuart Highway between Darwin and Adelaide River. The intention being that the holes were to be radiometrically logged during the 'wet' season. A total of thirty-four holes were found and marked.

Logging commenced on the 4th January and completed on the 2nd February, 1955. Only twenty-six of the thirty-four holes were logged as the remaining eight were blocked with pump rods.

The results were plotted and are shown on Plate 1.

The holes vary in size from 4" to 6" diameter and are cased with  $\frac{1}{2}$ " steel casing. No attempt was made to apply a correction for the absorption of the radiation due to this casing. The percentage error in the readings would be so low as not to warrant it, as it is apparent from Plate 1 that there is no significant radiation in any of the holes.

From records made available by the Army the approximate position of one hundred and sixty holes and the geology of fifty-seven of them is known. Unfortunately, on the holes logged to date it has not been possible in all cases to identify a particular hole with its original army number as these numbers have been removed. Until this can be done no use can be made of the geological information we possess.

It is anticipated however that, with the coming of the dry season and the subsequent burning of the grass, more holes will be found and their identity established with a fair degree of certainty.

It is impractical to continue searching during the wet season due to the dense nature of the undergrowth.

G. F. CLARKE.

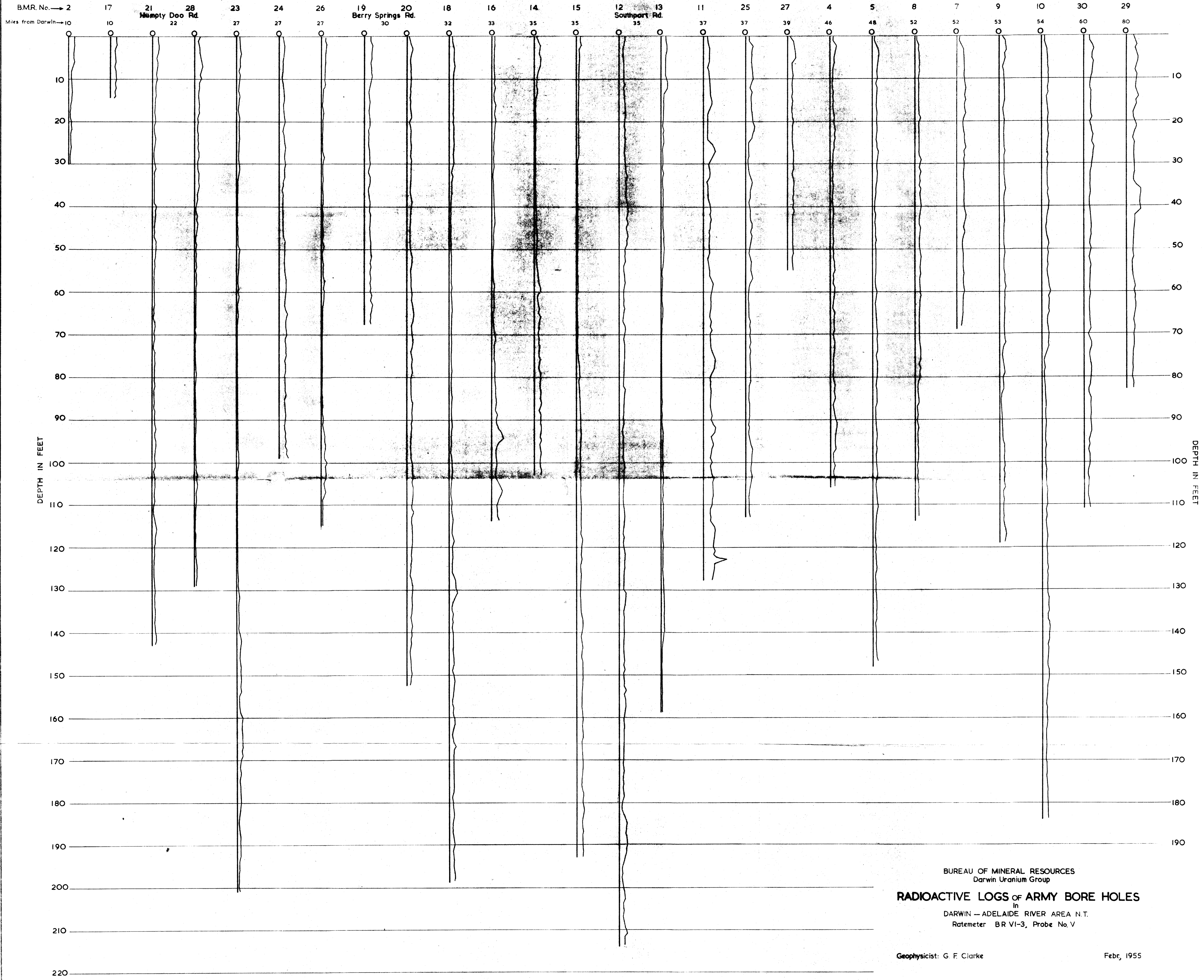
10th February, 1955.

APPENDIX II - URANIUM COMPANIES AND SYNDICATES OPERATING  
IN NORTHERN TERRITORY - 28.2.1955.

Name	Local Represent- atives or Geologist	Southern Connections.
Adelaide River Uranium	J. S. Higgins	
Australian Mining & Smelting Co. Ltd.,	H. Brennan	Zinc Corp.
Austral Uranium Co. N.L.	H. W. G. Good	
Brook's Creek Uranium Co. N.L.	E. McDonald	
Centralia Mines N.L.		
Central Uranium N.L.	R. Sprigg	
Coronation Investment 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
Mineral Ventures N.L.	K. Summers G. Sleiss	Dr. Garretty
North Australian Uranium Corporation	E. Becker	
Northern Territory Prospecting & Development Co. Ltd.,		Hopkins
Rio Tinto Company	R. S. Matheson	
Spring Hill Gold Mine, N.L.		
United Uranium	J. Fisher	Frank Jones
Uranium Corporation of Australia Pty. Ltd.,	Beggs	Rye Park Scheelite
Uranium Investigations (N.T.) Syndicate	Outlack	
Uranium Holdings		C. Donaldson
Uranium Oxide N.L.	Jensen	
Uranium Prospecting & Development N.L.	Coxen & Macdonald	Mr. R. Sprigg
Utinium Pty. Ltd.,		
Y. M. G. Syndicate	Young, Maslin & Cousins.	



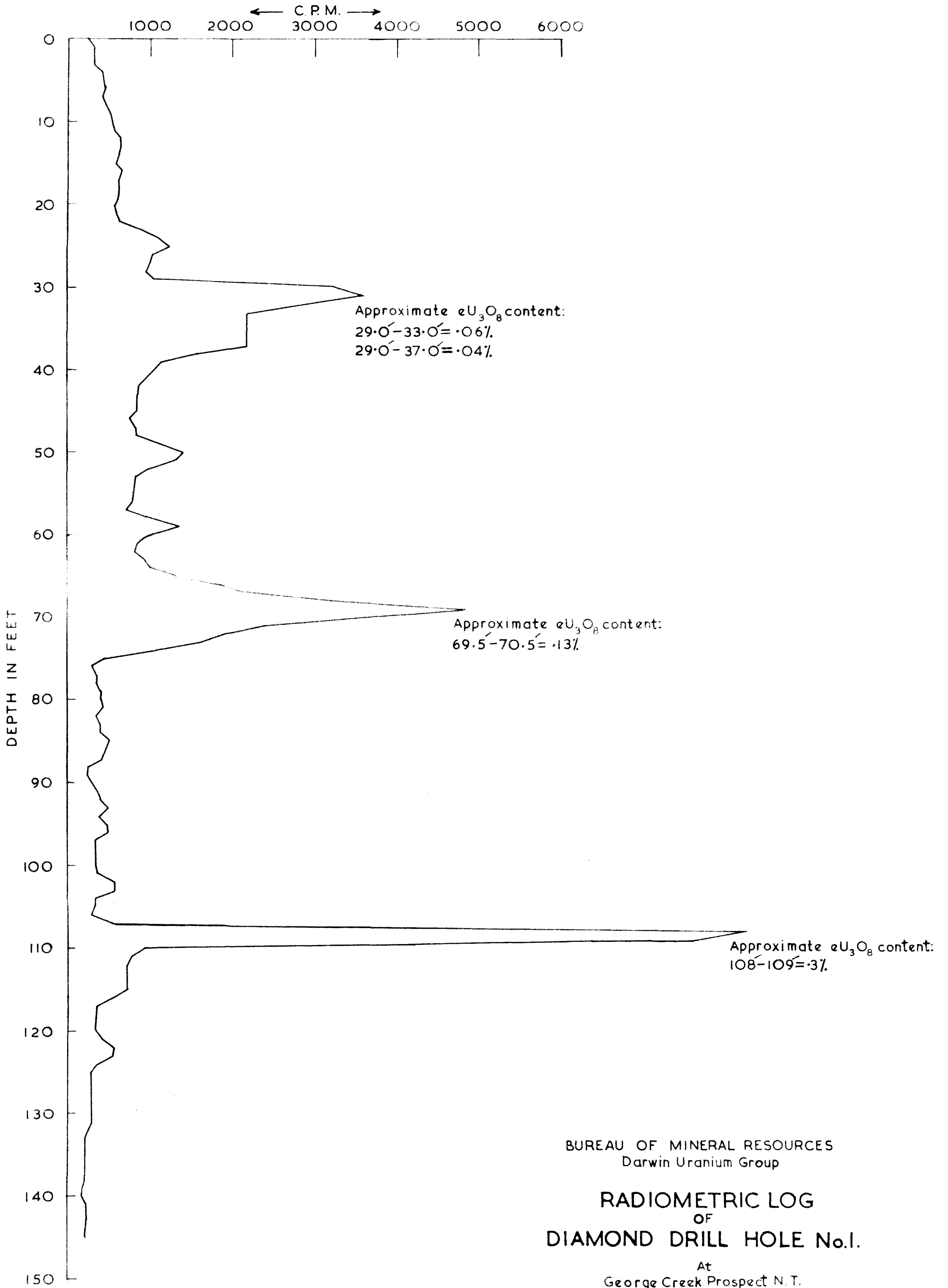
C. P. M.  
1 inch = 1000 counts



BUREAU OF MINERAL RESOURCES  
 Darwin Uranium Group  
**RADIOACTIVE LOGS OF ARMY BORE HOLES**  
 In  
 DARWIN - ADELAIDE RIVER AREA N.T.  
 Ratemeter BR VI-3, Probe No. V

Geophysicist: G. F. Clarke

Febr, 1955



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RADIOMETRIC LOG  
OF  
DIAMOND DRILL HOLE No.1.

At  
George Creek Prospect N.T.  
J.B. Misz Feb. 1955

D. D. H. No. 8.

← C.P.M. →

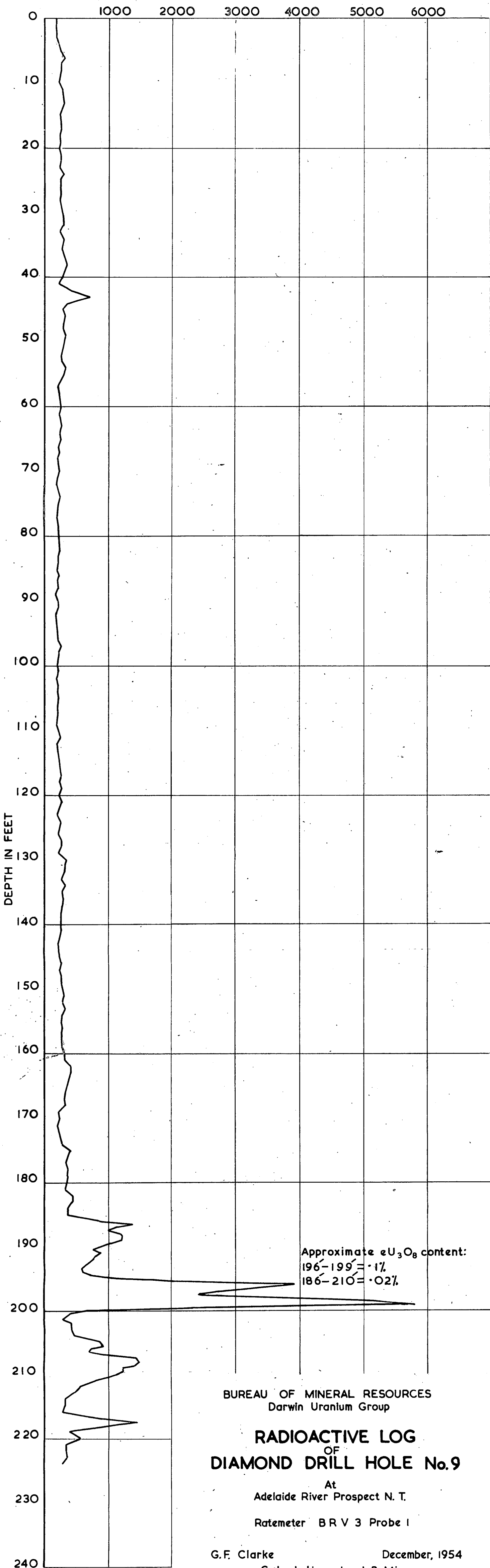
0 1000 2000 3000

DEPTH IN FEET

10  
20  
30  
40  
50  
60  
70  
80  
90  
100  
110  
120  
130  
140  
150  
160  
170  
180  
190  
200

Approximate  $eU_3O_8$  content:  
162' - 166' = .03%.

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**RADIOACTIVE LOG**  
OF  
**DIAMOND DRILL HOLE NO. 8.**  
AT  
Adelaide River Prospect N.T.  
G.F. Clarke Nov. 1954.  
Calculation: by J. B. Misz.



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**RADIOACTIVE LOG  
OF  
DIAMOND DRILL HOLE No. 9**

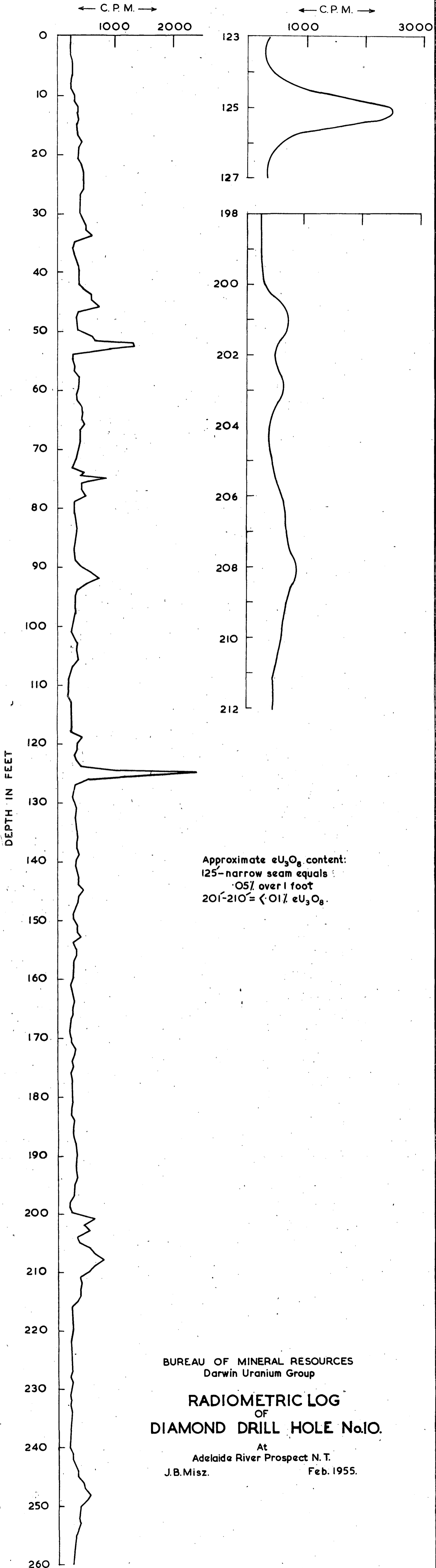
At  
Adelaide River Prospect N. T.

Ratemeter BRV 3 Probe I

G.F. Clarke

December, 1954

Calculation: by J. B. Misz.



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 Darwin Uranium Group

**RADIOMETRIC LOG**  
 OF  
**DIAMOND DRILL HOLE No.10.**

At  
 Adelaide River Prospect N. T.  
 J.B.Misz. Feb. 1955.