COMMONWEALTH OF AUSTRALIA.

DEPARTMENT OF NATIONAL DEVELOPMENT.

BUREAU OF MINERAL RESOURCES
GEOLOGY AND GEOPHYSICS.

RECORDS.
1954/41

RADIO~~METRIC~~ ACTIVE SURVEYS KATHERINE - DARWIN AREA.

REPORT ON ACTIVITIES, JULY, 1954.

by

J.H. Lord.

DARWIN. N.T.

RADIOACTIVE SURVEYS KATHERINE - DARWIN AREA.

REPORT ON ACTIVITIES, JULY, 1954.

C O N T E N T S.

	Page.
ADMINISTRATIVE SECTION.	
Staff.	1
Housing and Office Accommodation.	1
Winnellie Store.	1
Radiometric Laboratory.	2
Transport.	2
Visitors.	2
TECHNICAL SECTION.	
A.B.C. Prospect.	2
Adelaide River Prospect.	3
Brock's Creek Prospect.	3
Sleisbeck Prospect.	4
Burrundie Prospect.	4
Geochemical Work.	4
Regional Party.	4
Edith River Prospect.	5
New Finds.	5
Miscellaneous Items.	5
APPENDICIES.	
I Preliminary Report on Cowan's and Hale's Prospects, South Alligator River Area.	6
II Uranium Companies and Syndicates operating in the Northern Territory, 31. 7.54.	8
III Monthly Report Regional Radioactive Parties, July, 1954.	9
IV Reconnaissance Examination of Proposed Authority to Prospect No. 151.(Sleisbeck.)	11
PLATES.	
I A.B.C. Prospect - Plan of Drill Sites.	
II A.B.C. Prospect - Section.	
III Sleisbeck (A.P.151) - Locality Plan.	
IV Sleisbeck (A.P.151) - Sketch Plan of Prospect.	
V Radioactive Spots N.W. of Coronation Hill.	
VI Photographs B.M.R. Exhibit, Darwin Show.	

ADMINISTRATIVE SECTION.

STAFF.

Movements:

T.F. Hocking, clerk, arrived in Darwin on 1st July.

(Mrs.) M.J. Olle, typiste, was granted two weeks leave without pay, commencing on 26th July. (Replaced by Mrs. Davies for two weeks.)

L. Fordon-Bellgrove, geologist, reported to Darwin office from regional party on 28th July.

Additions:

L.G. Baker, drill helper, commenced duty 8th July.

A.C. Downes, " " , " " " " .

R.R. Gardner, " " , " " " " .

R. Higgins, camp assistant, " " " " .

R.C. Lucas, field assistant, " " 28th " .

G. Kelly, field assistant, " " 30th " .

Resignations:

R.R. Gardner, drill helper, resigned 28th July.

P. Manning, field assistant resigned 28th July.

HOUSING AND OFFICE ACCOMMODATION.

No houses were made available during July. The two remaining houses on the original contract of eight are still not completed.

Two of the twelve houses at Fannie Bay are well advanced and the foundations have been set for three more.

The office at Woods Street has not yet been completed ~~owing to~~ as the contractor ~~having~~ has absconded.

WINNELLIE STORE.

During the month Mr. G. Laube visited Darwin and took stock of all equipment at the Winnellie Store.

A stores' clerk remains an urgent necessity for the efficient operation of stores and equipment in this area.

One room at Winnellie has been converted ready to be

used as a small chemical laboratory. Only power and water is required to complete this job.

RADIOMETRIC LABORATORY.

The radiometric laboratory has been busy throughout the month and completed 323 assays. This number has been achieved by working overtime. A considerable delay in assaying still remains.

During the month 59 instruments were repaired of which 23 were for private persons. Many others have been advised in the use of various types of geiger counters.

TRANSPORT.

One serious accident occurred this month when a Morris 4 x 4 (C70064) left the road on a curve about 26 miles north of Katherine. The vehicle is extensively damaged and it was ~~is~~ recommended that it be taken south for repair. The driver was not seriously injured.

VISITORS.

R. Smith, geophysicist, visited the Darwin - Katherine area between 29th June and 4th July.

K. Vale, geophysicist, visited the Katherine - Darwin area from 15th to 17th July.

Dr. F.W. Wood, Assistant Chief Geophysicist, was in Darwin from 19th to 21st July. He discussed the geophysical work of the Radioactive Section and inspected operations in Darwin.

TECHNICAL SECTION.

A.B.C. Prospect.

Two drills, which operated at the Prospect throughout July, completed 18 holes. The total footage drilled was 766 feet. It had been intended to start a third drill at the Prospect but the drill lost a wheel when being towed to the site and the correct replacement parts have not yet arrived.

The detailed drilling has not yet indicated any extension of mineralisation, which appears to be confined to a small shallow area. Drilling, to establish the exact shape and depth of mineralisation is almost completed (See PLATE I and II.) Future holes will examine the structure at depth and possible extensions under the alluvium.

Further plane-table mapping is in progress and costeaning by hand is being done to determine structure in obscure areas. This work is being extended to several localities showing above background counts.

The car-borne scintillometer, after being out of commission for 3 weeks, continued traversing the volcanic valley to the north-west and north-east of the Prospect. This work should be completed during August.

Unless some more mineralisation is located it is expected that the drilling should conclude in September.

ADELAIDE RIVER PROSPECT.

The geophysicist has continued radiometric gridding on this Prospect. The area has had to be extended because of favourable results and of a new find made by the company prospector some 1,300 feet south-east of the original find. The Bureau staff are probing the holes drilled on the Prospect.

Uranium Development and Prospecting N.L. have continued active development and prospecting on the area. The prospecting shaft and the shaft on the original find have been deepened and the first level is being cut. The uranium values are persisting with depth.

The adit on the "eastern" lode has encountered uranium mineralisation, and after driving north a considerable distance a rise has been put up to the surface. The ore would bulk approximately 0.5% eU_3O_8.

The company is developing this area in a conscientious manner and the mineralisation is proving to be extensive in length and depth. At this early stage it would appear likely that the company will excercise their option.

BROCK'S CREEK PROSPECT.

A Bureau geologist is mapping the new find made by Brock's Creek Uranium Co. approximately 300 feet north-west of the original Prospect. The area is also being gridded radiometrically. The new find is in siltstones over an area of 50 feet by 20 feet on the surface showing torbernite in fractures and along the bedding.

The company has continued the inclined shaft on the original Prospect to a depth of 86 feet with improving values and the occurrence of uraninite. The vein (or seam) containing this mineral is only one inch in width at present. The following is a report by W.M.B. Roberts of a sample submitted by the company:-

> "The polished section showed the radioactivity to be due to a relatively large amount of uraninite present in both specimens. Massive copper sulphides enclose earlier formed uranium veins which range from 1.0 mm. to 0.3 mm. in thickness, and occupy the full length of the specimens. These veins appear to have been fractured, and have been replaced to a large extent by the chalcopyrite which has, in turn, been replaced extensively by blue chalcocite, chiefly in the vicinity of the uraninite veins; away from the uraninite the chalcopyrite contains small veins of chalcocite.
>
> Associated with the blue chalcocite is a small amount of a soft, grey-white mineral, pleochroic and strongly anisotropic; no etch tests could be carried out on this mineral as it is too intimately associated with the chalcocite. It will not dissolve in boiling HNO_3 and gives a black powder and streak. It is probably graphite; large amounts of graphite occur in the hand specimen.
>
> Enclosed within the massive chalcopyrite are small euhedral crystals of pyrite, these range in size from 0.05

to 0.15 mm., and appear to have been the first of the sulphide minerals to be deposited. The sequence of deposition as interpreted from the two sections examined places the uraninite or pyrite as the first-deposited mineral; these are never in juxtaposition, and therefore their paragenetic relationship is not clear. These were followed by chalcopyrite, then chalcocite. The position of the graphite in the sequence is obscure, but it was possibly present in the original rock, and has been replaced largely by chalcocite."

SLEISBECK PROSPECT.

North Australian Uranium Corporation has disclosed an important find, known as Sleisbeck, on the upper reaches of the Katherine River (see PLATE III). This has been reported on by Frankovich (see Appendix 4) and Misz. The company is exploiting the area rapidly and a settlement with over 40 employees has been established at the find. According to the reports, the area has some promising exposures of secondary minerals, which have yet to be tested at depth.

The Bureau geologists are endeavouring to establish the position of the find in the stratigraphic succession. Radiometric gridding is being carried out by the geophysicists who will also probe the holes when the company commences drilling operation

BURRUNDIE PROSPECT.

The detailed mapping of this Prospect has been completed and, as soon as additional geophysical work is completed, the report will be compiled.

It will probably be necessary to drill two holes to test the formation at depth, although the present work has not disclose any improvement in the Prospect.

GEOCHEMICAL WORK.

After preparing the mobile laboratory, Mr. A.H. Debnam commenced the planned geobotanical work in conjunction with Mr. W. Bateman, forestry officer.

The work consisted of sampling the vegetation at the following Prospects:- Rum Jungle, Adelaide River, Brock's Creek and A.B.C. Samples of roots, trunk, twigs and leaves were taken from trees and plants.

No uranium indicator plant has been recognised, but preliminary tests show that some trees may accumulate uranium on the roots and leaves.

These samples collected will be examined during August.

REGIONAL PARTY.

The regional party has continued mapping on the western sections of Ban Ban, Burrundie, Burnside and Tipperary 1-mile areas

Two prospects were reported to the north-west of Coronation Hill, as described in a report by D.A. White (see Appendix I and plate 5.) Apparently Cowan's anomaly is the same locality as was investigated last season by R.A. Britten, as an air-borne scintillometer anomaly.

The monthly report of regional party is attached as Appendix 3.

EDITH RIVER PROSPECT.

A drill rig which has moved to Deposit F at the Edith River Prospect has commenced drilling. The hole is the second recommended by Dr. N. Fisher, but at a steeper angle (62°) to intersect the shear at approximately 250 feet.

NEW FINDS.

There were 41 Authorities to Prospect held at the end of July with 39 pending. During this month there has been a great revival of interest in prospecting and many are engaged in week-end prospecting. Many requests to hire geiger counters have been made.

The Mines' Branch does not encourage week-end prospecting, unfortunately, as they will not grant an Authority to Prospect, unless it is to be worked full-time.

One new find was reported this month at Sleisbeck, and two additional radioactive areas were located on the original Prospects at Brock's Creek and Adelaide River. These are described above.

There is another find supposed to have been made to the south-west of Batchelor near Mt. Mable but the finder has not yet produced any specimens nor been able to arrange for a geologist to visit the area.

MISCELLANEOUS ITEMS.

A conference was held at the Darwin office on 10th July of regional party leaders and resident staff. No conference has been held this month as the regional party was unable to attend.

The Radioactive Section entered a display in the local show over the period July 31st, ~~and~~ August 1st and 2nd. One to the keenness of all concerned the display was awarded first prize. Hundreds of questions were answered and demonstrations given by the geologists and geophysicists on duty. Plate 6 shows three views of the exhibit.

The second meeting of the local "Geology Club" was held in July when 26 persons heard Mr. P. Dodd give an illustrated lecture on "Uranium Exploration in the Colorado Plateau, U.S.A."

August, 1954. J.H. Lord.

APPENDIX I.

PRELIMINARY REPORT ON COWAN'S AND HALE'S PROSPECTS SOUTH ALLIGATOR RIVER AREA.

by

D.A. WHITE

Introduction.

During the 1953 field season and consequent upon the discovery of the Coronation Hill Prospect a limited airborne scintillometer survey of the area immediately surrounding Coronation Hill was carried out. Several anomalies were located but were not examined in any detail by ground parties and were not reported on. All the anomalies located were, in common with the Coronation Hill Prospect, aligned along the South Alligator Fault Zone. To add emphasis to the suggestion put forward by Walpole in 1953 that the Alligator Fault Zone might be considered as a potential major ore channel, it was decided to reinvestigate some of the anomalies and to prospect a selected area in the vicinity of Koolpin Creek. A prospecting team led by geologist D.A. White spent five days in the area and located two prospects which warrant further investigation. One of these prospects, Cowan's Prospect, was located on an airborne scintillometer anomaly.

General Geology.

The two prospects, referred to as Hale's Prospect and Cowan's Prospect both occur within the South Alligator River fault zone. This zone strikes in a general northwesterly direction and consists of a number of steeply dipping to vertical faults which affect rocks of both Upper and Lower Proterozoic age. The zone is continuous over a distance of approximately 60 miles from the Gimbat River area to the south east, to beyond Coirwong Gorge to the north west. Four uranium prospects have been located along this fault zone to date. These are the two prospects referred to above, the original prospect at Coronation Hill and the recent discovery known as the "Sleisbeck" prospect.

Little is yet known of the geology within the fault zone. The dimensions of the zone are reasonably well illustrated by the aerial photographs of the area and the fact that rocks of all geological systems present in the area are affected has been established. Cowan's and Hale's propsects both occur in banded cherts, claystones and siltstones of Lower Proterozoic age, which have been impregnated with iron and which resemble banded iron formations. The banded and iron-rich character of the rocks is probably due to a large extent to recrystallisation of the sediments within the fault zone. Locally the beds are highly contorted and crop out as razorback ridges along the South Alligator River Valley. The ridges are commonly coincident with the fault. Upper Proterozoic greywackes and conglomerates are faulted against or unconformably overlie the banded rocks.

The iron in the banded rocks is commonly present as hematite and is possibly of hydrothermal origin. Hematite is a common mineral at the Coronation Hill prospect and has been noted in drill cores in positions well below the water table.

Cowan's and Hale's Prospects.

The location of these two prospects in relation to Coronation Hill is indicated on the overlay tracing of photographs. Runs 7 and 8 respectively of the Mt. Evelyn sheet of the army 4 mile series.

Cowan's Prospect probably lies on the bounday or immediately inside the boundary of prospecting area No.108, at present held by the North Australia Uranium Corporation.

The topography in the region in which the prospects occur is extremely rugged. The areas of interest are adjacent to faults which have formed steep cliffs. Most of the areas are covered by thick rubble and scree and it is emphasised that limits of the radioactive anomalies are restricted by lack of exposures.

Cowan's Anomaly.

The radioactivity occurs in a gossanous outcrop in hematite-rich siltstone adjacent to a major fault. The fault strikes at 310° and apparently has a vertical dip. The area of the anomaly is determined by the rubble cover surrounding the outcropping rock. Maximum counts obtained were 1750 per minute using the Austronic P.R.M. 200 Geiger counter. These counts were obtained on gossanous material. The rocks surrounding the gossan give counts of between 400 and 600 per minute over an area of 24 feet x 12 feet. Outside this area the counts on the surrounding rubble were 60 per minute.

Hale's Anomaly.

Hale's anomaly consists of a hematite-rich vein, the exposed portion of which is approximately 20 feet in length and 6 inches in width. The vein dips at approximately 30° to the east. Counts on the vein material were between 400 and 500 per minute. The counts on the hanging wall and footwall of the vein were from 75 to 100 per minute. The country rock is hematite-rich siltstone.

Conclusions and Recommendations.

The two prospects further emphasise the importance of the South Alligator Fault Zone as a potential ore channel. On both prospects quoted above, heavy rubble as scree from non-mineralized rocks outcropping above the anomalies covers most of the area of interest. Any further investigation of these anomalies will therefore require the removal of at least part of this rubble before any assessment of the economic value of the anomalies can be made. Until such work is done any detailed survey of the anomalies will be of little value. It is considered that Cowan's anomaly in particular warrants extensive pitting to define firstly, whether the radioactive rock is actually in situ or is a very large boulder, and, secondly, the extent of the anomaly. Hale's anomaly should be further delineated by sinking pits through the rubble cover downhill along the strike of the vein.

The whole of the South Alligator Fault Zone should be given a priority test with the airborne scintillometer equipment.

D. A. White.

July, 1954.

APPENDIX II - URANIUM COMPANIES AND SYNDICATES OPERATING IN NORTHERN TERRITORY - 31. 7. 1954.

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.
Brock's Creek Uranium Co., N.L.	E. McDonald	
Centralia Mines N.L.		
Central Uranium N.L.		Mr. Goodsir.
Enterprise Exploration Co. Pty. Ltd.	H. Brennan.	Zinc Corp.
Gold Mines of New Guinea.		
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.	Mott.
Red Ned Gold Mine N.L.	J.S. Higgins.	
Rio Tinto Company.	R.S. Matheson.	
Uranium Corporation of Australia Pty. Ltd.	Trestrail.	Mr. Wharton. Rye Park Scheelite.
Uranium Investigations (N.T.) Syndicate	Cutlock.	
Uranium Mines N.L.	W. Keys.	H.J.C. Connelly.
Uranium Oxide N.L.	Jensen.	Austral Mining Co. Poseidon N.L. Pioneer Mines.
Uranium Prospecting and Development N.L.	Coxon & Macdonald.	Mr. R. Sprigg.
Utinium Pty. Ltd.	Pitman.	
Y.M.C. Syndicate.	Young, Maslin & Cousins.	

APPENDIX III

MONTHLY REPORT REGIONAL RADIOACTIVE PARTIES JULY, 1954.

SUMMARY.

The Ban Ban and Randford Parties continued mapping on Burrundie and Ban Ban 1 mile areas. The Tipperary Party continued mapping on Burnside and Tipperary 1 mile areas.

The western sections of Ban Ban, Burrundie and Burnside, and the western section of Tipperary, were completed and compilation of these sheets for fair drawing has been commenced. A start has been made on the Ban Ban (East) half sheet.

M.A. Condon, Acting Chief Geologist, visited the parties during the period 1.7.54 to 3.7.54 inclusive.

Two radioactive prospects were located during the month.

GEOLOGICAL MAPPING.

Prints of the sheets covered are being forwarded to Canberra and Darwin Office. The subdivision of the Lower Proterozoic has been continued. The mapping has shown a third domal structure in the general Brocks Creek - Burrundie area where the core of the dome is occupied by the Prices Springs Granite. The flanks are occupied by a thin remnant of Brocks Creek Beds overlain by Burrells Creek Beds. The folding within the Burrells Creek Beds is particularly complex. In general an analysis of the folding shows it to be synclinal with the Brocks Creek beds repeated in an anticlinal structure east of the McKinlay River. This area is now being investigated and prospected.

Mapping carried out on the Burnside (West) and Batchelor sheets has now linked up with the work done in the Rum Jungle - Waterhouse Area during 1953. A locally developed but distinctive conglomerate marker bed, within the Burrells Creek Beds, was traced from Lennox Find for about 10 miles to the north-east.

A very good tie-up was achieved between the 1954 and 1953 mapping and it is now possible to delineate the stratigraphy and structure of the Lower Proterozoic rocks over a continuous strip between Rum Jungle in the north and Maranboy in the south.

PROSPECTING.

Three radioactive prospects were located during the month. One of these, 7 miles N.E. of Mt. Masson was tested by a number of pits but is considered to be worthless. A report on this prospect will be compiled in due course. The two other prospects are in the Coronation Hill area and relevant details are given in a report written by D.A. White.

PARTY MOVEMENTS.

At the end of the month, the Tipperary party moved from Burrells Creek base camp to the McKinlay River. The Randford Party moved to the Mary River on the Goodparla South sheet. The Ban Ban party prepared to move to the Gimbat - Birdie Creek area. In order to give all personnel the maximum amount of experience in the various units being mapped and also to retain continuity of the work, the parties have been readjusted as follows:-

Randford - D.A. White, R. Stewart.

Ban Ban - B. Walpole, E. Malone.

Tipperary - K.G. Smith, H. Quinlan, P. Dunn.

In the ensuing month, the Randford party will concentrate on Goodparla South, Tipperary party on Ban Ban east and Burnside east. It is anticipated the Ban Ban Party will be in the Gimbat area for six weeks mapping the newly discovered Lower Cambrian beds in that region and ascertaining how this new information affects units which have previously been placed in the Upper Proterozoic. Fossil collections will be made wherever possible.

B. Walpole.

Senior Geologist.

APPENDIX IV.

RECONNAISSANCE EXAMINATION OF PROPOSED AUTHORITY TO PROSPECT NO. 151 (SLEISBECK.)

SUMMARY.

After a brief inspection of the area now known as Sleisbeck, the author finds it to be the most promising radio-active area in the Northern Territory apart from Rum Jungle. This opinion is based on a few important observations. The 3 times background contour encompasses an area several hundred feet wide to slightly more than a mile and one half in length. Within this area are three separate occurrences of visible ore grade uranium mineral in addition to much scattered radioactivity.

The mineral occurs in a ferruginous brecciated sandstone almost identical with that found at Dyson's, Rum Jungle. If the deposit is similar, as is likely, in other ways to Dyson's, the best ore is not now visible but is covered by the thick rubble on the slopes. The impressive dimensions of this deposit make it worth intensive investigation.

DESCRIPTION OF PROPOSED AUTHORITY TO PROSPECT.

All that Crown Land in the Agriconda Goldfield in the Northern Territory of Australia containing an area of 651 square miles more or less: Commencing at the North-East corner of the Coronation Hill Temporary Reservation (proclaimed in Northern Territory Gazette 13A of 1st April, 1954) thence by a line bearing 90 degrees for a distance of about 24 miles to a point on the West boundary of the Arnhemland Aboriginal Reserve thence by a part of that West boundary bearing 180 degrees for a distance of 21½ miles thence by a line bearing 270 degrees for a distance of 6 miles thence by a line bearing 180 degrees for a distance of 7½ miles thence by a line bearing 270 degrees for a distance of about 18 miles to the South prolongation of the East boundary of the Temporary Reservation aforesaid then by that prolongation and the east boundary of the said Reservation bearing in all 360 degrees for a total distance of 29 miles to point of commencement. All bearings true.

LOCATION.

This deposit (named "Sleisbeck" by the owners) was discovered early in July, 1954, by George Sleis. It is located on the upper reaches of the Katherine River near the Arnhemland border. More exactly it is N. 81½° E and 72 air miles from Pine Creek. (See PLATE 3.)

Access is at present long and difficult from the south through Maranboy and Yeuralba. A new road can be built with very reasonable cost over the tableland from Hidden Valley. This new road would be 83 miles long and much straighter than the 120 mile track from Maranboy.

GEOLOGY.

Regional: The uranium occurs in a series of rocks which appear to be the same as those called the Buldiva Group of Upper Proterozoic age. Coral fossils found by George Sleis underneath the Buldiva group indicate that it must be of post-Cambrian age.

The regional geology as seen from the air on the way into the deposit suggests that the sedimentary series at Sleisbeck, the A.B.C. and the Coronation Hill deposits are the same. At Sleisbeck the series consist of course conglomerates, volcanics, tuffaceous sediments, shales and limestones. It appears that the series is in excess of 10,000 feet thick.

The deposit is located on the north-western edge of a shallow, dish-shaped syncline. Dips on the edge of the syncline vary in short distances from vertical to nearly flat.

Geology of the Deposits:

All the radioactivity and uranium found to date occur in the same type of host rock, namely, a ferruginous, brecciated sandstone. This sandstone outcrops as a fairly high, rubble-covered, broken ridge surrounded by alluvium. The structure or even dip can be seen in the brecciated sandstone, but there is little reason to suppose that it is not in a general way conformable with the over and underlying beds. A black slate and siltstone overlie the host rock and limestones are found above and below.

The distribution of radioactivity is indicated on the accompanying sketch map (PLATE ~~III~~), together with the occurrences of uranium and the size of the mineralized outcrops. The three times background radiometric contour extends on both sides of the ridge along the entire length shown on the sketch. Except for minor breaks it is continuous over the soil covered flats between the larger Hills. Along the entire length of one and one-half miles many spots of high count can be found. In places it is uniform, in others it is quite irregular. Some large outcrops of massive red sandstone count at least 20 times background but have no visible uranium.

Visible uranium occurs as ochres, autunite and torbernite in the surface rock. The maximum assay value so far on a good specimen is 1.4% eU_3O_8. No mineralization controls can be supposed at this time. No quartz is visible nor obvious copper. One small radioactive shear zone appears to be a real gossan but other than that the uranium has no obvious associations.

Radioactivity has been found scattered along the strike of the stratigraphic unit containing the uranium for about 15 miles. At Turnoff Creek (11 miles from Sleisbeck) the count reaches six times background in a hematitic sandstone breccia interbedded with tuffs and limestone containing abundant hematite blows. This area has been scarcely checked and is worth much careful work.

CONCLUSIONS.

This deposit appears to have very good prospects of being a major ore body. The rubble from the sandstone breccia covers the adjacent rocks, and may, as was true at Dyson's, Rum Jungle, cover the real host rock and ore bodies.

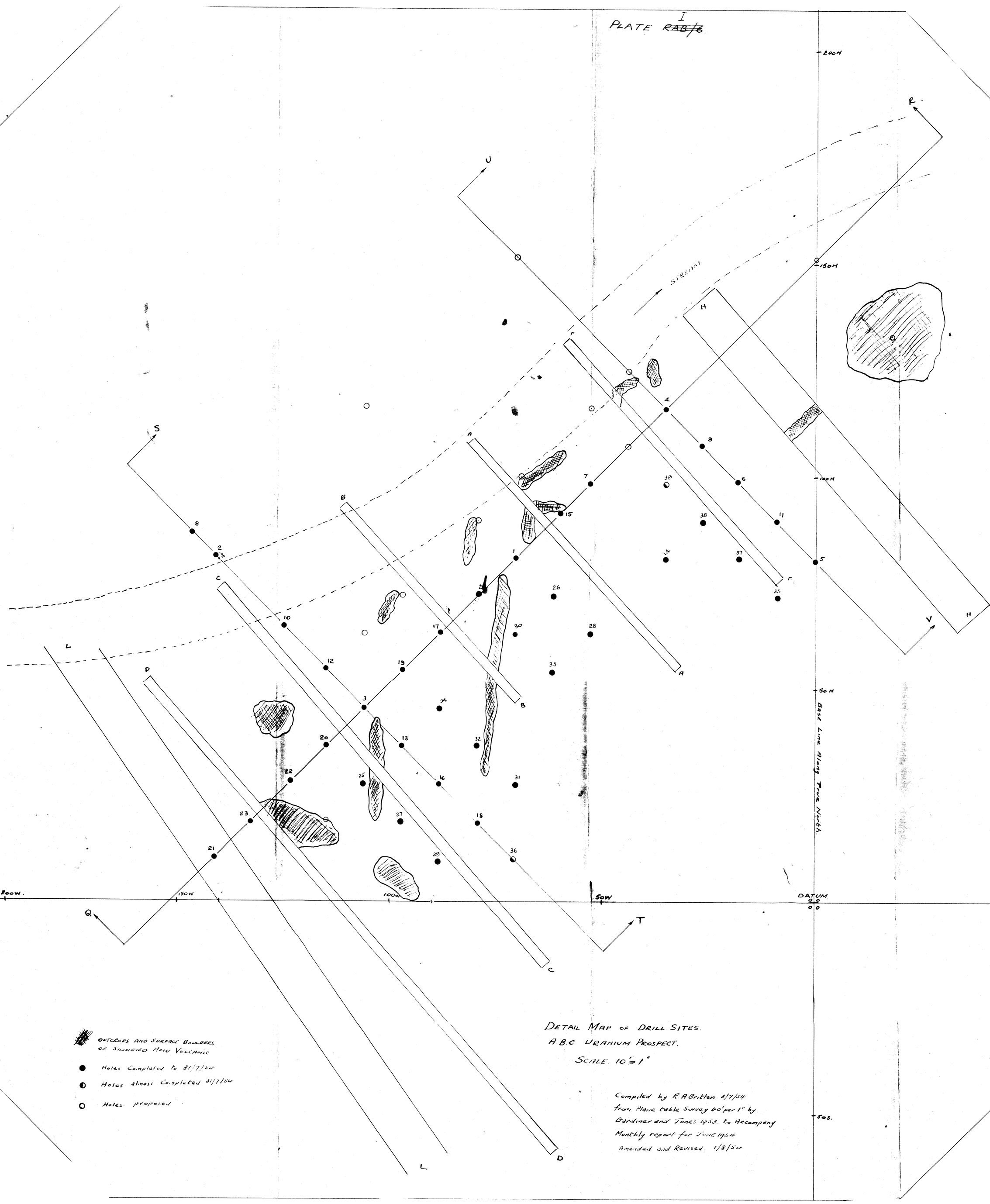
There are no valid means of assessing the worth of this deposit without drilling and costeaning. However, a measure of its possibilities may be had by comparing it with the original outcrops at Dyson's Rum Jungle, which it closely resembles in lithology. No visible uranium was found at Dyson's without digging. Sleisbeck has three areas widely separated with uranium ore. The maximum radioactivity was 20 times background over one

spot only at Dyson's. Sleisbeck has many spots counting over 20 times background. At Dyson's the original 3 times background contour encompassed an area in the order of 100 feet long; - at Sleisbeck it is in excess of one and one half miles.

The series of rocks in which this deposit occurs is worth prospecting for uranium where ever they outcrop. In places where the series is flat-dipping the aerial scintillometer can be used to great advantage.

14th July, 1954. F. Frankovich.

PLATE I



OUTCROPS AND SURFACE BOULDERS OF SILICIFIED ACID VOLCANIC

● Holes Completed to 31/7/54

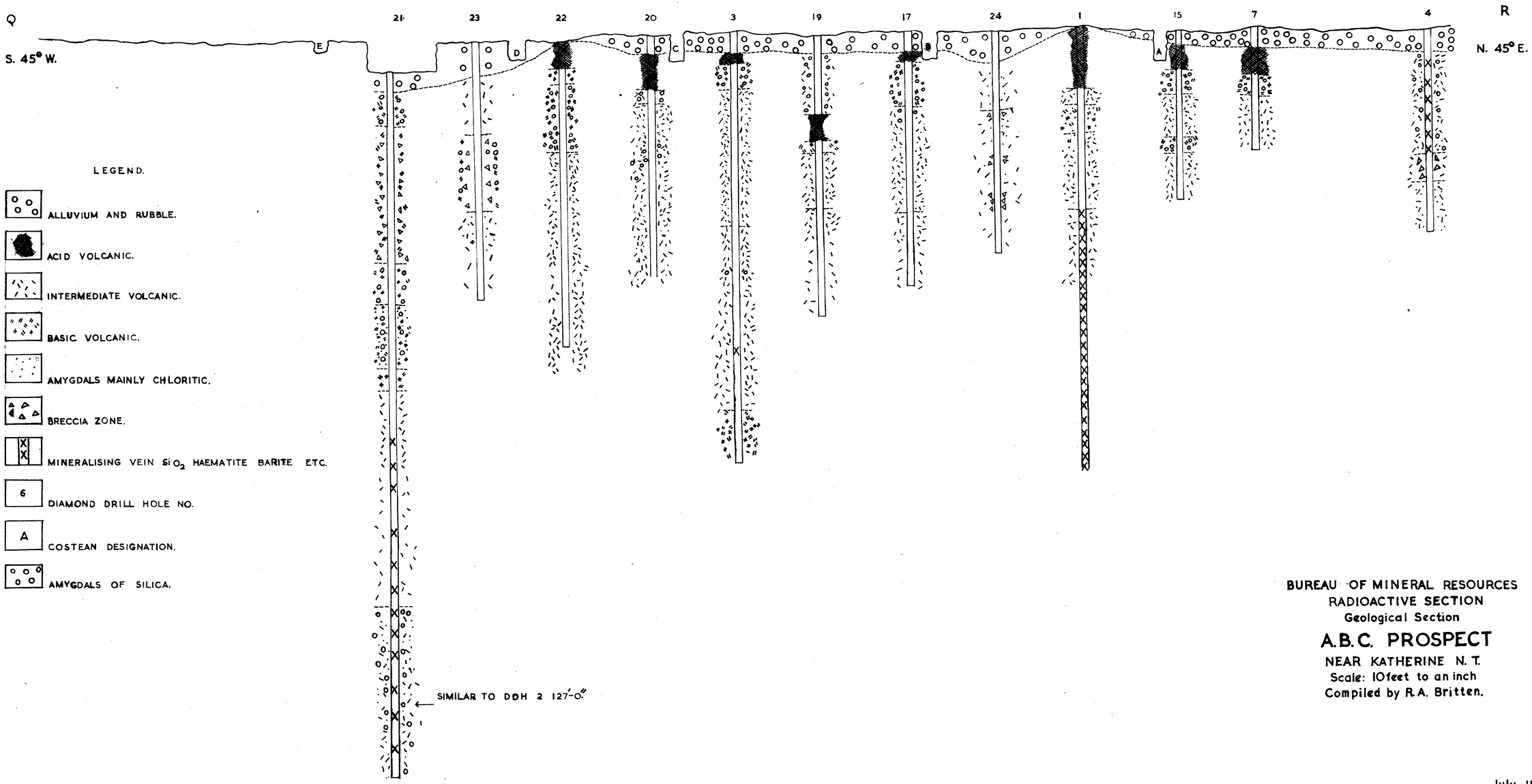
◐ Holes almost Completed 31/7/54

○ Holes proposed

DETAIL MAP OF DRILL SITES.
A.B.C URANIUM PROSPECT.
SCALE 10' = 1"

Compiled by R.A Britton 3/7/54.
from Plane table Survey 40' per 1" by
Gardiner and Jones 1953. to Accompany
Monthly report for JUNE 1954
Amended and Revised 1/8/54

PLATE 2.



BUREAU OF MINERAL RESOURCES
RADIOACTIVE SECTION
Geological Section

A.B.C. PROSPECT

NEAR KATHERINE N. T.
Scale: 10feet to an inch
Compiled by R.A. Britten.

July, 1954.

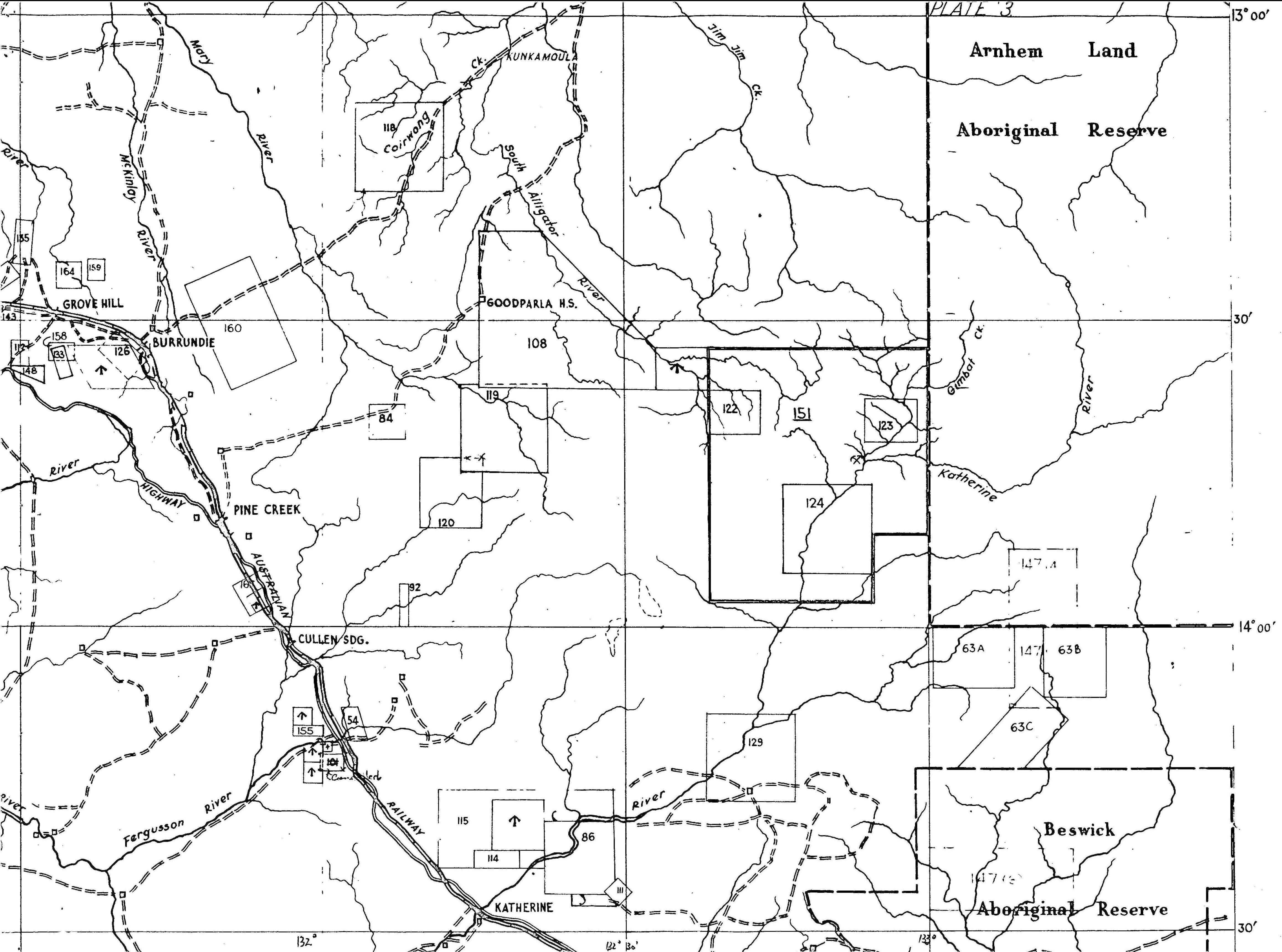
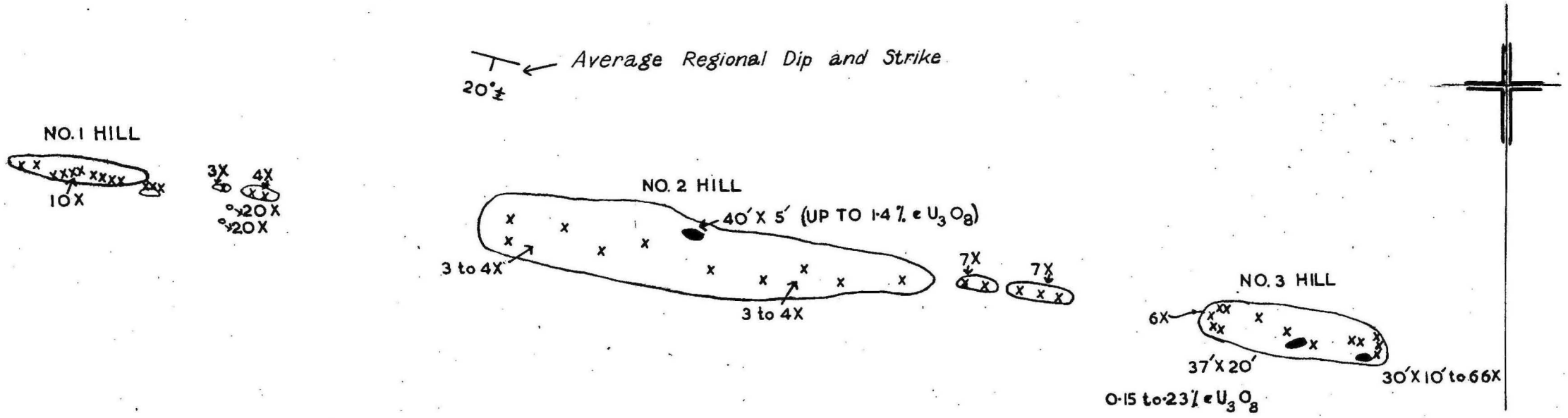


PLATE 3
13° 00′
30′
14° 00′
30′
132°
132° 30′
133°
Arnhem Land
Aboriginal Reserve
Beswick
Aboriginal Reserve
Mary River
McKinlay River
Jim Jim Ck.
South Alligator River
Coirwong
Ck.
KUNKAMOULA
GOODPARLA H.S.
GROVE HILL
BURRUNDIE
PINE CREEK
CULLEN SDG.
KATHERINE
HIGHWAY
AUSTRALIAN
RAILWAY
Gimbat Ck.
River
Katherine
Fergusson River
River
River
118
135
164
159
160
143
158
133
126
148
108
119
84
120
92
76
122
151
123
124
147A
63A
147
63B
63C
129
155
54
101
115
114
86
111

PLATE 4.



LEGEND

- O — Outcrops of hematized, brecciated sandstone.
- 20X — Radioactivity in times background.
- X — Known sources of radioactivity.
- ← 4' X 3' — Areas of visible uranium with dimensions in feet.

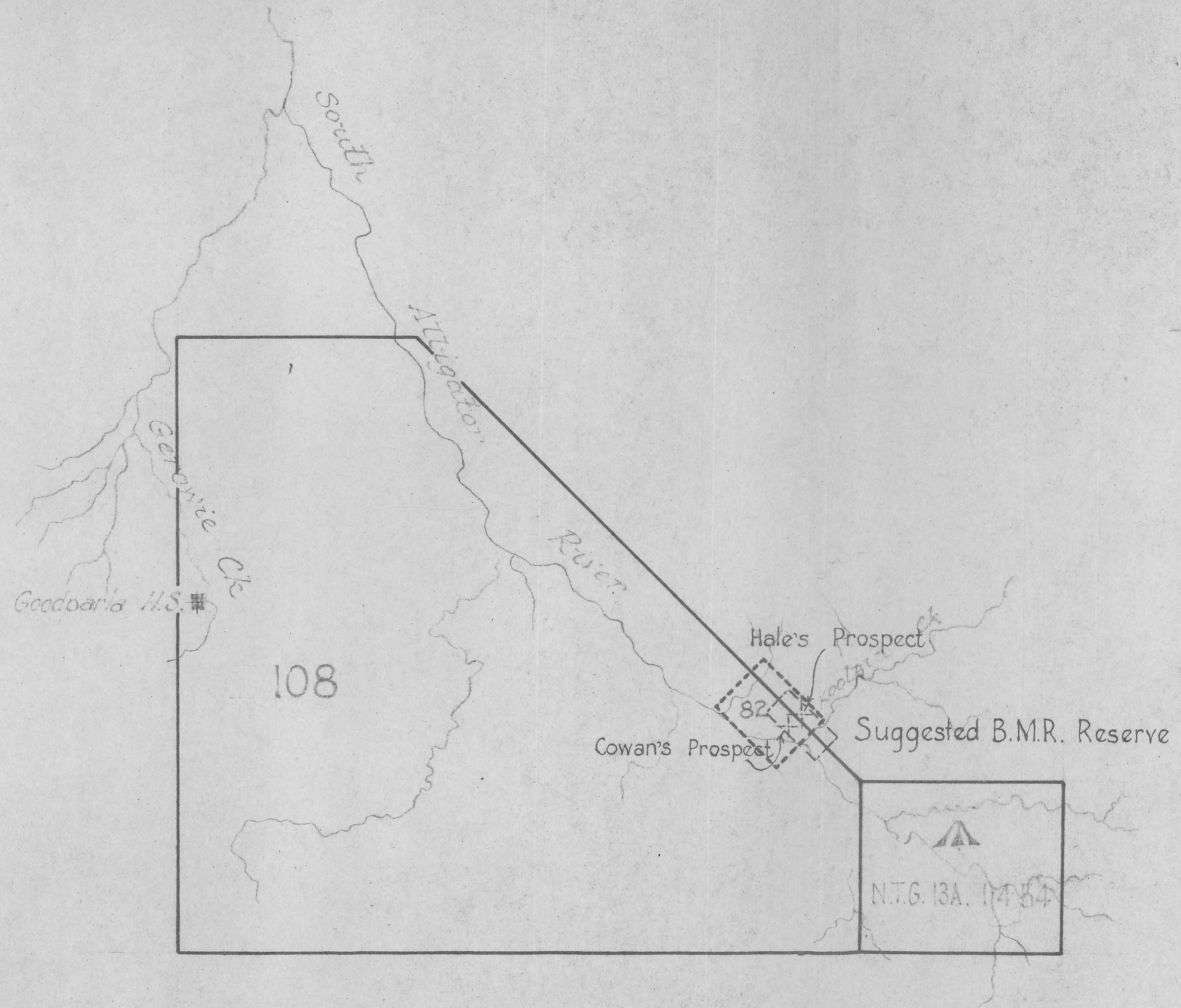
BUREAU OF MINERAL RESOURCES
RADIOACTIVE SECTION

Sketch Map of Proposed Authority to Prospect No 151 (Sleisbeck)

Approximate scale: 800 feet to an inch

Geology by: F.J. Frankovich - July 1954

PLATE 5.



RADIOACTIVE SPOTS

Vicinity Coronation Hill Reserve

+ Radioactive spots shown

Scale: 4 miles to an inch

B.M.R. EXHIBIT AT DARWIN SHOW.

(Awarded 1st prize.)