

# OPEN FILE

REPORT ON PROSPECTING

EXPLORATION LICENCE No. 122

NORTHERN TERRITORY

1972

Report No. 188

By

G. Pietsch

D. Tucker

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## Appendix I

## Rotary-Percussion Drill Logs

LIST OF PLATES

<u>Plate No.</u>	<u>Description</u>	
1.	Location Map E. L. s 121, 122, 124, 125 Scale 1:500,000	✓
2.	Location of Field Activities 1972, E. L. 122 Scale 1:250,000	✓
3.	Anomaly 30 Radiometric Contours, Percussion Drill Hole Locations Scale 1 inch = 50 feet.	✓
4.	Anomaly 30 Percussion Drill Hole Sections Scale 1 inch = 50 feet.	✓

## 1. INTRODUCTION

Exploration Licence (E. L.) No. 122 is located near the Nicholson River in the north-eastern part of the Northern Territory near the Queensland border. See Plate 1, Location Map E. L. Nos. 121, 122, 124, 125.

Work within Exploration Licence 122 during the 1972 field season consisted of two phases: a rotary-percussion drilling programme and the investigation of several previously unexamined airborne radiometric anomalies.

The drilling programme, following recommendations in reports by McManus, Taylor and Charles (1971) and Taylor and Charles (1971), tested a surface radiometric anomaly, Anomaly 30. This overlies steeply dipping siltstones and shales of the Murphy Metamorphics.

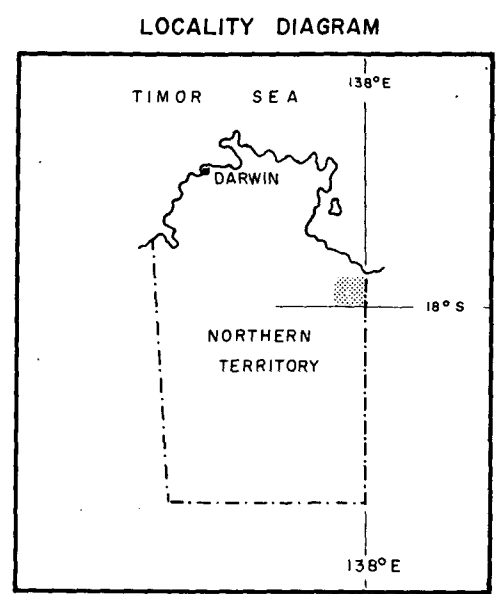
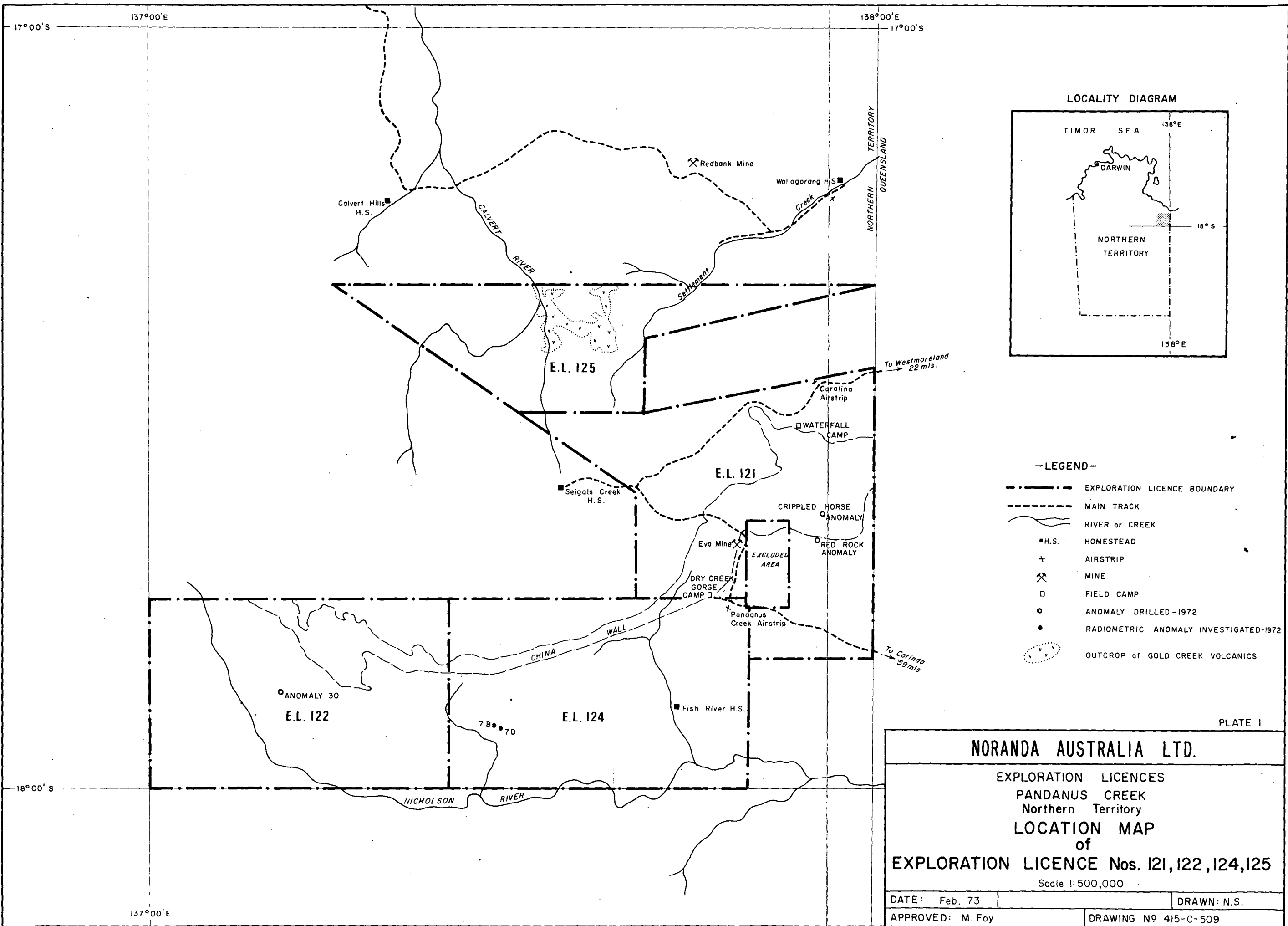
Seven vertical rotary-percussion drill holes, totalling 1,375 feet were drilled to a maximum depth of 200 feet. Access and site preparations included thirty-one miles of track and the clearing of eight drill sites.

The second phase of the E. L. 122 field programme consisted of reconnaissance and limited detail radiometric and geological traversing. This was a follow-up to re-interpretations made by Noranda geophysicist, N. Rodwell, of the 1970 Geophysical Resources Development airborne survey.

## 2. CONCLUSIONS

None of the holes drilled into Anomaly 30 intersected mineralization of economic significance. The highest grade mineralization found was 0.32 lbs  $U_3O_8$  / short ton and this was over very narrow widths.

The four areas selected by re-interpretation of the 1970 airborne survey and investigated on the ground are attributed to background contrasts between various rock types and/or alluvium. None are considered to have been caused by uranium mineralization.



- LEGEND-**
- EXPLORATION LICENCE BOUNDARY
  - MAIN TRACK
  - RIVER or CREEK
  - H.S. HOMESTEAD
  - + AIRSTRIP
  - ⌵ MINE
  - FIELD CAMP
  - ANOMALY DRILLED -1972
  - RADIOMETRIC ANOMALY INVESTIGATED-1972
  - (with dots) OUTCROP of GOLD CREEK VOLCANICS

PLATE I

<b>NORANDA AUSTRALIA LTD.</b>		
EXPLORATION LICENCES PANDANUS CREEK Northern Territory		
LOCATION MAP of		
<b>EXPLORATION LICENCE Nos. 121, 122, 124, 125</b>		
Scale 1:500,000		
DATE: Feb. 73		DRAWN: N.S.
APPROVED: M. Foy		DRAWING N <sup>o</sup> 415-C-509

## 6. INVESTIGATION OF RADIOMETRIC ANOMALIES

### 6.1 Introduction

A re-interpretation made by Noranda geophysicist, N. Rodwell, of the 1970 airborne radiometric and magnetic survey by Geophysical Resources Development (G. R. D.) resulted in four target areas for field investigation in 1972. Results of these investigations are listed below. For locations, see Plate 2, Location of Field Activities 1972, E. L. 122.

### 6.2 Anomaly 2A

A scintillometer survey over five north-south grid lines, each 800 feet long, separated by 200 feet, with stations every 50 feet was completed. Background values were 8-10 micro-roentgens per hr. ( $\mu\text{r/hr}$ ) and peak values of 15  $\mu\text{R/hr}$  were recorded.

The area is underlain by steeply dipping sandstone and siltstone of the Murphy Metamorphics. At the south end of the area an east-west trending set of quartz veins is found, with associated silicification of the sediments and minor development of jasper. The highest values recorded in the survey were found where unsilicified sediments were exposed through a cover of silicious scree.

A sample taken from the peak of the anomaly assayed 4 ppm  $\text{U}_3\text{O}_8$ .

No further work is recommended on this anomaly.

### 6.3 Anomaly 2B

A scintillometer survey along six north-south grid lines, each 1,000 feet long separated by 200 feet and with stations 50 feet apart was completed. Background value of 3-5  $\mu\text{R/hr}$  were recorded. An area, approximately 700 feet by 300 feet was found to record 6-9  $\mu\text{R/hr}$ . These higher record-

### 3. RECOMMENDATIONS

As no significant uranium mineralization was intersected at Anomaly 30 no further drilling is recommended.

No further work is recommended for the other radiometric anomalies investigated in the field this season.



4. REGIONAL GEOLOGY

Basement rocks in the area consist of Lower Proterozoic schists, slates and gneisses of the Murphy Metamorphics, which have been intruded by the Nicholson Granite. These basement rocks are exposed in an east-west trending block, the Murphy Tectonic Ridge, which separates the McArthur Basin to the north and west from the South Nicholson Basin to the south.

The regional stratigraphic sequence is as follows:

Lower Cretaceous  
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Lower Cambrian  
UNCONFORMITY

South Nicholson Basin

McArthur Basin

Upper Proterozoic

South Nicholson Group

- Mittiebah Sandstone
- Mullera Formation
- Constance Sandstone
- Wallis Siltstone Member
- Pandanus Siltstone Member

UNCONFORMITY

Lower Proterozoic

Fickling Beds

UNCONFORMITY

Lower Proterozoic

Karns Dolomite

UNCONFORMITY

Tawallah Group

- Fish River Formation
- Masterton Formation
- Gold Creek Volcanic Member
- Wollogorang Formation
- Settlement Creek Volcanics
- Aquarium Formation
- Sly Creek Sandstone
- McDermott Formation
- Peter's Creek Volcanics
- Carolina Sandstone Member
- Westmoreland Conglomerate

- Peter's Creek Volcanics
- Carolina Sandstone Member
- Westmoreland Conglomerate

UNCONFORMITY

UNCONFORMITY

## Rocks of the Murphy Tectonic Ridge

Norris Granite  
Cliffdale Volcanics  
Nicholson Granite  
Murphy Metamorphics

In the eastern part of the area the basement rocks are overlain by an acid volcanic sequence, the Cliffdale Volcanics, which defines the base of the Carpentarian System. The Cliffdale Volcanics act as host rock to uranium mineralization at the Eva Mine and to copper mineralization at Norris Copper.

The Norris Granite intrudes both basement rocks and the Cliffdale Volcanics, and is associated with the introduction of minor tin and tungsten mineralization.

The Tawallah Group overlies this sequence, a section of dominantly shallow water sediments and volcanics, with volcanics prominent near the base, being deposited in the McArthur Basin. Only the basal Westmoreland Conglomerate and the Peter's Creek Volcanics are exposed in the South Nicholson Basin. These crop out only on the northern rim of the basin, and are overlain by the Fish River Formation of Carpentarian Age, which has a sequence of feldspathic and quartzose sandstones with some basic and intermediate volcanics.

The McArthur Basin is a shallow elongate basin, with low angle bedding dips near the centre of the basin. Local steep dips are found along the northern margin of the Murphy Tectonic Ridge. The basin is cut by the north-west to south-east trending Calvert Fault.

The Westmoreland Conglomerates, and the Peter's Creek Volcanics act as host rocks for uranium mineralization. Mineralization has been found in fault zones in the Westmoreland Conglomerate associated with sheared basic rocks. In the Peter's Creek Volcanics mineralization is found in shear zones and volcanic plugs. Low grade uranium mineralization has also been found in a tuff bed at the base of the Peter's Creek Volcanics.

Copper mineralization occurs in the Gold Creek Member of the Masterton Formation where it is localized in collapse breccia pipes, formed during the late stages of the extrusive activity.

The Tawallah Group is succeeded by further Carpentarian sedimentation, the McArthur Group, represented by the Karns dolomite in the McArthur Basin and by the Fickling Beds in the South Nicholson Basin.

These formations mark the upper limit of Carpentarian deposition in the area. Minor copper, lead and manganese mineralization has been recorded in the Karns Dolomite. During the Adelaiddian period, deposition occurred only in the South Nicholson Basin where a succession of shallow water sediments was deposited. The basal formation, the Constance Sandstone unconformably overlies the Fickling Beds. The Constance Sandstone has two siltstone members, the basal Pandanus Siltstone Member which crops out in the northern part of the basin, and the Wallis Siltstone Member. Both of these members are dominantly micaceous siltstone with minor fine sandstones, and glauconitic siltstones occur in the Wallis Siltstone. The Constance sandstone is a medium grained sandstone with very minor interbedded siltstone. The overlying Mullera Formation is made up of micaceous siltstone, shale, quartz, sandstone, glauconitic sandstone and ferruginous sediments. This formation is overlain by the Mittiebah Sandstone, which consists of quartzose and feldspathic sandstones.

This Adelaiddian sequence was followed by the Lower to Middle Cambrian Bukalara Sandstone, which was deposited as a thin extensive sheet over much of the South Nicholson and McArthur Basin.

Subsequent deposition is not recorded in the area until the Lower to Middle Cretaceous, when a sequence of claystones, siltstones, sandstones and conglomerate were deposited over the area. Post Cretaceous weathering, lateritization, erosion and redeposition has given rise to Cainozoic alluvials, laterite, soil, and sand cover.

## 5. ANOMALY 30 DRILLING PROGRAMME

Geological descriptions and recommendations for drilling Anomaly 30 are contained in earlier reports of McManus, Taylor and Charles (1971) and Taylor and Charles (1971). The programme in 1972 consisted of seven vertical rotary-percussion holes totalling 1,375 feet.

### 5.1 Location and Access

This radiometric anomaly lies in sandy and silty metasediments of the Murphy Metamorphics approximately 46 miles west-south-west of the Eva Mine.

Access to the area, was gained by cleaning the existing track as far as Tin Hole Creek, via the northern branch of Fish River gorge and the "Murphy Expressway", and thence by 31 miles of newly constructed track.

All cleaning and track construction was carried out by a bulldozer under contract from Mack Bros. of Mount Isa. Prior to bulldozing, the track was pioneer surveyed for grades and flagged.

### 5.2 Drilling and Sampling

Drilling was carried out by Mitchell Drilling Contractors of Brisbane, with a Mayhew 1000 rig, mounted on a Foden tandem drive truck. Drilling commenced at Anomaly 30 on the 21st October and was completed on the 27th October.

Table 1 lists the hole number, locations and lengths.

Bulk samples were taken over 5 foot intervals. Each was split and a 2 lb. sample was submitted for assay, while a 2 lb. duplicate sample was retained for submission to the Mines Branch, N. T. Administration.

All samples were assayed for uranium by fluorometric analysis by Geochemical and Mineralogical Laboratories (N. T.) Pty. Ltd. Darwin.

Lithological and gamma spectrometer logs were recorded in a low background area near the site.

TABLE 1

<u>Hole No.</u>	<u>Co-ordinates</u>	<u>Total Depth</u>
PDAN30-1	900 NE 150 SE	200 ft.
PDAN30-2	1300 NE 325 SE	200 ft.
PDAN30-3	1100 NE 100 SE	200 ft.
PDAN30-4	1400 NE 175 SE	200 ft.
PDAN30-5	1600 NE 300 SE	200 ft.
PDAN30-6	1000 NE 175 SE	200 ft.
PDAN30-7	700 NE 200 SE	175 ft.
	<u>Total</u>	<u>1, 375 ft.</u>

### 5.3 Results of Drilling Programme

A plan and sections of the drill holes are shown on Plate 3, Anomaly 30 Radiometric Contours, Percussion Drill Hole Location and Plate 4, Anomaly 30 Percussion Drill Hole Sections.

All holes passed through a varying succession of sandy siltstones, siltstones and shales with minor chlorite shales and phyllites. Iron content of these rocks is highly variable and silicification and quartz veining is common. No intersections of economic significance were encountered. The maximum uranium assay obtained was 0.32 lbs.  $U_3O_8$ / short ton.

The assay results (Appendix 1 and Plate 4) show that weak uranium mineralization was intersected in three of the holes. The results of the best drill sample assays are summarized in Table 2.

TABLE 2

Summary of Best Uranium Values Intersected in  
Rotary-Percussion Drill Holes

Hole No.	Sample Inter- section	Assay ppm $U_3O_8$	Total inter- section width	Average Over Total Intersection	
				ppm $U_3O_8$	lbs/ton $U_3O_8$
1.	20- 25	80	5'	80	0.16
	110-115	125	10'	115	0.23
	115-120	105			
	140-145	97	15'	114	0.23
	145-150	120			
150-155	125				
3.	10- 15	70	25'	107	0.21
	15- 20	110			
	20- 25	110			
	25- 30	160			
	30- 35	85			
	135-140	100	5'	100	0.20
6.	25- 30	91	5'	91	0.18
	90- 95	100	15'	87	0.17
	95-100	52			
	100-105	110			
	180-185	90	5'	90	0.18

It is noted that the weak mineralization in PDAN30-1, and -6 are in haematitic sandy siltstone. This is possibly the unweathered equivalent of the "brownish, altered, ferruginous earthy rock" or the "ferruginous silty sandy rock with incipient pinkish silicification" described by McManus, Taylor and Charles (1971) as

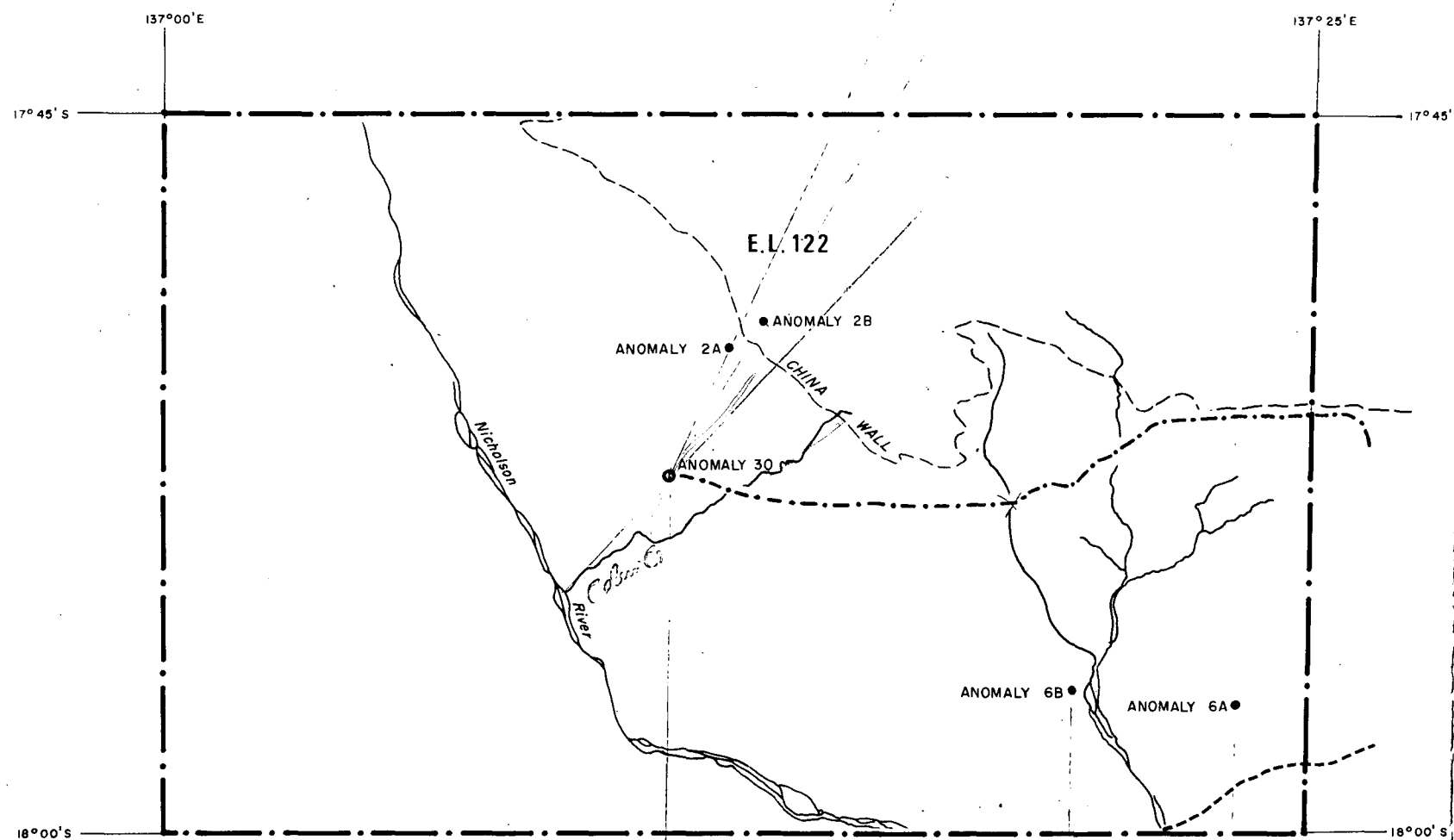
being the rocks associated with the surface anomaly.

The weak intersection in PDAN30-3 occurs in haematitic shale. Haematitic alteration has apparently been associated with the weak uranium mineralization.

Four Mineral Leases, each of 40 acres, and known as:

Anomaly 30-1	ML 354C
Anomaly 30-2	ML 355C
Anomaly 30-3	ML 353C
Anomaly 30-4	ML 352C

have been pegged and are under application.



REFERENCE MAP: CALVERT HILLS - GEOLOGICAL SERIES - Scale 1:250,000  
 PLATE 2

**NORANDA AUSTRALIA LTD.**

EXPLORATION LICENCE N° 122  
 PANDANUS CREEK  
 Northern Territory

**LOCATION MAP of FIELD ACTIVITIES-1972**

SCALE  
 1:250,000

DATE: Feb. 1973	MAPPED: G. J. Pietsch	DRAWN: N.S.
APPROVED: M. Foy	DRAWING N° 415-C-510	



ings were associated with a zone where the upper 4 to 8 inches of exposed sandstone of the Westmoreland Conglomerate has been ferruginized. Two samples were taken. The first in a sample taken from the peak of the radiometric anomaly, was below the limit of detection of the method used i. e., less than 1 ppm  $U_3O_8$ . A second sample taken from a quartz vein in an otherwise barren shear zone, assayed 8 ppm  $U_3O_8$ .

No further work is recommended.

#### 6.4 Anomaly 6A

A scintillometer survey along six north-south grid lines, 3,500 feet long each separated by 200 feet, with stations every 50 feet was completed.

Two weakly anomalous areas were outlined, a broad irregularly shaped area in the north having peak values of 12  $\mu R/hr.$  and a narrow elongate area in the south, having peak values of 15  $\mu R/hr.$  The peak values occur in each case over ferruginous micaceous fine grained sandstone and siltstone of the Wallis Siltstone Member. Background values of 5-7  $\mu R/hr$  were recorded over Constance Sandstone outcrop and rubble. Two samples were taken, one from the station of highest scintillometer reading from each anomalous area. Both samples assayed 3 ppm  $U_3O_8$ .

The anomaly appears to be due to contrast between low background Constance Sandstone and high background Wallis Siltstone Member sediments.

No further work is recommended.

#### 6.5 Anomaly 6B

A scintillometer survey along twelve lines averaging 1,500 feet in length, each separated by 200 feet, with stations every 50 feet was completed.

Two short spectrometer traverses totalling 1,150 feet were completed.

Scintillometer values of 5-9  $\mu\text{R/hr}$  were found over Constance Sandstone rubble and alluvium, and values of 9-18  $\mu\text{R/hr}$  were found over Wallis Siltstone haematitic micaceous fine-grained sandstone and siltstone outcrop and rubble. Spectrometer traverses revealed only one station showing a small positive uranium contribution.

Three samples taken assayed 4, 1 and 2 ppm  $\text{U}_{38}^{\text{O}}$ .

The anomaly appears to be due to contrast between low background Constance Sandstone and higher background Wallis Creek Siltstone sediments.

No further work is recommended.

7. STATEMENT OF EXPENDITURE

Expenditure on the area the subject of Exploration Licence  
No. 122 for the year ended December 31, 1972 was :-

Geology	4,233
Geophysics	1,650
Geochemistry	1,250
Drilling	6,888
General	3,324
	<u>17,345</u>

\$

APPENDIX 1

Rotary Percussion Drill Logs  
Anomaly 30

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## DRILL RECORD

From	To	Sample Length	Recovery %	Sample No.	Assays			Geological Log	Angle to core	Survey			Notes				
					U	3	Th			Depth	Bearing	Inclination	T1	T2	T3	T4	
PCPD					ppm	ppm											
0	5	5		781	31		Light brown weathered siltstone.										60 11 6 2
5	10	5		782	29		As above										60 10 5 1.5
10	15	5		783	35		As above										64 11 5 1.5
15	20	5		784	21		As above										66 11 4 2
20	25	5		785	80		As above										80 14 7 2
25	30	5		786	20		Red-brown siltstone with minor quartz veining										64 11 5 2.5
30	35	5		787	18		As above										60 12 55 2
35	40	5		788	20		As above										58 12 4 2
40	45	5		789	16		As above										54 10 4 1.5
45	50	5		790	21		As above										66 12 4 1.5
50	55	5		791	21		As above										60 10 35 1.5
55	60	5		792	18		As above										58 10 5 2
60	65	5		793	15		Red-brown siltstone with minor quartz veining plus red sandy siltstone										58 10 4 1.5
65	70	5		794	30		As above										60 10 5 1.5
70	75	5		795	26		Red sandy siltstone										62 10 4 2
75	80	5		796	25		As above										60 12 6 1.5
80	85	5		797	34		As above										60 12 5 2
85	90	5		798	25		Red-brown siltstone with minor quartz veining										60 11 5 1.5
90	95	5		799	27		As above										65 12 7 2
95	100	5		800	25		As above										68 11 4 1.5
100	105	5		801	19		As above										60 12 5 1.5
105	110	5		802	62		Red-brown siltstone with minor quartz veining										70 12 5 2
110	115	5		803	125		Red sandy siltstone										85 14 8 2
115	120	5		804	105		As above										85 12 6 2
120	125	5		805	58		As above										80 13 7 2
125	130	5		806	37		Dark green and red shale										75 13 6 2
130	135	5		807	39		As above										65 12 5 2
135	140	5		808	58		As above										70 12 6 1.5
140	145	5		809	97		Red sandy siltstone										75 12 6 1.5
145	150	5		810	120		As above										80 12 7 1.5
150	155	5		811	125		As above										87 14 6 2.5
155	160	5		812	37		As above										65 12 6 2
160	165	5		813	18		As above										58 9 4 1.5
165	170	5		814	11		As above										55 9 5 2
170	175	5		815	19		As above										60 10 45 2
175	180	5		816	29		As above										58 10 5 1.5
180	185	5		817	14		As above										56 10 4 1.5
185	190	5		818	13		As above										50 6 3 1.5
190	195	5		819	12		As above										50 6 4 1.5
195	200	5		820	16		As above										55 9 5 2
							End of Hole										Background reading 45 8 5 1.5

Drilled by Mitchell Drilling Type of Drilling Rotary/Percussion Hole Size        % Recovery        Surveyed by        Instrument Used         
Date Started 22 October 1972 Date Completed 22 October, 1972 Logged by D.C. Tucker Sampled By D.C. Tucker Record Completed        M.P. Foy MFF  
No. of Hole 1 Location Pandanus Creek Anomaly 30 Depth of Hole 200' Co-ords. of Collar 900NE, 150 SE. Bearing        Inclination Vertical.



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## DRILL RECORD

From	To	Sample Length	Recovery		Sample No.	Assays				Geological Log	Angle to core	Survey			Notes								
				%		U <sub>3</sub> O <sub>8</sub>	Th							Depth	Bearing	Inclination	T1	T2	T3	T4			
					PCPD	ppm	ppm																
0	5	5			861	33				Pale brown weathered sandy siltstone								58	11	4	1.5		
5	10	5			862	26				Red brown weathered siltstone								65	12	5	1.5		
10	15	5			863	70				As above								85	13	6	1.5		
15	20	5			864	110				As above plus red haematitic shale								88	15	7	1.5		
20	25	5			865	110				Haematitic shale								84	14	6	1.5		
25	30	5			866	160				As above								110	16	8	1.5		
30	35	5			867	85				As above plus siltstone								75	13	7	1.5		
35	40	5			868	43				As above								65	9	45	1.5		
40	45	5			869	48				As above								60	8	5	1.5		
45	50	5			870	45				As above								60	11	5	1.5		
50	55	5			871	48				As above								62	11	5	2		
55	60	5			872	43				As above								56	10	4	2		
60	65	5			873	41				As above								60	10	4	1.5		
65	70	5			874	13				Red brown silicified siltstone with quartz bands								44	7	3	2.5		
70	75	5			875	13				As above								44	7	4	1.5		
75	80	5			876	19				As above								48	7	4	1.5		
80	85	5			877	13				Chloritic phyllite and minor silicified siltstone								48	7	3	1.5		
85	90	5			878	11				As above and dark grey friable sandy siltstone								45	7	4	1.5		
90	95	5			879	20				Chloritic phyllite and sandy siltstone								46	7	35	1.5		
95	100	5			880	18				Chloritic phyllite and silicified haematitic siltstone								46	8	4	1.5		
100	105	5			881	45				As above								54	8	5	1.5		
105	110	5			882	16				As above								42	4	35	1		
110	115	5			883	10				As above								42	7	4	1.5		
115	120	5			884	6				Jasperoidal siltstone								46	6	4	2		
120	125	5			885	7				As above								46	8	4	1.5		
125	130	5			886	18				As above								54	8	4	1.5		
130	135	5			887	37				As above								60	11	45	1.5		
135	140	5			888	100				As above								82	14	6	2		
140	145	5			889	47				As above								60	10	5	2		
145	150	5			890	16				As above								42	7	3	1.5		
150	155	5			891	7				As above plus dark grey silicified siltstone								45	7	3	1.5		
155	160	5			892	6				As above								45	8	4	1.5		
160	165	5			893	6				As above								42	7	3	1		
165	170	5			894	13				Mostly dark grey green silicified siltstone minor jasperoidal siltstone								40	6	3	1.5		
170	175	5			895	6				As above								42	6	3	1.5		
175	180	5			896	-				As above								45	7	35	1.5		
180	185	5			897	-				As above								45	7	3	1.5		
185	190	5			898	8				As above								42	7	4	2		
190	195	5			899	-				As above								45	7	35	1.5		
195	200	5			900	-				As above								40	6	3	1		
																End of Hole				Background reading			
																				46 7 35 1.5			

Drilled by Mitchell Drilling Type of Drilling Rotary/Percussion Hole Size - % Recovery - Surveyed by - Instrument Used -  
 Date Started 25 October 1972 Date Completed 25 October, 1972 Logged by D.C. TUCKER Sampled By D.C. TUCKER Record Completed M.F. FOY  
 No. of Hole 3 Location Pandanus Creek Anomaly 30 Depth of Hole 200' Co-ords. of Collar 110 NE, 100 SE Bearing - Inclination Vertical

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## DRILL RECORD

From	To	Sample Length	Recovery		Sample No.	Assays				Geological Log	Angle to core	Survey			Notes						
				%		U <sub>3</sub> O <sub>8</sub> ppm	Th ppm							Depth	Bearing	Inclination	T1	T2	T3	T4	
0	5	5			901	6				Light brown weathered sandy siltstone							48	7	3	15	
5	10	5			902	6				As above							46	7	4	15	
10	15	5			903	7				As above							48	7	25	15	
15	20	5			904	8				As above							50	7	3	15	
20	25	5			905	9				As above							50	9	5	15	
25	30	5			906	12				As above							45	7	35	15	
30	35	5			907	12				Haematitic sandy siltstone							46	8	35	15	
35	40	5			908	7				As above							46	7.5	4	15	
40	45	5			909	17				As above							44	7	4	15	
45	50	5			910	12				Light brown silicified siltstone							42	6	3	15	
50	55	5			911	43				As above							50	8	4	15	
55	60	5			912	40				As above plus haematitic sandy siltstone							38	5	3	15	
60	65	5			913	51				As above							55	8	4	15	
65	70	5			914	42				Red-brown haematitic quartz veined silicified siltstone							52	8	5	15	
70	75	5			915	23				As above							50	7	35	15	
75	80	5			916	12				As above							42	7	3	15	
80	85	5			917	20				As above							44	8	4	15	
85	90	5			918	14				Chloritic phyllite and minor jasperoidal siltstone							46	7	35	2	
90	95	5			919	9				Haematitic mudstone							42	6	4	15	
95	100	5			920	7				Dark green, black and jasperoidal banded siltstone							42	6	3	15	
100	105	5			921	9				Banded dark green, black and jasperoidal siltstone							46	8	4	15	
105	110	5			922	10				As above							48	8	4	15	
110	115	5			923	25				As above							50	8	35	2	
115	120	5			924	5				As above							45	8	35	2	
120	125	5			925	4				As above							46	7	35	15	
125	130	5			926	3				As above plus sandy siltstone							42	8	4	2	
130	135	5			927	4				As above							44	7	4	2	
135	140	5			928	5				As above							45	6	4	2	
140	145	5			929	3				As above							45	6	3	2	
145	150	5			930	4				As above							45	7	25	2	
150	155	5			931	2				As above							43	6	3	15	
155	160	5			932	3				As above							42	6	3	15	
160	165	5			933	3				As above							46	6	3	2	
165	170	5			934	3				As above							44	7	35	2	
170	175	5			935	3				As above							42	7	5	2	
175	180	5			936	2				As above							45	7	35	2	
180	185	5			937	4				Dark green-black silicified sandy siltstone							42	6	3	2	
185	190	5			938	16				As above							40	7	35	2	
190	195	5			939	3				As above							45	7	25	2	
195	200	5			940	3				As above							44	7	4	2	
										End of Hole							Background reading	38	6	3	15

Drilled by Mitchell Drilling Type of Drilling Rotary/Percussion Hole Size \_\_\_\_\_ % Recovery \_\_\_\_\_ Surveyed by \_\_\_\_\_ Instrument Used \_\_\_\_\_  
 Date Started 25 October, 1972 Date Completed 26 October, 1972 Logged by D.C. Tucker Sampled By D.C. Tucker Record Completed M.F. Foy  
 No. of Hole 4 Location Pandanus Creek - Anomaly 30 Depth of Hole 200' Co-ords. of Collar 1400 NE, 175 SE Bearing \_\_\_\_\_ Inclination Vertical





## DRILL RECORD

From	To	Sample Length	Recovery		Sample No.	Assays				Geological Log	Angle to core	Survey			Notes									
			%			U <sub>3</sub> O <sub>8</sub>	Th							Depth	Bearing	Inclination	T1	T2	T3	T4				
					PCPD	ppm	ppm																	
0	5	5			981	22				Light Brown weathered siltstone							70	13	5	2				
5	10	5			982	29				Red brown siltstone							72	13	5	2				
10	15	5			983	22				As above							74	13	6	2				
15	20	5			984	14				As above							70	12	6	2				
20	25	5			985	12				As above							62	11	5	2				
25	30	5			986	91				Red brown siltstone and black sandy siltstone							80	15	7	2				
30	35	5			987	17				Red brown siltstone							68	13	5	1.5				
35	40	5			988	16				As above							60	12	5	1.5				
40	45	5			989	37				As above							70	12	6	2				
45	50	5			990	17				As above							64	13	6	2				
50	55	5			991	14				As above							68	11	5	1.5				
55	60	5			992	30				Haematitic sandy siltstone							72	14	5	2.5				
60	65	5			993	15				As above							70	12	5	1.5				
65	70	5			994	19				As above							70	12	5	2				
70	75	5			995	4				Red brown siltstone							70	12	5	1.5				
75	80	5			996	16				As above							64	10	6	1.5				
80	85	5			997	14				As above							64	12	6	2				
85	90	5			998	19				Red brown siltstone and haematitic sandy siltstone							72	12	6	2				
90	95	5			999	100				Haematitic sandy siltstone							105	15	7	2				
95	100	5			1000	52				As above							75	12	5	1.5				
100	105	5			1001	110				As above							80	13	6	2				
105	110	5			1002	16				As above							60	11	5	2				
110	115	5			1003	17				As above							68	12	4	1.5				
115	120	5			1004	14				As above							62	11	5	2				
120	125	5			1005	13				As above							64	11	5	2				
125	130	5			1006	14				As above							60	11	5	2				
130	135	5			1007	54				As above							75	13	6	2				
135	140	5			1008	42				As above							66	11	4.5	1.5				
140	145	5			1009	15				As above							62	11	5	2				
145	150	5			1010	5				As above							60	10	5	1.5				
150	155	5			1011	52				As above							68	11	5	2				
155	160	5			1012	17				As above							60	10	5	2				
160	165	5			1013	77				As above							68	13	5	2				
165	170	5			1014	48				Haematitic sandy siltstone and light brown and black banded siltstone							70	11	5	2				
170	175	5			1015	32				Red-black sandy siltstone							68	10	5	2				
175	180	5			1016	18				As above							62	10	6	2				
180	185	5			1017	90				As above							88	15	7	2				
185	190	5			1018	20				As above							60	12	6	1.5				
190	195	5			1019	44				As above							70	12	5	2				
195	200	5			1020	28				As above							70	13	5	2				
										End of Hole							Background Reading				52	8	4.5	1.5

Drilled by Mitchell Drilling Type of Drilling Rotary/Percussion Hole Size - % Recovery - Surveyed by - Instrument Used -  
 Date Started 26 October, 1972 Date Completed 26 October, 1972 Logged by D.C. TUCKER Sampled By D.C. TUCKER Record Completed M.F. FOY  
 No. of Hole 6 Location Pandanus Creek Anomaly 30 Depth of Hole 200' Co-ords. of Collar 1000 NE, 175 SE Bearing - Inclination Vertical

NORANDA

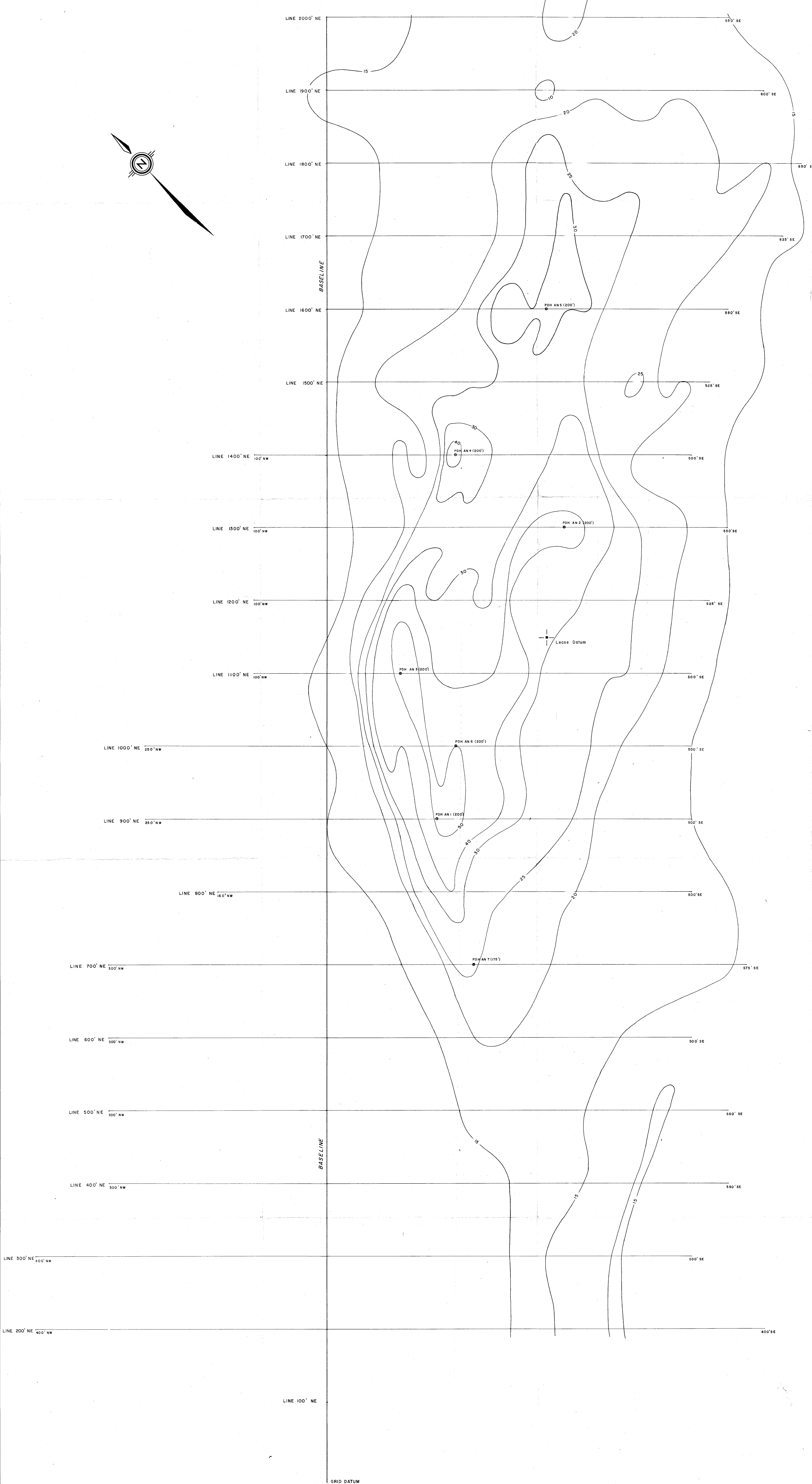
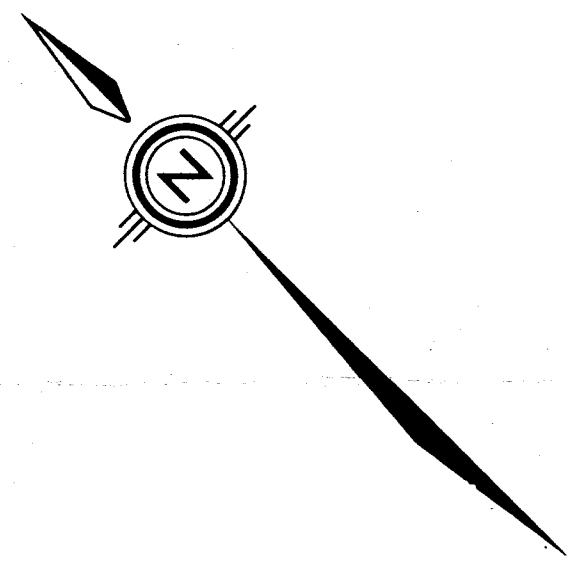
AUSTRALIA

LIMITED

## DRILL RECORD

From	To	Sample Length	Recovery	Sample No.	Assays				Geological Log	Angle to core	Survey			Notes					
					U <sub>3</sub> O <sub>8</sub>	Th					Depth	Bearing	Inclination	T1	T2	T3	T4		
				PCPD	ppm	ppm													
0	5	5		1021	13				Light brown weathered shale						60	12	5	2	
5	10	5		1022	12				As above						60	11	5	2.5	
10	15	5		1023	11				As above						64	11	6	2.5	
15	20	5		1024	9				As above						62	11	5	2	
20	25	5		1025	8				Light brown weathered shale, chlorite in hairline fractures						64	12	6	2.5	
25	30	5		1026	11				As above						64	12	6	1.5	
30	35	5		1027	10				As above						68	12	5	2.5	
35	40	5		1028	12				As above						66	12	5	2	
40	45	5		1029	10				As above						64	12	5	2.5	
45	50	5		1030	13				As above with fine quartz veining						66	12	6	2.5	
50	55	5		1031	10				Light brown weathered chloritic shale						64	12	5	2	
55	60	5		1032	9				As above						66	12	6	2.5	
60	65	5		1033	9				As above						68	12	6	2	
65	70	5		1034	8				As above						70	13	6	2	
70	75	5		1035	11				Red brown chloritic shale						68	12	7	2	
75	80	5		1036	7				As above						64	12	6	2	
80	85	5		1037	8				As above						70	13	5	2.5	
85	90	5		1038	14				As above						72	13	5	2.5	
90	95	5		1039	12				Red brown chloritic shale with quartz veining						72	12	6	2	
95	100	5		1040	13				As above						72	12	5	2	
100	105	5		1041	10				As above						72	12	6	2	
105	110	5		1042	11				As above						70	12	6	2	
110	115	5		1043	7				As above						68	12	6	2	
115	120	5		1044	5				As above						66	12	5	2	
120	125	5		1045	6				As above						66	12	5	2	
125	130	5		1046	6				As above						70	12	5	2	
130	135	5		1047	9				Haematitic sandy siltstone						68	12	4	2.5	
135	140	5		1048	23				As above						70	13	5	2	
140	145	5		1049	19				As above						68	12	5	2	
145	150	5		1050	19				As above						76	14	6	2	
150	155	5		1051	12				Light brown chloritic shale						68	11	6	2	
155	160	5		1052	-				Dark red brown silicified siltstone						68	12	5	2	
160	165	5		1053	7				As above						68	12	5	2	
165	170	5		1054	17				As above						65	10	5	2	
170	175	5		1055	-				As above						80	13	7	2	
									End of Hole						Background reading	52	8	4	15

Drilled by Mitchell Drilling Type of Drilling Rotary/Percussion Hole Size - % Recovery - Surveyed by - Instrument Used -  
 Date Started 27 October, 1972 Date Completed 27 October, 1972 Logged by D.C. TUCKER Sampled By D.C. TUCKER Record Completed M.F. FOY  
 No. of Hole 7 Location Pandanus Creek Anomaly 30 Depth of Hole 200' Co-ords. of Collar 700 NE, 200 SE Bearing - Inclination Vertical



**LEGEND**  
 ○ Vertical Rotary Percussion Drill Holes  
 ⊕ Lease datum peg

Reference map: United Uranium - Airborne Radiometrics Anomaly 30 - August 1971

PLATE 3

**NORANDA AUSTRALIA LTD.** CX13/87

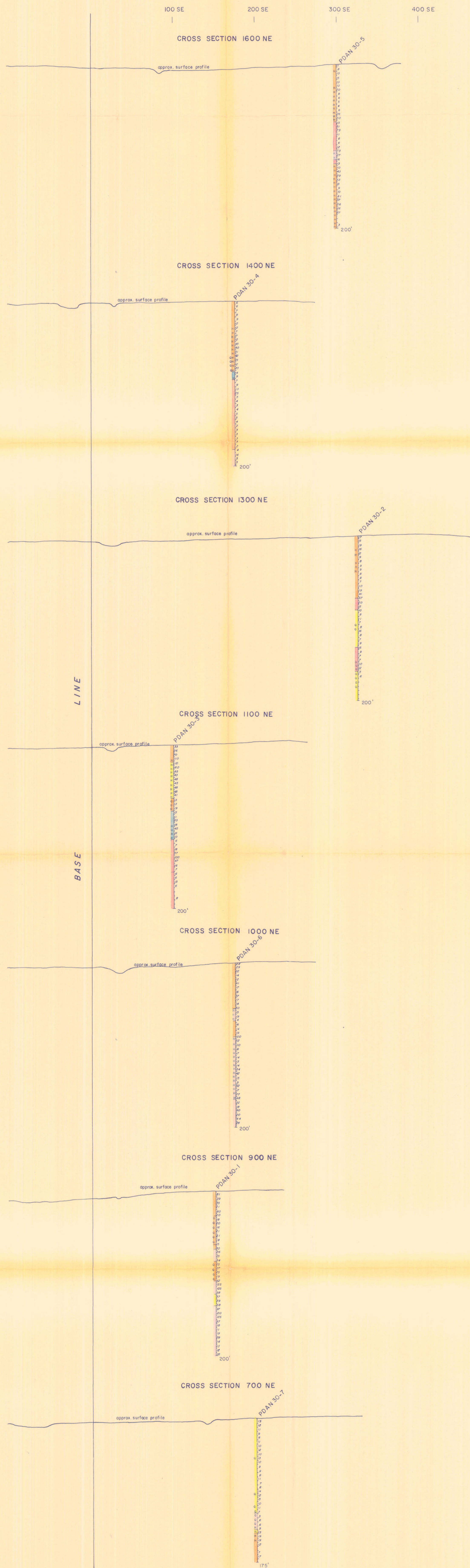
EXPLORATION LICENCE N° 122  
 PANDANUS CREEK  
 Northern Territory  
**ANOMALY 30**  
 Radiometric Contours and Rotary Percussion Drill Hole Positions

FEET 0 25 50 75 100 125 150

DATE: Jan. 1973 DRAWN: S. M.

APPROVED: M. Foy DRAWING N°: 415 / G / 501





SENE  
SE NE

**LEGEND**

- Siltstone / Mudstone
- Sandy Siltstone
- Jasperoidal Siltstone
- Shale partly Chertic
- Phyllite
- Q Quartz veins
- H Hematite

Assay results PPM U<sub>2</sub>O<sub>8</sub>

PLATE 4

<b>NORANDA AUSTRALIA LTD.</b>		
EXPLORATION LICENCE N° 122 PANDANUS CREEK Northern Territory <b>ANOMALY 30</b> Rotary Percussion Drill Hole Sections		
DATE: Jan. 1973	GEOLOGY: D.C. Tucker	DRAWN: S.M.
APPROVED: M. Fay	DRAWING N° 415/C/502	