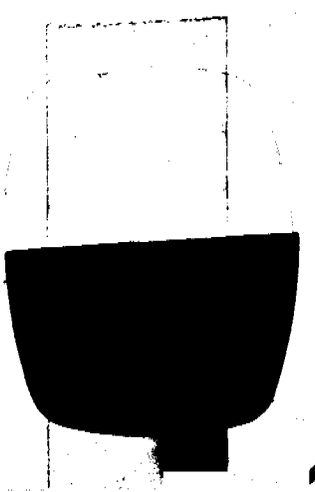
FINAL REPORT
EL. 3127

Otter Exploration NL.

C.Kojan, April'83

OPEN FILE

CR83/112



R 83/112

CONTENTS PAGE NO.

APPENDICES: Drill Logs,(Lithological and Gamma), Analytical Data

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LIST OF FIGURES

INTRODUCTION

Exploration Licence 3127 also known as "Mt. Peake Bore", was granted to Otter Exploration N.L. on November 23rd 1981. A surrender notice was submitted to the N.T. Department of Mines in late 1982 and surrender became effective December 7th 1982.

The Licence was located on Coniston Pastoral Lease northwest of Alice Springs in an area drained by Ingallan Creek, a tributary of the Lander River. The Licence and the adjoining ELs. 1445, 2228 and 3076 were originally considered to have good potential for calcrete type uranium mineralisation. Secondary uranium mineralisation (carnotite) was discovered in a dam excavation in EL 2228 in 1980.

Work undertaken on the Licence has consisted of shallow percussion drilling (11 holes) and vehicle and ground scintillometer traverses. The radon gas results for this area date from 1979 when the area formed part of EL 1445. The 2 airborne radiometric anomalies date from the 1977 survey.

No significant radiometric anomalies were encountered from the drillhole logging. Granite was encountered in all drillholes and showed no evidence of kaolinisation. Anomalous calcrete (180-200cps) was encountered both east and west of the main creek near drillhole CT1 and this may indicate trace amounts of secondary uranium mineralisation. However results from nearby drillhole CT1 are discouraging. Detailed scintillometer traversing confirmed the location of the anomaly but no extensions or other significant anomalies were discovered. The anomalous readings obtained elsewhere (150-160 cps) are due to river alluvium.

No indications of significant uranium or other mineralisation were obtained and the Licence has been relinquished.

Total expenditure for the Licence amounted to $8,540.

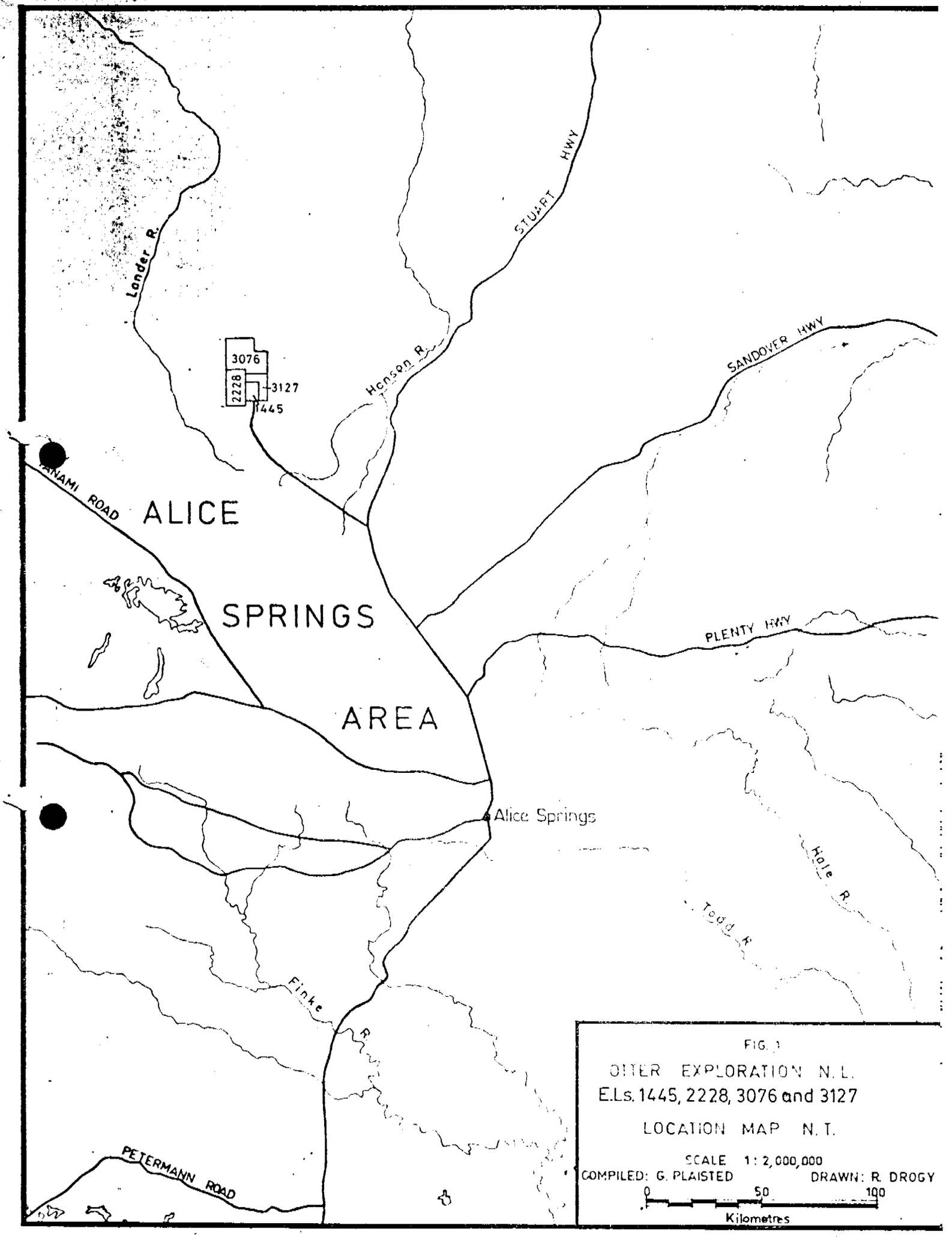


FIG. 1

OTTER EXPLORATION N.L.

E.Ls. 1445, 2228, 3076 and 3127

LOCATION MAP N.T.

SCALE 1 : 2,000,000

COMPILED: G. PLAISTED DRAWN: R. DROGY

0 50 100

Kilometres

LOCATION (Refer Fig. 1)

Exploration Licence 3127 is located approximately 260 kilometres by road, northwest of Alice Springs. Access is via the Stuart Highway to the turnoff leading to Pinehill and Coniston stations. This track is followed as far as Lander Bore from where a turnoff leads to Nintabrinna and Mt. Peake bores.

GEOLOGY (Refer to Fig. 2 and the drill logs)

The Licence is situated in the northern part of the Arunta block, between the Anmitjira Range and the Ennugan Mountains.

According to Stewart (1981), the Ennugan Mountains granite (Pgp) outcrops in the southern part of the Licence area, along the eastern side of the Ingallan Creek. No mapping was undertaken in this area though granite outcrops were encountered on line 6A. approximately 750 metres east of Ingallan Creek, in the course of the 1980 drilling program on EL 1445. Granite outcrops were noted between holes CT6 and CT7 in the western licence area in the course of the 1981 drilling program.

The drilling evidence indicates that most of the northern Licence area is underlain by granite, which is generally covered by calcrete deposits approximately 4 metres thick. The calcrete is in turn generally covered by river sand and windblown sand, ('red earth').

WORK UNDERTAKEN AND RESULTS (Refer to Fig. 2)

This has consisted of a drilling program, undertaken in 1981 and a detailed ground scintillometer survey, undertaken in 1982.

The drilling program formed part of a major reconnaissance program, designed to test for further occurrences of secondary uranium mineralisation of Anzac Dam type - Anzac Dam is located approximately 2.5km west of the Licence, in EL. 2228.

The ground scintillometer survey was designed to test for extensions to the anomalous calcrete, discovered on line 6A near hole CT1. Also 2 airborne radiometric anomalies, 'A' and 'B', from the 1977 survey, plot in this area.

THE DRILLING PROGRAM (Refer to Fig. 2 and drill logs)

11 holes were drilled in El. 3127 for a total 'footage' of 128 metres. Target depth was 16 metres but this was reduced where unweathered bedrock, (granite) was encountered. Drill cuttings were taken for each 2 metre increment and geology logs were compiled. Seven of the holes were logged using a S.E T-450 gamma logging unit, and chart records were obtained. These drill logs are appended.

Best gamma results were obtained from holes CT. 2,3,4, and 20. In general the best peaks occur at a depth of 4 metres in the calcrete horizon. The peaks were not considered of sufficient magnitude (maximum 105 cps) to warrant analysis of the corresponding drill cuttings. A sample of water from hole CT3 was submitted for analysis. Values of 375 ppb uranium and 0.1 ppm vanadium were obtained.

GROUND SCINTILLOMETER SURVEY (Refer to Fig. 2)

Readings were taken on the ground at intervals of 200 metres, along 3 parallel lines spaced 600 metres apart. Geology was noted at each site.

Silicified calcrete had previously been noted on line 6A, west of Ingallan Creek, and an anomalous scintillometer reading of 200 cps had been obtained from this outcrop.

A calcrete outcrop was located on the east bank in the course of the 1982 survey. Readings ranged from 130 cps on the calcrete outcrop to 180 cps on sand or sandy ?calcrete, situated between the outcrop and the creek bank.

No other calcrete outcrops were encountered on this survey. Sand and clay (red earth?) cover most of the survey area and are slightly anomalous. Sand along the creek banks is more noticeably anomalous with readings of 150-160 cps. Granite outcrops upstream, to the south, and most of the sand is presumably derived from this source.

CONCLUSIONS AND RECOMMENDATIONS

Secondary uranium mineralisation (carnotite) was discovered in 1980 at Anzac Dam, 2½ km west of the licence. Adjacent areas of ELs. 2228, 1445 and 3127 were considered to have good potential for this type of mineralisation.

A shallow drilling program was carried out in 1981 over these prospective areas. 11 holes were drilled in EL 3127. Several of these holes showed small gamma anomalies within a calcrete horizon developed on granite bedrock. The anomalies were of insufficient magnitude to justify analysis of the drill cuttings.

A reconnaissance ground and vehicle scintillometer survey was undertaken over prospective areas of ELs. 1445, 2228 and 3127, in early 1981. This survey resulted in the discovery of several discrete anomalies, including one located on the western bank of Ingallan Creek on line 6A. The anomaly is due to an outcrop of silicified calcrete. Best reading was 200 cps. Subsequently this anomaly was tested by drilling (hole CT1) with disappointing results.

However it was decided that a detailed ground scintillometer survey of the area surrounding the anomalous calcrete was warranted, bearing in mind that 2 airborne uranium channel anomalies (1977 survey), also plot in this area. Thus recent ground survey resulted in the discovery of a second anomalous calcrete outcrop, located on the eastern bank of the creek. Readings were relatively low ranging from 130-180 cps. Several other anomalous readings (150-160 cps) were obtained on creek banks, and are thought to relate to granite derived sand.

No further work is justified and a notice of surrender was accordingly lodged with the Mines Department in late 1982. Surrender became effective December 7th, 1982.

EXPENDITURE DETAILS EL. 3127 November 1981 - March 1983

Salaries	1,700
Meals and Accommodation	300
Drilling (Contract)	3,500
Dozing (Contract)	500
Field Travel	500
Field Office	100
Telephone	100
Air Travel	400
Field Supplies	300
Maps and Drafting	300
	7,700
Supervision and Administration	1,540
TOTAL	$8,540

REFERENCES

KOJAN, C.J. (1983)	Final Report EL. 1445 (Copy lodged with N.T. Department of Mines)
KOJAN, C.J. (1982)	Final Report EL. 2228 (Copy lodged with N.T. Department of Mines)
STEWART, A.J. (1981)	1:100,000 scale Geological Map Reynolds Range Region with commentary, AGPS Canberra

APPENDICES

Drill Logs

3727

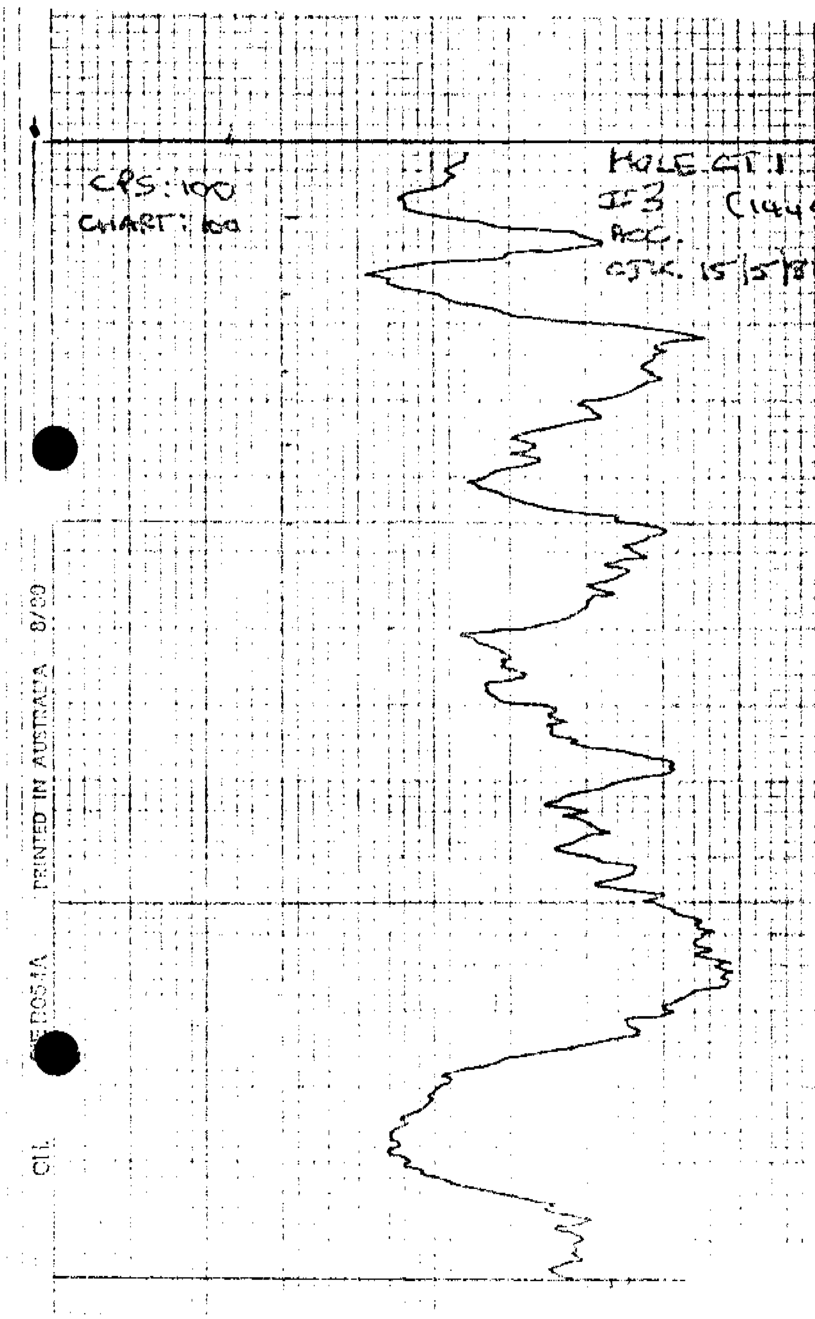
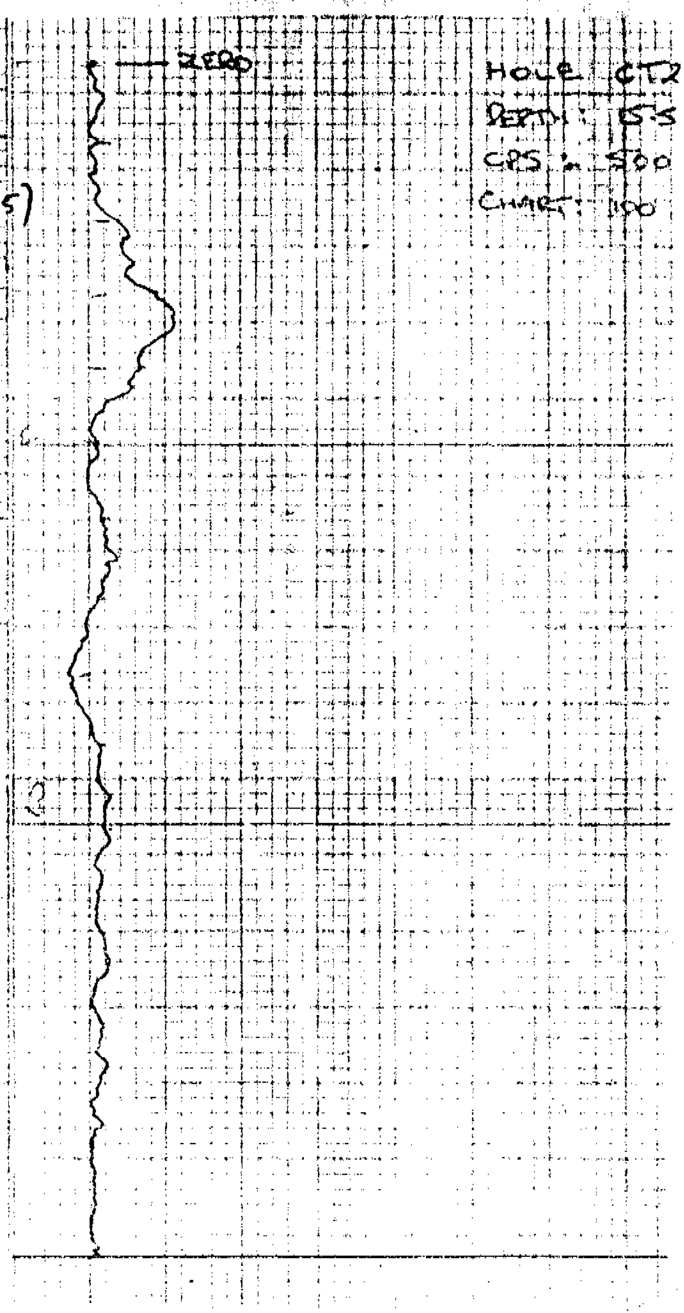
HOLE No CT ①(1445) DEPTH 16M
GRID COORDS 78+800N (ON ROAD)
STARTED : 14/5/81 FINISHED : 14/5/81
GAMMA LOG DEPTH 14.7m
DRILLING CO: HICKEY DRILLERS
LOGGED: CJK.

SAMPLE NOS	DEPTH (inches)	INTERVAL	COLOUR	LITH	NOTES
38001/02	0-2	2	brn	cc70 sd30 SAND/	CALC.
38003/04	2-4	2	"	cc90sd10 CALC.	microcrys carb ? sparry qtz frags.
38005/06	4-6	2	lt gy/br	cc100 CALC	powdery. occ. frags. sparry carbonate
38007/08	6-8	2	pa gy	cc cly sd ?	CALCRETED LEACHED GRANITE ?
38009/10	8-10	2	gy	cc 10 cly sd 70	mica. sst deriv. erosion granite? (Pet w 2)
38011/12	10-12	2	gy	" "	" " — PROBABLY LEACHED GRANITE
38013/14	12-14	2	gy	" "	" "
38015/16	14-16	2	Kh.	cly 70 gr / cly 30	WEATH GRAN.

GAMMA - high background
80-90 cps.
Calcrete + weath. Gran.

WATER SAMPLE - muddy.
PH 7.

WATER TABLE NEAR BOTTOM HOLE (16M)
VERY LITTLE FLOW


HOLE CT.1
CPS: 100
CHART: 100

ZERO
HOLE CT2
CPS: 500
CHART: 100

3127

HOLE NO CT(2) (~~4445~~) DEPTH: 16metres
GRID (WORDS): 7B (on board)
STARTED 15/5/81 FINISHED: 15/5/81
GAMMALOG DEPTH 15.5m

LOGGED: CJK.

SAMPLE NOS	DEPTH	COLOUR	LITH.	
38017/18	0-2	rd.	sd 100	
38019/20	2-4	ta.	sd50 cc50	
21/22	4-6	cr	cc90 gr frags 10	
23/24	6-8	pl.gy	cc50 gr weath. 50	} LT WEATH gran. frags.
25/26	8-10	pl.gy	gr 90 cc 10	
27/28	10-12	plgy/bf.	gr.100	
29/30	12-14	bf	gr100	"
30/32	14-16	bf	gr.100	

WATER SAMPLE - only slightly turgid
pH 7
WAT. RES ZR 97
WATER TABLE - 12M.

NOTES

GAMMA PEAK 3-4m 110 cps

CALCRETED GRANITE

WET
"

9.10.

HOLE NO CT(3) (3:27)

GRID COORDS : 7A +6E

STARTED : 15/5 FINISHED 15/5/81 DEPTH: 16m

GAMMA DEPTH : 15.5m

LOGGED : CTK

SAMPLE NOS	DEPTH	COLOUR	LITH
33/34	0-2	r br.	St
35/36	2-4	bf	cc 100
37/38	4-6	bgy	cc 100
39/40	6-8	pl. gy	cc 100
41/42	8-10	md gy	cc 100
43/44	10-12	"	"
45/46	12-14	"	"
47/48	14-16	"	"

frags: fg. calcreted sst? gran? — GAMMA ANOMALY. 90-100 cps. (4-6m)

WET } high GAMMA ~90 cps. LEACHED GRANITE

WATER SAMPLE Sl. turbid

pH 7

WATER TABLE — 12M

NOTES

HAND LENS EXAMINATION

CHART N
ZERO
HOLE CT3 (1445)
CPS: 500
CHART: 100
DEPTH: 15.5M
ZERO
HOLE CT4
CPS: 100
DEPTH: 14

HOLE NO. CT(4) (3127 / 1445)
GRID COORDS 7A + 5E   DEPTH: 16m.
STARTED: 15/5   FINISHED: 15/5/81.
GAMMA DEPTH: 14.6m
LOGGED CTK

SAMPLE NOS	DEPTH	COLOUR	LITH
38049/50	0-2	r.	sd.
38101/102	2-4	ta.	cc
103/104	4-6	wh/g.y.	cc
105/106	6-8	bge.	calcreted gran.
107/108	8-10	bf	weath. gran.
109/110	10-12	bf	"
112/113	12-14	dkgy.	gran.
114/115	14-16	"	"

WATER SAMPLE: sl turgid

PH 7

WATER TABLE 14M

HAND LENS EXAMINATION

NOTES

GAMMA: PEAK 90 cps at 4m.
- calcrete.

GNEISS

HOLE NO CT (5) (3127) DEPTH 10m

GRID COORDS: 7N + 4E

STARTED 15/5 FINISHED: 15/5/81

NO GAMMA LOG

LOGGED: CJK.

SAMPLE NOS	DEPTH	[illegible]	[illegible]	NOTES
38116/117	0.2	r.	sd.	
118/119.	2.4	fd/f	cc	
120/121	4.6	of	cc/ragr.	
122/123.	6.8	gg.	gren.	Sl. weath.
124/125	8.10.	gg	gren.	

ABOVE WATER TABLE AT 10M.

HOLE NO CT (6) (3127)

GRID COORDS : 7A + 3E

STARTED : 15/5 FINISHED: 15/5

NO GAMMA LOG DEPTH : 4M

LOGGED: CTK

SAMPLE NO	DEPTH	COLOUR	LITH.
38126/127	0-2	dk.gy/ta	mixed cc + fresh dk.gy gran. frags.
128/129	2-4		

HOLE NO CT (7)

GRID COORDS 7A + 2.500E

STARTED: 15/5 FINISHED : 15/5/81

NO GAMMA LOG DEPTH: 2m

SAMPLE	DEPTH	COLOUR	LITH.
38130/131	0-2	r + gy.	fresh gran. frags.

HAND LENS EXAMINATION

GRANITE COARSE GRAINED

NON-SCHISTOSE

HOLE NO GT (19) (~~Hill 5~~) 3:27 DEPTH: 4m

GRID COORDS: 6B:15E

STARTED: 16/5/81

NO GAMMA LOG

SAMPLES	DEPTH	COL	LITH
38260/61	0-2	rd	sd.
62/63	2-4	ta	cc + weath. gneiss

HOLE NO CT (20)

GRID COORDS: 6B:4E DEPTH: 14 M

STARTED: 16/5/81 FINISHED: 16/5/81

GAMMA LOG: 11.9m

SAMPLES	DEPTH	COL &	LITH
38264/65	0-2	rd.	sd.
66/67	2-4	cr.	cc.
68/69	4-6	bf	cc cementing chert
70/71	6-8	bgc	"
72/73	8-10	pl gy	weath gneiss, part, banded
74/75	10-12	gy.	" "
76/77	12-14	dk gy	gr. unweath.

WATERTABLE 12M?

HAND LENS EXAMINATION

GAMMA PEAKS

at 2-3 m (80 cps)

and 5m (100 cps)

SCHISTOSE GRANITE?

GRANITE COARSE GRAINED

NON-SCHISTOSE

3.27

HOLE NO CT (21) 3127 (~~4445~~) DEPTH: 16m

GRID COORDS: GB [illegible]

STARTED: 16/5/81 FINISHED: 16/5/81

GAMMA LOG: 15.3m

SAMPLES	DEPTH	DESCRIPTION	
38278/79	0-2	rd.	
38280/81	2-4	ta	cc
82/83	4-6	bf	cc
84/85	6-8	up gy	cc cementing chert
86/87	8-10	Gr gy	Siltstone..
88/89	10-12	"	"
90/91	12-14	"	Siltstone
92/93	14-16	brown	Siltstone . minor biotite

WATER TABLE 14M?

HAND LENS EXAMINATION

SLIGHT GAMMA (70 cps) at 3m) PEAK.

PROBABLY LEACHED AND CALCRETED GRANITE

LEACHED AND CALCRETED GRANITE

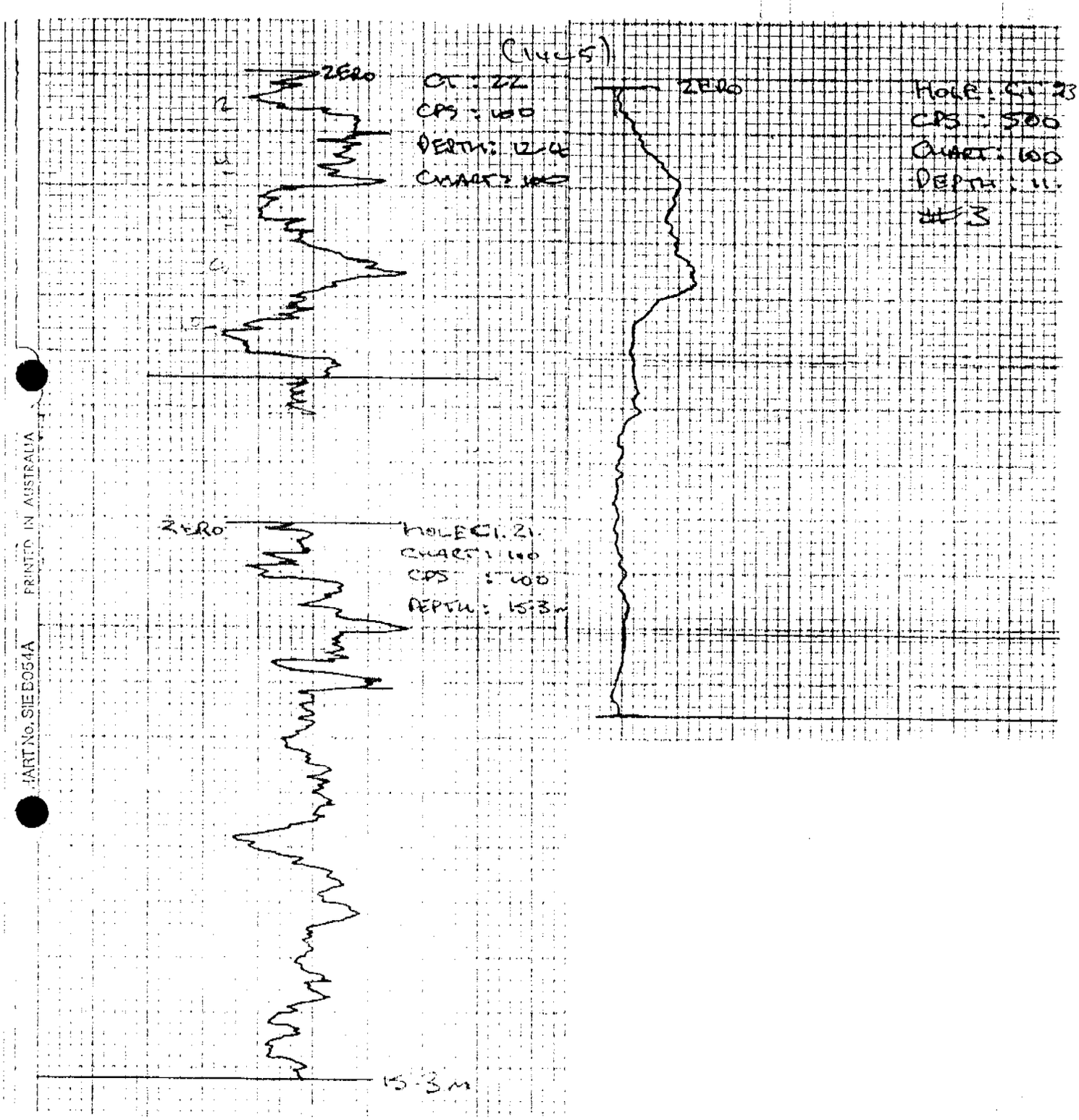


CHART No. SIE 0054A PRINTED IN AUSTRALIA

3(2)

HOLE No CT. (22) (14145) DEPTH 14m.

GRID COORDS GB + GE

STARTED: 16/5/81 FINISHED: 16/5/81

GAMMA LOG: 12.4m

SAMPLES	DEPTH	COLOUR	LITH
38294/95	0-2	ycl.	sd.
96/97	2-4	tg	sdy [illegible] (sand grains - cemented)
98/99.	4-6	cr-gy	"
38300/38051	6-8	a gy	cc [illegible] + hard porcell. var. (calcreted gran?) mudst + cc
38052/53	8-10	bt	[illegible] containing [illegible] also sand grns cemented. gran frags.
54/55	10-12	bt	mudst / [illegible] gran
56/57	12-14	dkgy.	gran.

DRY?

HAND LENS EXAMINATION

SLIGHT GAMMA PEAKS 60 cps 2-4m + 8m

BLEACHED AND CALCRETED GRANITE.

Analytical Data

ANALYTICAL RESULTS

PHONE: 272 5733

Samples from: Otter Exploration N.L.

Area:

Samples of: Waters

Preparation:

Batch No.: A 4090

Sheet No.: 4

Date: 19.6.81

SAMPLES WILL BE DISPOSED OF AFTER TWO MONTHS UNLESS WE ARE OTHERWISE ADVISED

Sample Description	U ppb	V ppm
CT 3	375	0.1
9	400	<0.1
15	760	<0.1
28	180	<0.1
29	365	<0.1
44	150	0.1
53	140	<0.1
54	450	<0.1
55	490	0.2
61	280	0.1
CT 63	300	0.1

ANALYTICAL METHODS: U determined by Fluorimetry. V determined by Colorimetry.

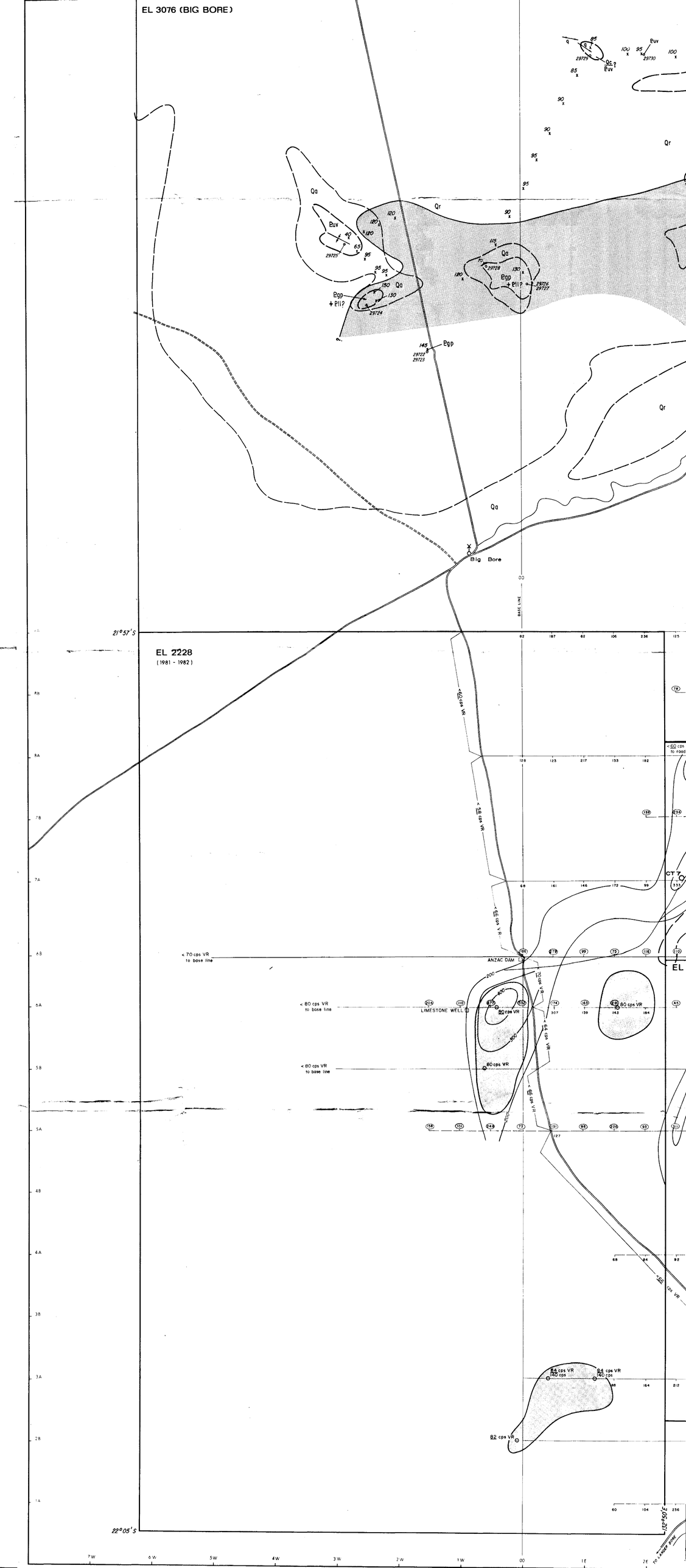
NATA

E.L. 1445 & E.L. 2228. 1981 PROGRAMME

Drill Hole No.	Water Analysis Uppb	Vppm	Grid Coords	Map Sheet	Depth Metres	Date Drilled	Est. Yield Gallons/Hr
CT3	375	0.1		5454	12.0	15.5.81	tr.
CT9*	400	< 0.1		5454	4.0	15.5.81	
CT15*	760	< 0.1		5454	14.0	16.5.81	
CT28*	180	< 0.1	760650	5453	22.0	17.5.81	
CT29	365	< 0.1	780650	5453	12.0	17.5.81	tr.
CT44	150	0.1	770640	5453	14.0	19.5.81	tr.
CT53	140	< 0.1	770620	5453	24.0	20.5.81	tr.
' 4	450	< 0.1	790610	5453	n.d.	20.5.81	tr.
CT55	490	0.2	780610	5453	14.0	20.5.81	tr.
CT61	280	0.1	770580	5453	n.d.	21.5.81	tr.
CT63	300	0.1	780580	5453	24.0	21.5.81	tr.

* Located E.L. 2228

n.d. = not determined


EL 3076 (BIG BORE)
Qa
Qr
Euv
Egp
+ Pli?
Big Bore
BASE LINE
21°57'S
22°05'S
EL 2228
(1981 - 1982)
< 70 cps VR to base line
< 80 cps VR to base line
< 80 cps VR to base line
< 60 cps VR
< 58 cps VR
< 55 cps VR
< 70 cps VR
< 65 cps VR
< 55 cps VR
< 60 cps to road
80 cps VR
ANZAC DAM
LIMESTONE WELL
84 cps VR
140 cps
82 cps VR
CT 7
EL
7W
6W
5W
4W
3W
2W
1W
00
1E
2E

(BIG BORE)

GEOLOGY REFERENCE
(EL.s 3076 AND 3127)

CAINOZOIC	QUATERNARY	ALLUVIUM	Qa
		COLLUVIUM	Qc
		RED EARTH	Qr
		~~CALCRETE~~ AND SILCRETE	Ql
PRECAMBRIAN	ADELAIDEAN	QUARTZITE	Puv
	CARPENTARIAN	GRANITE, MICROGRANITE AND PORPHRY	Pgp
		SLATE, GNEISS AND RESHEARED GNEISS	Pll?

INFERRED GEOLOGICAL BOUNDARY

QUARTZ VEIN

STRIKE AND DIP

SYNCLINE

SAMPLE DATA POINT °29726

GEOPHYSICS AND GENERAL REFERENCE
(ELs 1445, 2228 3076 AND 3127)

Radiometric reading taken from ground (March 1982 – BGS-ISL Scintillometer) ..... x 120

Track etch sample point & value (March Survey 1982) ..... 112 x

Track etch sample point & value (September Survey 1979) 677

Track etch sample point & value (June Survey 1979) .....

Radiometric Anomaly (March 1981) ..... ○
Reading taken in vehicle ..... 90 cps VR
Reading taken from ground ..... 160 cps

Track etch contour line ..... —200—

Track etch grid line .....

Dozed grid line .....

Areas of radiometric anomalism (high background) ground / vehicle scintillometer survey (threshold at 74 cps VR (110GR) BGS-ISL .....

Track .....

Bore with windpump .....

Well or dam ..... □

Exploration licence boundary .....

Creek .....

Note: Contours drawn on September Survey Track Etch data in preference to June Survey data (less reliable)

Rotary Percussion Drill Hole ..... CT 1

Airborne Uranium Anomaly (1977 Survey) ..... A

EL 3127 (MT PEAKE BORE)

EL 1445 (Part A) (1981 - 1982)

Big Bore

Mt Peake Bore (abandoned)

LIMESTONE WELL □

ANZAC DAM

NINTABRINNA BORE

TO LANDER BORE

TO WHITE TREE BORE

21°53'S

21°58'S

132°50'E

T.N.

M.N.

Scale 1:25000

0 200 400 600 800 1000 1500 2000
Scale in Metres

CR 83/112 FIG. 2

OTTER EXPLORATION N.L.
ELs 1445, 2228, 3076 AND 3127

GEOLOGY OF BIG BORE & MT PEAKE BORE
TRACK ETCH &
GROUND / VEHICLE SCINTILLOMETER
SURVEYS

MT. PEAKE BORE ; BIG BORE ;
LIMESTONE WELL ; WHITE TREE BORE

COMPILED BY G.P. DEC 1981 AND C.J.K 1982