ANNUAL REPORT

FOR

E.L. 1855

NORTHERN TERRITORY

(2.10.1978 - 1.10.1979)

1. SUMMARY

The exploration programme on E.L. 1855 consisted of drilling, with seven rotary/mud holes completed, for a total of 1073 metres.

The drilling encountered a thick Tertiary overburden sequence, in excess of 160m. A new stratigraphic unit, informally named the Rib Bone Beds, and consisting of lignitic and carbonaceous clay and sand, with lignite seams, was intersected at the base of the Tertiary section.

Mt. Eclipse Sandstone was intersected in drill holes in the northern half of the E.L., as a thin blanket deposit, with evidence of a very gradual thickening of the section, to the northeast.

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LIST OF PLANS ACCOMPANYING REPORT

Plan No.	Title	Scale
1855-5	Siddeley Range and Yanduch Bore Drill Hole Location and Mt. Eclipse Sandstone Isopach Map.	1:100,000

2. INTRODUCTION

E.L. 1855 was granted to AGIP on October 2, 1978, for one year. The E.L. area was taken up to allow exploration aimed at determining the nature and extent of the Mt. Eclipse Sandstone in the southern section of the central part of the Ngalia Basin, and to evaluate the potential of the formation for hosting economic uranium deposits. The Mt. Eclipse Sandstone is the only formation within the Ngalia Basin known to contain significant uranium mineralization.

The Mt. Eclipse Sandstone does not crop out within the E.L. area. The only rocks exposed within the E.L. area are those of the Quaternary and Upper Tertiary sedimentary sequences and of the Precambrian Adelaidean Vaughan Springs Quartzite. Thus AGIP's exploration programme has been, and will continue to be, largely comprised of stratigraphic drilling.

2.1 Location, Access and Topography

E.L. 1855 (Yanduch Bore) is located approximately 270 km by road northwest of Alice Springs and is reached by travelling 20 km north, along the Stuart Highway, from Alice Springs, then 180 km along the unsealed Yuendumu Beef Road and then from the Mount Wedge turn-off, for a further 70 km, along station tracks.

Access within the E.L. is by means of station tracks and bulldozed and graded access lines. During 1979, 20 km of new access roads were cleared as part of AGIP's exploration programme.

The topography is generally flat to very gently undulating, formed by aeolian and fluvial sand plains, with occasional calcrete ridges and clay pan depressions in the southern part of the E.L. Towards the southeastern corner of the E.L. the topography is dominated by the dip-slopes of outcrops of the Vaughan Springs Quartzite.

2.2 Climate, Water Supply and Hydrology

The climate in the E.L. 1855 area is semi-arid continental, with an average annual rainfall of approximately 300mm. Rainfall is irregularly distributed throughout the year but tends mainly to fall in the period November-March.

Temperatures commonly exceed 40^{o}C during the summer months and frosts can be expected from April-August.

Water in the area is obtained from shallow bores sunk on calcrete ridges. The water quality is generally good, and the supply originates from an aquifer of coarse-grained, unconsolidated sands which underlie the calcrete at a depth in the order of 14m.

It is very probable that large supplies of water, of moderate quality, are available from these Tertiary deposits.

2.3 Tenement Status

E.L. 1855 is a new area of exploration for AGIP in the Ngalia Basin, and was granted on October 2, 1978. The E.L. was initially granted for a period of 12 months, over an area of 221.2 sq. km. An application for renewal of the original E.L. area, in full, has been lodged with the Northern Territory Department of Mines and Energy.

3. PREVIOUS WORK

The area has been mapped by the BMR at a scale of 1:250,000 and is covered by the Mt. Doreen Sheet (Wells, 1972).

E.L. 454 "Currinya" covered the same area as the present E.L. 1855, and was held by Central Pacific Minerals N.L. for the purpose of investigating uranium mineralization in the Tertiary sequences (Henstridge, 1972 and 1973 a, b).

Within the E.L. 454 area, programmes of shallow trenching, auger drilling (677.2m) and rotary drilling (646m in 3 holes) were completed, on a section just south of the southern boundary of the present E.L. 1855 area. An additional hole, NGRH 41, tested to a depth of 252m, approximately 1 km south of Rib Bone Bore which falls within the present E.L. 1855 area. Central Pacific's work indicated extensive but very low-grade uranium mineralization, in calcrete horizons of the Tertiary section.

In 1978, the samples from Central Pacific's four rotary holes in the area, were re-logged and detailed lithological studies undertaken, by AGIP personnel.

AGIP have previously drill tested areas in close proximity to the eastern boundary of E.L. 1855, on parts of E.L. 1199 which have since been relinquished.

4. EXPLORATION ACTIVITIES

4.1 Drilling Operations

A total of 1073m was drilled in seven rotary/mud holes on E.L. 1855. The drilling was commenced on August 15 and completed on September 1, and was carried out by contractors Davies Drilling, of Kalgoorlie, using a Schramm KT43 rig.

The rig was plagued by mechanical problems in the early stages of the programme, although the only major delay experienced was with hole YB1R which was begun on August 15 and not completed until August 22. Excluding this hole, an acceptable rate of progress of 125m per day was maintained.

4.2 Geophysical Logging

A total of 813.4m was logged for natural gamma, and 747.7m for self-potential and resistivity responses. Geoex logged hole YB1R to a depth of 99.4m, under contract, using a Gearhart-Owen Model 3200 logging instrument. The remainder of the logging operations were carried out by AGIP personnel using the company's S.I.E. T450 instrument. Copies of analogs from the logging operations are contained in Appendix III.

4.3 Palynology

Six samples of lignitic material, from rotary drilling samples in holes YB4R, YB6R and YB7R, were sent to Dr. P.R. Evans, of the University of N.S.W., for examination of microfloral assemblages. The samples were mostly from the newly defined "Rib Bone Beds" and the palynological studies indicated a non-specific Cainozoic age for the unit. Results of the studies are contained in Appendix IV.

5. GEOLOGY

5.1 Regional Geology

E.L. 1855 is located in the central part of the Ngalia Basin, towards its southern margin. The Ngalia Basin was an east-west elongated, intracratonic depression that developed on the Lower-Middle Proterozoic Arunta Complex. Sedimentation in the Basin began with the deposition of the Vaughan Springs Quartzite during the Upper Proterozoic.

Marine and continental sedimentation continued into the Middle Palaeozoic, with the Mt. Eclipse Sandstone having been deposited in Upper Devonian-Lower Carboniferous times.

The Mt. Eclipse Sandstone consists of a synorogenic sequence, up to 4500m in thickness, of non-marine sandstone with some interbedded shale, deposited in piedmont and sub-aerial deltaic environments. The sandstone is arkosic, micaceous and petrologically immature, with a low degree of sorting apparent, and sub-angular to sub-rounded grains being dominant.

Two major orogenic events have affected sediments within the Basin. The first occurred after the deposition of the Ordovician Djagamara Formation, and uplifted the northern margin of the basin. This event resulted in a change from a restricted basin with a marine-type environment, to one with a continental environment of deposition, in which the Kerridy Sandstone and the Mt. Eclipse Sandstone accummulated.

The second major orogenic event in the Basin probably occurred during and after the deposition of the Mt. Eclipse Sandstone and was responsible for major folding, thrusting and faulting of the sequence.

Uplifts of crystalline basement occurred to the north of the Basin. These uplifted rocks appear to have been the main source of the sediments of the Mt. Eclipse Sandstone, which is the only unit in the Basin known to host significant uranium mineralization.

5.2 Geology of the E.L. Area

5.2.1 Stratigraphy and Structure

The stratigraphic units encountered by drilling within the E.L. 1855 area include a Cainozoic sequence in excess of 160m in thickness, underlain by the Upper Devonian-Lower Carboniferous Mt. Eclipse Sandstone, which in turn is unconformably underlain by the Proterozoic Mt. Doreen Formation and the Vaughan Springs Quartzite.

Cainozoic

The Cainozoic sequences have been divided into the following rock units:-

Qr	Red-brown and limey sandy soils.
Tc/Tg	Calcrete and massive gypsum.
Tgsc	Plastic clay; green-grey, sandy, frequently gypsiferous with a trace of charcoal. Usually interbedded with Tch.
Tch	Yellow to olive-grey and light brown, coarse to pebbly feldspathic sand.
Tbcs	Olive-grey and light brown to red, sandy clay to clayey sand.

Tlss	Deep red-brown lateritic sandstone.
Tga/Tcl	Massive crystalline gypsum; usually associated with grey clay (Tcl), often carbonaceous.
Trib	Pyritic, fine to medium-grained, lignitic brown to black sand; olive, dusky green and grey clay; lignitic clay and seams of lignite.

With the exception of the newly defined "Rib Bone Beds", the above nomenclature is well established from previous investigations of the Cainozoic sequences in the Ngalia Basin, by AGIP. The 1979 drilling programme on E.L. 1855 has indicated a basal sequence of the Tertiary section consisting of inter-bedded, pyritic, fine to medium-grained, lignitic, brown to black sand with olive, dusky green and grey clay, lignitic clay, and seams of lignite.

This unit has been tentatively and informally termed the "Rib Bone Beds" (shown in the abbreviated form "Trib" in the lithological logs). The unit was intersected in all holes drilled in the E.L. area during the year, with the exception of hole YB2R, and is best developed in the area of hole YB4R, where it exceeds 51m in thickness.

Palynological testing of spore and pollen material from lignitic samples of the "Rib Bone Beds" has indicated only a non-specific Cainozoic age (Ref. Appendix IV). During the course of this testing it became apparent that the lignitic seams of the "Rib Bone Beds" consist largely of clayey material to which amorphous humic matter is fixed.

The maximum depth to which the "Rib Bone Beds" have been tested, is 212m, in hole NGRH43 (Central Pacific hole, sited in E.L. 454). The sediments attain a thickness of approximately 112m in the area of this hole.

Palaeozoic

The only Palaeozoic unit encountered in the drill holes was represented by relatively thin sequences of the Mt. Eclipse Sandstone, which is classified on the basis of geochemical facies, as follows:-

Cs Silcrete.
Pzp Pallid zone Mt. Eclipse Sandstone, underlying Cs. Heavily kaolinised, with rare limonite.
Pro Red facies (oxidised). With limonite, haematite and kaolinite.
Prf Red facies (fresh). With haematite and feldspar.
Pto Transitional red to white facies (oxidised). With haematite, limonite, chlorite and kaolinite. Intercalated red (or red mottled) and reduzate facies.
Ptf Fresh transitional facies. With chlorite, haematite, pyrite, carbonaceous matter and feldspar.
Pwo White facies (oxidised). With kaolinite and limonite.
Pwf White reduzate facies (fresh). With pyrite, carbon and minor chlorite, and fresh feldspar.

The maximum thickness of Mt. Eclipse Sandstone drilled to date was 32m, in hole YB2R. The depth to the base of the unit in the four holes (YB2R, YB3R, YB5R and YB6R) in which it was intersected, ranged from 128 - 145.5m.

Proterozoic

The following formations, of probable Adelaidean age, have been intersected by drilling within E.L. 1855. The rocks either directly underlie the Tertiary sequences, or underlie the Mt. Eclipse Sandstone:-

Puq Mt. Doreen Formation. Represented in the E.L. area by black pyritic shale.

Puv' Treuer Member of the Vaughan Springs Quartzite. Represented by finely laminated mudstone, generally siliceous to highly cherty, with some interbedded chert. Pyritic in parts.

Puv Vaughan Springs Quartzite; very hard, grey quartzite.

Drill hole summaries and detailed logs are contained in Appendices I and II.

6. EXPENDITURE

A statement of expenditure on exploration activities in E.L. 1855 for the period October 1978 to September 1979, inclusive, is as follows:-

Personnel (Salaries & Wages)	$ 4,509
Purchases	436
Drilling and Logging	535
Road-building, Bulldozing	2,240
Miscellaneous	935
Alice Springs Office Costs (pro rata)	693
TOTAL	$ 9,348

7. REFERENCES

Bureau of Mineral Resources, 1972: Mt. Doreen, Northern Territory. 1:250,000 Geological Series. Bur. Min. Resour. Geol. Geophys. Aust., SF/52-12.

Henstridge, D.A., 1972: Preliminary Geological Report, E.L. 454, Currinya, N.T. Central Pacific Minerals N.L., Report No. NT-59.

Henstridge, D.A., 1973 (a): Auger Drilling Programme, Anomaly One, E.L. 454, Currinya, N.T. Central Pacific Minerals N.L., Report No. NT-68.

Henstridge, D.A., 1973 (b): Rotary Drilling Programme, E.L. 454, Currinya. Central Pacific Minerals N.L., Report No. NT-79.

Wells, A.T., 1972: Mt. Doreen - 1:250,000 Geological Series. Bur. Min. Resour. Geol. Geophys. Aust., Explan. Notes SF/52-12.

APPENDIX I

DRILL HOLE SUMMARIES

APPENDIX I DRILL HOLE SUMMARIES

More complete descriptive information is contained in the lithological logs (Ref. Appendix II).

Hole No. YB1R
Co-ordinates 4500N 92300E
Commenced 15.8.79 Completed 22.8.79
Total Depth 155m Probed Depth 99.4m
Summary Log

0-89	Tertiary calcrete, clay and sand.
89-97	Clay; kaolinitic, limonitic, cream to olive-green.
97-119	Sand; fine - medium-grained, limonitic, olive-grey. Rib Bone Beds, Trib.
119-155	Sand; fine - medium-grained, carbonaceous, lignitic, pyritic in parts; brown-grey. Rib Bone Beds, Trib.

Mineralization
None detected.

Hole No. YB2R
Co-ordinates 7950N 98500E
Commenced 23.8.79 Completed 24.8.79
Total Depth 169m Probed Depth 149m
Summary Log

0-97	Tertiary calcrete, clay and sand.
97-103	Kaolinitic clay. Pzp.
103-113	Sand; fine - medium, grey. Pwo-Pwf.
113-135	Sandstone; medium-grained, arkosic, micaceous, pyritic, with interbedded pale yellow-brown siltstone. Pto-Ptf.
135-169	Treuer Member. Puv'

Mineralization

Background (cps)	Peak (cps)	From - To (m)
35	96	8 - 9
30	94	106.5 - 107.5
30	90	118.5 - 119.0
40	97	138.5 - 139.0

Hole No. YB3R
Co-ordinates 8400N 77800E
Commenced 28.8.79 Completed 28.8.79
Total Depth 146m Probed Depth 143.5m
Summary Log

Surface-119	Tertiary calcrete, clay and sand.
119-133	Clay; grey olive - dusky green. Rib Bone Beds, Trib.
133-135	Black coaly clay to coal, pyritic. Rib Bone Beds, Trib.
135-144	Pzp-Pwo.
144-145.5	Sandstone; fine-grained, light grey, pyritic. Pwf.
145.5-146	Vaughan Springs Quartzite. Puv.

Mineralization
3 x background at 8.5m.

Hole No. YB4R
Co-ordinates 3600N 89500E
Commenced 29.8.79 Completed 29.8.79
Total Depth 161m Probed Depth 62.6m
Summary Log

Surface-110	Tertiary calcrete, clay and sand.
110-125	Clay; olive-grey. Rib Bone Beds, Trib.
125-134	Sand; medium, olive-brown. Rib Bone Beds, Trib.

134-149	Sand; clayey, with abundant coaly material. Rib Bone Beds, Trib.
149-161	Clay; silty, lignitic, with coaly seams. Rib Bone Beds, Trib.

Mineralization
None detected.

Hole No. YB5R
Co-ordinates 9200N 91200E
Commenced 30.8.79 Completed 30.8.79
Total Depth 131m Probed Depth 128.3m
Summary Log

Surface-104	Tertiary
104-121	Sandstone; fine - medium, limonitic, with silcrete and kaolinitic bands, pebbly. Pwo-Cs-Pzp.
121-128	Sandstone; fine - medium, greyish-red, with some interbedded siltstone. Prf.
128-131	Treuer Member. Puv'

Mineralization
None detected.

Hole No. YB6R
Co-ordinates 6000N 95700E
Commenced 31.8.79 Completed 31.8.79
Total Depth 142m Probed Depth 99.4m
Summary Log

Surface-94	Tertiary
94-99	Black lignitic clay to clayey lignite. Rib Bone Beds, Trib.
99-121	Clay; brownish-grey. Rib Bone Beds, Trib.

121-132	Sandstone; medium, greyish-pink. Pro.
132-142	Treuer Member. Puv'

Mineralization

None detected.

Hole No. YB7R

Co-ordinates 5600N 101150E

Commenced 31.8.79 Completed 1.9.79

Total Depth 169m Probed Depth 131.2m

Summary Log

Surface-103	Tertiary
103-120	Sand; fine - medium, dusky brown to black. Lignitic, pyritic. Rib Bone Beds, Trib.
120-169	Mt. Doreen Formation. Puq.

Mineralization

Background (cps)	Peak (cps)	Depth (m)
40	115	4
30	80	69
20	60	104

Hole No. NGRH41

Co-ordinates 5000N 85400E

Commenced 24.8.73 Completed 28.8.73

Total Depth 252m Probed Depth 252m

Summary Log

Surface-101	Tertiary calcrete, clay and sand.
101-119	Clay; olive-grey, very carbonaceous, minor black and reddish-brown shale. Rib Bone Beds, Trib.
119-252	Mt. Doreen Formation. Puq.

Hole No. NGRH42
Co-ordinates 47600N 77400E (Map SF52-12)
Commenced 29.8.73 Completed 1.9.73
Total Depth 221m Probed Depth 178m
Summary Log

Surface-112	Tertiary calcrete, clay and sand.
112-150	Clay; olive-green; calcite, minor carbon, trace lignite. Rib Bone Beds, Trib.
150-188	Shale; "multicoloured", minor lignite, pyrite. Rib Bone Beds, Trib.
188-221	Treuer Member. Puv'

Hole No. NGRH43
Co-ordinates 47600N 77700E (Map SF52-12)
Commenced 2.9.73 Completed 5.9.73
Total Depth 227m Probed Depth 227m
Summary Log

Surface-101	Tertiary calcrete, clay and sand.
101-148	Clay; light red, pale olive and olive-grey; rare carbon. Rib Bone Beds, Trib.
148-190	Shale; "multicoloured" and siltstone; sandy, lignitic in parts. Rib Bone Beds, Trib.
190-212	Sandstone; greyish, abundant coaly layers. Rib Bone Beds, Trib.
212-227	Treuer Member. Puv'

Hole No. NGRH44

Co-ordinates 47700N 78250E (Map SF52-12)

Commenced 6.9.73 Completed 8.9.73

Total Depth 198m Probed Depth 197m

Summary Log

Surface-86	Tertiary clay and sand.
86-107	Clay; yellow-green to greyish-green, with common carbonaceous clasts. Rib Bone Beds, Trib.
107-124	Clay; olive-black to greenish-grey; some carbon. Rib Bone Beds, Trib.
124-154	Sandstone; pyritic, lignitic. Rib Bone Beds, Trib.
154-198	Mt. Doreen Formation. Puq.

APPENDIX II

LITHOLOGICAL LOGS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YBIR TYPE Rotary Page: 1

Region NGALIA	Commenced 15/8/79	Machine Schramm KT4
Project YANDUCH BORE	Completed 22/8/79	Driller R. Irvine
Co-ord 4,500N; 92,300E	Total Depth 155 m	Probed by GEOEX.
Azimuth	Logged by P.G.S.	Operator M.H.
Inclination Vertical.	Sampled by B.S.	Probed depth 99 m
Elevation	Contractor DAVIES.	Scale 1:100

Casing	Scale (Depth)	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
					Qr						0-1 Red-brown soil.
					Tc						1-3 Calcrete.
					Tcss						3-5 Calcareous sand, white.
	5										
					Tc						5-11 Calcrete, grading to coarse sand, calcareous.
	10										
					Tch						11-15 Sand, medium feldspathic. Light yellow-brown, slightly clayey.
	15										
	20										

REMARKS

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YB 1R TYPE _____ Page: 2

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale (Depth)	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	25				Tgsc						15-59 Clay, plastic light olive-brown becoming light olive-green. very slightly sandy. Minor limonitic streaks. 27-37 whitish clay 37-43 slightly sandy, minor gypsum. 43-55 clay, minor gypsum, whitish clay bands. 55-59 large gypsum fragments plastic.
	30										
	35										
	40										

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB1R TYPE _____ Page: 3

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1Depth	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	45				Tgsc						
	50										
	55										
	60										

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB1R TYPE _____ Page: 4

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1/Depth	Bit	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	65				Tgsc						59-65 Clay, plastic olive-brown, gypsum. 63-65 white and clear gypsum.
	70										65-77 Clay, plastic light olive-brown to olive-green. Gypsum. 65-67 whitish clay. 69-77 large gypsum fragments
	75				Tbcs						77-81 Clay light olive-brown very minor soft white fragments (silcrete) Weathered.
	80										

REMARKS

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BOREHOLE No. YB 1R TYPE _____ Page: 5

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1/Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
					Tcl/Ta						81-87 Clay light brown limonitic, kaolinitic streaks. 85-87 minor silcrete.
	85										
					Ta/El						87-89 Clay, gypsum cream to light brown limonitic, kaolinitic. Very minor ferricrete,
	90										89-97 Clay highly kaolinitic, limonitic streaks. Cream to light olive-grey. very soft. 93-97 olive-green clay.
	95										97-155 Rib Bone Beds
					Trib						97-99 Sand, fine, clayey. olive-green to yellow. limonitic, haematitic streaks.
	100										99-101 Sand, fine, clean. white to olive-grey.

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB 1R TYPE _____ Page: 6

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1/Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
											limonitic streaks, red-brown fragments (clasts), olive-green clasts.
											101-103 "As above", clasts more common olive-grey to olive-yellow.
											103-111 Sand, fine clean, uniform. Minor limonitic streaks. Minor olive-green and red-brown clay fragments (clasts).
					Trib						111-119 Sand, medium-fine to fine. Light grey. limonitic streaks.

105 110 115 120

REMARKS

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BOREHOLE No. YB1R TYPE _____ Page: 7

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
											119-123 Sand medium-fine olive-grey. Uniform. Dark grey carbonaceous streaks.
	125										123-135 Sand, medium-fine. cream. pyrite, minor limonitic streaks. slightly feldspathic. 125-127 yellow-grey. slightly more limonitic.
	130				Trib						
	135										135-139 Sand, medium coal streaks. Mica (muscovite). 135-137 grey 137-139 grey-brown
	140										

REMARKS

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BOREHOLE No. YB1R TYPE _____ Page: 8

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
										139–141 Sand, medium-fine Dark brown, lignitic. muscovite.
										141–149 Sand, medium-fine brown-grey. Muscovite, slightly feldspathic, cream shale streaks. minor coaly streaks.
	145			Trib						
	150									149–155 Sand, medium-fine light grey, uniform coal fragments common. 151–153 limonitic and dark green fragments 153–155 chloritic fragments, slightly more clay (shale) fragments.
	155									End of hole at 155m.
	160									

REMARKS Hole stopped due to cave (running sands) over basal 6m.

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB2R TYPE Rotary Page: 1

Region NGALIA	Commenced 23/8/79	Machine Schramm KT4
Project YANDUCH BORE	Completed 24rd August	Driller R. Irvine
Co-ord 7,950 N; 98,600 E	Total Depth 169 m.	Probed by S.I.E.
Azimuth	Logged by P.G.S.	Operator B. McGlynn.
Inclination Vertical.	Sampled by B. McG.	Probed depth 149.0 m.
Elevation	Contractor DAVIES.	Scale 1:100

Casing	Scale (Depth)	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
					Qr						0-1 Red-brown soil.
											1-11 Calcrete, minor calcareous sand. light brown to olive-brown.
	5				Tc						
	10										
					Tch						11-13 Sand, kaolinitic, clayey. cream. minor calcrete.
											13-15 Sand, (medium) kaolinitic, clayey light olive-green.
	15				Tgsc						15-19 Clay, sandy, friable. olive-green slightly feldspathic-kaolin. charcoal streaks.
	20										

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB 2R TYPE _____ Page: 2

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1/Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	25				Tch						19-35 Sand, clayey, feldspathic medium-coarse light olive-green. 21-33 Kaolinitic, light olive-green to olive-brown 27-29 coarse 29-33 medium-coarse 33-35 very coarse.
	30										
	35				Tbcs						
	40										

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB2R TYPE _____ Page: 3

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1/Depth	Rec. Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	45			Tbcs						35-57 Sandy clay to clayey sand. coarse slight mica (muscovite) Olive-brown becoming light brown. 41-43 medium 43-47 brown, coarse to very coarse slightly feldspathic. 47-51 medium-fine olive-brown to light brown 51-53 coarse 53-57 medium-fine.
	50									
	55									
	60									

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB2R TYPE _____ Page: 4

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
					Tbcs						57-67 Sand, coarse, clayey slightly feldspathic. Mica (muscovite) light brown to slight red-brown.
	65										65-67 medium.
					Cs						67-71 Sand, coarse. Brown cream, silcrete (carbonate).
	70										
					Cs						71-73 Silcrete, carbonate.
					Tch						73-75 Sand, fine, Kaolinitic. Clay cream.
	75				Tch						75-77 Sand, medium to coarse Kaolinitic.
					Tbcs						77-79 Sand, medium - fine light brown, muscovite.
	80										

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB2R TYPE _____ Page: 5

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1/Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
											79-81 Clay, sandy light olive-brown. olive-green shale, Red sandy (micaceous) fragments.
											81-85 Clay light olive-green, kaolinitic haematitic streaks. 83-85 carbonaceous streaks.
	85										
					Tbcs / Tmls						85-91 Shale, olive-green Sand, fine, red, haematitic streaks. 89-91 fine red sand.
	90										
											91-93 Sand, fine, kaolinitic. clay, cream.
				Gy							
				Gy							93-97 Massive gypsum.
	95				Tga						
				Gy							
				Gy							
				Gy.							
											97-103 Clay - grey. Cream clay (shale).
					Tcl / Pzp						
	100										

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB2R TYPE _____ Page: 6

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale (Depth)	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
				K U	Pwo						103-105 Sand. fine-medium. grey. slight limenite, kaolin.
	105			Chl	Pwf						105-115 Sand, clay, medium. pyrite. olive-green clay fragments (clasts) 105-109 Quartzite fragments 111-115 Quartzite fragments.
	110			Chl							
	115			Chl							
	120										

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB2R TYPE Rotary, mud Page:

Region NGALIA BASIN Commenced 23rd August Machine Schram

Project Yanduch Bore E.L.1855 Completed 24th August. Driller R. Irvine

Co-ord Total Depth 169.0 m. Probed by

Azimuth Logged by G. Sparke Operator B. McGlynn

Inclination Vertical Sampled by B. McGlynn Probed depth 149.0

Elevation Contractor Davies Scale 1:100

Casing	Scale (Depth)	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	110										
	115			U k	Plo - Plf						113 – 135. Mt. Eclipse Sandstone. Medium grained arkosic, with cream-coloured kaolinized feldspar granules. Matrix is kaolinized. Contains muscovite mica, fresh pyrite, and minor limonitic staining. Quartz grains are sub-well rounded. Contains some interbedded siltstone, pale yellowish brown (10YR 6/2) in colour, and minor amounts of greyish green shale clasts (10 G 4/2). Transitional facies, "oxidized" to fresh.
	120										
	125			o k							125 – 135. Occasional quartzite pebbles.
	130			o							

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB 2R TYPE _____ Page: _____

Region _____	Commenced _____	Machine _____
Project _____	Completed _____	Driller _____
Co-ord _____	Total Depth _____	Probed by _____
Azimuth _____	Logged by _____	Operator _____
Inclination _____	Sampled by _____	Probed depth _____
Elevation _____	Contractor _____	Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	130				Pto - Ptf						
	135				Puv						135 - 169. Trewer Member. Mudstone varying from siliceous to highly cherty. Contains some interbedded chert. Finely banded in parts. Colour varies from light brownish grey (5YR 6/1) to a medium dark grey (N4). Pyritic from 155 - 169
	140										
	145										
	150										

REMARKS

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YB 2 R TYPE _____ Page: _____

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	150										
	155										
					Puv'						
	160										
	165										165-167. Abundant pyrite.
											End of hole at 169 m.

REMARKS Hole not cased. Colours mentioned in log generally refer to the Rock Color Chart published by the Geol. Soc. Am.

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB 3R TYPE Rotary Mud Page: 1

Region NGALIA BASIN
Project Yanduch Bore, EL 1855
Co-ord 8400 N, 77800 E
ie. 8km W. of Rib Bore Bore
Azimuth –
Inclination Vertical
Elevation

Commenced 28th August 1979
Completed 28th August
Total Depth 146 m.
Logged by G. Sparke
Sampled by B. McGlynn
Contractor Daines

Machine Schramm KT240
Driller R. Irvine
Probed by Agip
Operator B. McGlynn
Probed depth 143.5m.
Scale 1:100

Casing	Scale 1/Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	0				Qr						0-1. Soil, moderate reddish brown (10 R 4/6), sandy.
											1-14. Calcrete; varies from pale reddish brown (10 R 5/4) at the top, to light brown (5 YR 5/6) and white at base. Contains angular quartz grains in matrix, and some sand and clay lenses.
	5				Tc						
	10										
	15				Tgsc						14-35. Clay, mottled, from pale olive (10Y 6/2) to a dark yellowish orange (10 YR 6/6); very sandy, with quartz pebble lenses.
											19-22. Pebble and sand lens
	20										

REMARKS Hole not cased

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB 3R TYPE _____ Page: 2

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale (Depth)	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	20										
	25				Tgsc						
	30										31-33. Pebble and sand lens
	35				Tch						35-66. Sand medium - coarse grained, abundant pebbles, generally a dark yellowish orange (10YR 6/6) to light brown (5YR 6/4).
	40										

REMARKS

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YB3R TYPE _____ Page: 3

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale (Depth)	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	40										
	45										
	50				Tch						
	55										
	60										

REMARKS

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YB 3R TYPE _____ Page: 4

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	60				Tch						
	65										66-102. Clay, light brown (5YR 5/6), minor pale olive (10Y 6/2) mottling.
	70				Tbsc						
	75										
	80										

REMARKS

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YB 3R TYPE _____ Page: 5

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale |Depth	|Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	80										
	85										87-93. Sandy clay.
					Tbsc.						
	90										
	95										
	100										

REMARKS

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YB 3R TYPE _____ Page: 6

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	100				Tbsc						
											102-106. Sand, with abundant gypsum, pale yellowish orange (10 YR 8/6).
	105				Tch						
											106-135 Rib Bone Beds
											106-119. Clay, medium grey (N.5) to a light olive (10Y 5/4). Minor limonitic staining, and white clayey granules.
	110				Trib						
	115										
	120				Tgsc						

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB3 R TYPE _____ Page: 7

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	120										119-135. Clay, dusky green (5G 3/2), partially consolidated, soapy lustre. Contains some interbedded very fine grained sandstone.
	125										
	130				Trib						133-135. Black, coaly clay to coal, pyritic.
	135			k. k. k. s.	Pz - Pwo						135 -145·5. Mt Eclipse Sandstone. 135 -144·0. Pallid zone, kaolinitic, with fine grained quartz in matrix. Light olive grey (5Y 6/1). Minor silcrete bands
	140										

REMARKS

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YB3R TYPE _____ Page: 8

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	140			K S	Pz – Pwo						
	145				Pwf						144·0 – 145·5. Sandstone, fine grained light grey (N.7). Quartzose, hard, siliceous. Minor pyrite. Fairly mature sandstone
					Puv						145·5 – 146 Vaughan Springs Quartzite, a hard, grey quartzite.
											End of Hole at 146 m.

REMARKS Colours in log refer to the 'Rock - Color Chart', published by the Geol. Soc. Am.

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB 4R TYPE Rotary, mud Page: 1

Region NGALIA BASIN Commenced 29th August 1979 Machine Schramm KT240

Project Yandueh Bore E.L. 1855 Completed 29th August Driller I. Carson

Co-ord 3600 N, 89500 E (2km. N. of Nappa Yards) Total Depth 161 m Probed by SIE

Azimuth – Logged by G. Sparke Operator B. McGlynn

Inclination Vertical Sampled by B. McGlynn Probed depth 62·6 m

Elevation Contractor Davies Scale 1:100

Casing	Scale (Depth)	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	0				Qr						0-1. Soil moderate reddish brown (10R 4/6), sandy.
					Tga/ Tcl.						1-3. "Gypcrete". Finely crystalline gypsum and evaporite layer; sandy, clayey. Greyish orange pink (5YR 7/2).
	5				Tgsc – Tbcs						3-13. Clay, sandy, mottled, dominantly dark yellowish orange (10YR 6/6) to pale olive (10Y 6/2). Sandy, with abundant crystalline gypsum.
	10										
	15				Tgsc						13-70. Clay, mainly pale olive (10Y 6/2) with some moderate brown (5YR 4/4) mottling towards the base. Gypsiferous in parts.
	20										

REMARKS Hole not cased.

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YB 4 R TYPE _____ Page: 2

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	20										
	25										
	30				Tgse						
	35										
	40										

REMARKS

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YB4R TYPE _____ Page: 3

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	40										
	45										
					Tgsc.						
	50										
	55										
	60										

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB4R TYPE _____ Page: 4

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	60										
											63-65. Abundant white finely crystalline to powdery gypsum.
	65				Tgsc						
	70										70-93. Clay, light brown (5YR 5/6) and mottled pale olive clay at top of unit, with interbedded white calcrete.
	75				Tbsc						
											78-80. Abundant white calcrete
	80										

REMARKS

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YB4R TYPE _____ Page: 5

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	80										
	85				Tbsc.						
	90										
	95				Tgsc.						93-110. Clay, dusky yellowish green (10 GY 3/2). Sample consists of lumps 10-15 cm. diameter
	100										

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB 4R TYPE _____ Page: 6

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec. Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	100									
				Tgsc.						
	105									
	110									110–161. Rib Bone Beds.
										110–125. Clay, olive gray (5Y 4/1) with abundant white calcrete. Grades to very fine grained sandstone in parts.
	115			Trib						
										117–125 Contains some dusky blue green (5BG 3/2) clay.
	120									

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB 4R TYPE _____ Page: 7

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1/Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	120										
	125										125-134. Sand, medium grained, light olive brown (5Y 5/6). Sub-angular, well-sorted.
	130				Trib						134-161. Interbedded fine grained sandstone, clay, and some lignitic seams. Colour is a distinctive black to brownish black.
	135										134-149. Sand, clayey, with abundant coaly material in matrix.
	140										

REMARKS

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YB4R TYPE _____ Page: 8

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	140										
	145										
	150				Trib						149-161. Clay, silty, with lignitic seams.
	155										151-155. Abundant lignitic material.
	160										End of hole at 161 m

REMARKS Colours mentioned in log refer to the 'Rock-Color Chart', published by the Geol. Soc. Am.

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB5R TYPE Rotary, mud Page: 1

Region NGALIA BASIN Commenced 30th August 1979 Machine Schramm KT 240.

Project Yanduch Bore, EL 1855 Completed 30th August Driller I. Carlson

Co-ord 9,200 N; 91,200 E. Total Depth 131 m Probed by S.I.E.

Azimuth – Logged by G. Sparke Operator B. McGlynn

Inclination Vertical Sampled by B. McGlynn Probed depth 128.3 m

Elevation Contractor Davies. Scale 1:100

Casing	Scale 1/Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	0				Qr						0-2. Soil, moderate reddish brown (10R 4/6), sandy.
											2-104 Tertiary clay and sand.
											2-12. Calcrete, varies from light reddish brown (5YR 6/4) at top, to pale red (10R 6/2). Hard. Angular quartz grains in matrix. Several clayey lenses.
	5				Tc						
	10										
											12-89. Clay, pale olive (10Y 6/2) with some light brown (5YR 6/4). Minor sand and white kaolinitic streaks.
	15				Tgsc						
	20										

REMARKS Not cased.

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YBSR TYPE _____ Page: 2

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1/Depth	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	20										
	25										
					Tgsc						
	30										
	35										
	40										

REMARKS

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YB5R TYPE _____ Page: 3

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	40										
	45										
	50				Tgsc						
	55										
	60										

REMARKS

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YBSR TYPE _____ Page: 4

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec. Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	60									
	65									
				Tgsc						
	70									
	75									
	80									

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB5R TYPE _____ Page: 5

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	80										
	85				Tgcc						
	90				Tbsc						89-98. Clay, moderate reddish brown; (10 R 4/6) 91-94. Abundant clear gypsum, white powdery evaporite, and white clayey bands; calcareous.
	95										95-97. Contains interbeds of fine grained partially lateritic sandstone.
	100				Trib						98-104 Rib Bone Beds 98-100. Clay, dark grey (N.3).

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YBSR TYPE _____ Page: 6

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	100				Trib						100 – 104. Sandy (very fine) clay to clayey sand (very fine). Mottled from moderate yellow (5Y 7/6) to dark greenish yellow (10Y 6/6).
	105				Pwo – Sc – Pzp						104 – 128. Mt. Eclipse Sandstone.
											104 – 121. Sandstone, fine – medium grained limonitic with bands of silcrete and kaolinitic bands of the pallid zone. The sandstone is quartzose, relatively mature, with a kaolinized matrix, and very light grey, (N.8).
	110										104 – 117. Abundant rounded Vaughan Springs Quartzite pebbles.
	115										117 – 121. Dominantly 'oxidized' white facies.
	120				Pwo						

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YBSR TYPE _____ Page: 7

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	120			K U	Pwo						
				U K Q	Prf						121-128. Sandstone, siliceous, quartzose, fine-medium grained, greyish red (10R 4/2) with some interbedded moderate reddish brown (10R 4/6) siltstone. Pebbly with some pale olive quartzite pebbles, (10Y 6/2). Dominantly fresh red facies, minor kaolinization.
	125										
											128-131. Treuer Member. Mudstone, laminated, finely banded. Greyish red purple (5RP 4/2) and light bluish grey (5B 7/1).
	130				Puv'						End of hole at 131 m.

REMARKS Colours mentioned in log refer to the 'Rock-Color Chart' published by the Geol. Soc. Am.

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YBGR TYPE Rotary, mud Page: 1

Region NGALIA BASIN Commenced 31st August 1979 Machine Schramm kt240

Project Yanduch Bore, E.L.1855. Completed 31st August. Driller I. Carson.

Co-ord 6,000. N, 95,700 E. Total Depth 142 m Probed by S.I.E.

Azimuth - Logged by G. Sparke Operator B. McGlynn

Inclination Vertical. Sampled by B. McGlynn Probed depth 99.4 m

Elevation Contractor Davies. Scale 1:100

Casing	Scale 1Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	0				Qr						0-2. Soil, moderate to deep reddish brown, sandy.
											2-121. Tertiary clay and sand.
											2-11. Calcrete, white to light brown (5YR6/4), clear in parts. Clear, angular quartz grains are incorporated in the matrix. Contains several clayey bands.
	5				Tc.						
	10										
											11-78. Clay, mainly pale olive (10Y 6/2), sandy in parts, with occasional lumps of charcoal.
	15				Tgsc						
	20										

REMARKS Hole not cased

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB6R TYPE _____ Page: 2

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Run Rec.	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	20									
	25									
	30			Tgse.						
	35									35-41. Light brown (5YR 5/6) clay.
	40									

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB6R TYPE _____ Page: 3

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	40										
	45										
	50				Tgsc.						
	55										55-56. Sand lens, granular, pebbly, dark yellowish orange (10YR 6/6)
					Tch.						
	60				Tgsc.						

REMARKS

AGIP
AUSTRALIA PTY. LTD.

BOREHOLE No. YB6R TYPE _____ Page: 4

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	60										
	65				Tgsc.						
	70										
	75										
	80				Tbsc.						78-88. Clay, moderate reddish brown (10 R 4/6), with minor gypsum and evaporite beds.

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YBOR TYPE _____ Page: 5

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1Depth	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	80										
					Tbsc.						
	85										
											88-89. Clay, greenish grey, (5G 6/1).
					Tgc						
	90			S							89-94. Silcrete, varying from clean to light olive grey (5Y 6/1), with interbedded white-pinkish grey (5YR 8/1) clay.
				S	Cs						
				S							
				S							
				S							
				S							
	95										94-121 Rib Bone Beds
											94-99. Black lignitic clay to clayey lignite
					Trib						
	100										

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YBGR TYPE _____ Page: 6

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	100										99-121. Clay, brownish grey (5YR 4/1) with minor pale olive mottling (10Y 6/2).
	105										107-121. Clay is partially consolidated with a soapy lustre, with some moderate yellow (5Y 7/6) to pale green (5G 7/2) mottling.
	110				Trib						112-114. Contains some yellowish grey (5Y 8/1) partially indurated claystone.
	115										
	120										

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB6R TYPE _____ Page: 7

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1/Depth	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	120										
				K							121–132. Mt. Eclipse Sandstone ('oxidized' red facies). Medium grained greyish-pink (5R 8/2). Kaolinitic. Contains minor grey green (5G 5/2) clay pellets. No silcrete at top of unit. No rock chips observed in sample.
	125				Pro						
				K							
	130										
											132–142. Treuer Member, greyish green (10 GY 5/2) to yellowish grey (5Y 7/2) shale, finely laminated. Soft weathered to 141 m, with abundant contamination of sample. Fresh rock from 141–142
	135				Puv'						
	140										

REMARKS Colours in log generally refer to the "Rock-Color Chart" published by the Geol. Soc. Am.

AGIP NUCLEARE AUSTRALIA PTY. LTD.

BOREHOLE No. YB7R TYPE Rotary, mud. Page: 1

Region NGALIA BASIN
Project Yanduch Bore E.L. 1855
Co-ord 5600 N, 101.150E (Drilled at Yanduch Bore)
Azimuth –
Inclination Vertical
Elevation

Commenced 31st August 1979
Completed 1st September.
Total Depth 169 m.
Logged by G. Sparke.
Sampled by B. McGlynn.
Contractor Davies.

Machine Schramm KT 240.
Driller I. Carlson.
Probed by S.I.E.
Operator B. McGlynn
Probed depth 131.2 m.
Scale 1:100.

Casing	Scale Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	0										0 – 0.2. Soil, deep reddish brown, sandy
											0.2 – 120 m. Tertiary clay and sand.
											0.2 – 7 m. Calcrete, light brown (5YR 6/4), at top of unit, varying to moderate orange pink (5YR 8/4), and white. Crystalline in parts, sandy and with several clay bands.
					Tc.						
	5										
											7 – 53. Clay mainly pale olive (10Y 6/2) with some light brown (5YR 5/6), mottling which increases towards base of unit. Sandy, medium to granular grained. Contains minor amounts of charcoal and limonitic staining.
	10										
					Tgsc						
	15										
	20										

REMARKS Hole cased with 100 mm PVC to 30 m.

AGIP NUCLEARE
AUSTRALIA PTY. LTD.

BOREHOLE No. YB7R TYPE _____ Page: 2

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casng	Scale Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	20										
	25				Tgsc						
	30										
	35										
	40										

REMARKS

AGIP NUCLEARE
AUSTRALIA PTY. LTD.

BOREHOLE No. YB7R TYPE _____ Page: 3

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale Depth	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	40										
	45				Tgsc						
	50										
	55				Tbsc						53-81 Clay, moderate reddish brown (10R 4/6), sandy (fine grained)
	60										

REMARKS

AGIP NUCLEARE
AUSTRALIA PTY. LTD.

BOREHOLE No. YB7R TYPE _____ Page: 4

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale Depth	Rec. Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	60									
	65									
				Tbse						
	70									
	75									
	80									

REMARKS

AGIP NUCLEARE
AUSTRALIA PTY. LTD.

BOREHOLE No. YB7R TYPE _____ Page: 5

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	80				Tbsc.						
											81-90. Sand medium grained to granular, angular to sub-rounded quartzose. Abundant limonitic staining. Dark yellowish orange (10 YR 6/6).
	85										
	90			K							90-103. Sandstone, fine-medium grained white-cream to moderate orange pink (5YR 8/4). Contains distinctive rounded blue quartz granules. Partially re-silicified and kaolinitic. Quartzose.
	95			K							
	100			K							

REMARKS

AGIP NUCLEARE
AUSTRALIA PTY. LTD.

BOREHOLE No. YB7R TYPE _____ Page: 6

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	100										
											103-120 Rib Bone Beds
											103-120. Sand, fine-medium grained, dusky brown (5YR 2/2) to black. Lignitic, pyritic. Unconsolidated with some clay-silt lenses, and thin lignitic seams.
	105										
	110				Trib						
	115										
	120										

REMARKS

AGIP NUCLEARE
AUSTRALIA PTY. LTD.

BOREHOLE No. YB7R TYPE _____ Page: 7

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale Depth	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	120										120 - 169. Mt. Doreen Formation (?)
											120 - 125. Shale, siliceous in parts, finely banded and laminated, light bluish grey (5B 7/1). with some very light greyish (N.8) clays.
	125										
											125 - 133. Clay, brownish black to black, with several indurated bands of claystone and lignitic clays. Abundant brassy pyrite some as cubes, some disseminated. Micaceous. Lignitic clays are probably contamination from above.
					Puq						
	130										
											133 - 145. Clay, medium grey (N.5) to black micaceous, pyritic gradational with following unit -
	135										
	140										

REMARKS

AGIP AUSTRALIA PTY. LTD.

BOREHOLE No. YB7R TYPE _____ Page: 8

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale 1:Depth	Rec	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	ASSAYS Thppm	ASSAYS Vppm	Metres	DESCRIPTION
	140										
	145										145-169. Claystone, greyish black (N.2). Micaceous, abundant pyrite. Laminated, indurated.
	150				Puq						
	155										
	160										

REMARKS

AGIP NUCLEARE
AUSTRALIA PTY. LTD.

BOREHOLE No. YBYR TYPE _____ Page: 9

Region _____ Commenced _____ Machine _____

Project _____ Completed _____ Driller _____

Co-ord _____ Total Depth _____ Probed by _____

Azimuth _____ Logged by _____ Operator _____

Inclination _____ Sampled by _____ Probed depth _____

Elevation _____ Contractor _____ Scale _____

Casing	Scale Depth	Rec.	Run	Graphic Log	Radiom	Sample No.	ASSAYS Uppm	Thppm	Vppm	Metres	DESCRIPTION
	160										
					Pug						
	165										
											End of hole at 169 m.

REMARKS. Colours refer to the "Rock-Color Chart", published by the Geol. Soc. Am.

APPENDIX III

DOWNHOLE GEOPHYSICAL LOGS

LEGEND

⊙(Puv) DRILL HOLE, WITH TERMINAL ROCK FORMATION

- - - - TRACK

BORE LOCATION

CAMP

EXTENT OF OUTCROP

GEOLOGY

10 —·— 10 MT. ECLIPSE SANDSTONE ISOPACH CONTOUR (m)

DIP SLOPE

30° STRIKE AND DIP

Pzy KERRIDY SANDSTONE

Puv VAUGHAN SPRINGS QUARTZITE

pCg GRANITE

Trib RIB BONE BEDS

Pzt MT. ECLIPSE SANDSTONE

Pug MT. DOREEN FORMATION

LOCATION DIAGRAM

AgipNucleare
Australia pty. ltd.
Sydney - N.S.W.

PROJECT: SIDDELEY RANGE & YANDUCH BORE

TITLE: DRILL HOLE LOCATION AND MT. ECLIPSE SANDSTONE ISOPACH MAP

Geologist:	C. SPARKE		
Drawing No.:	1855 - 5	**Scale:**	1 : 100,000
Date:	SEPT 1979	**Drawn By:**	S. BRYAN

GEOEX PTY LTD

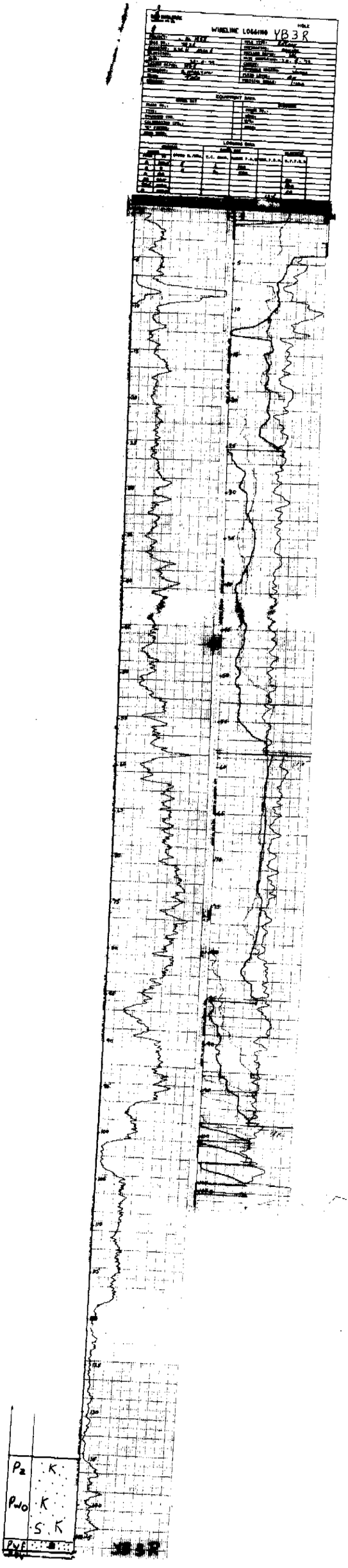
LOGGING DATA

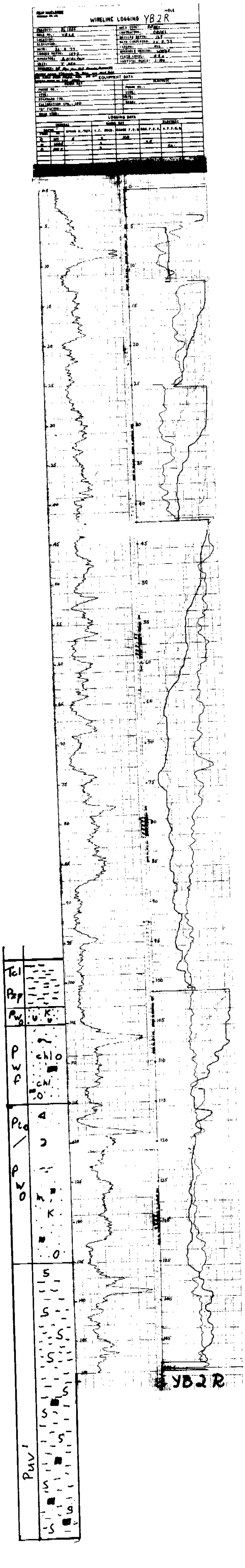
YBR 1

DATE 22-5-79

LOCATION	GAMMA RAY
STATE N.T.	
REGION [illegible]	FIRST READING 75·0 m
PROJECT	RANGE 20 cpd
HOLE DATA	TIME CONSTANT 5 secs
HOLE Nº YBR1	LOGGING SPEED 6 m/min
HOLE SIZE 5 5/8"	PAPER SCALE 200:1
CASING –	BACKGROUND COUNTS 65-80
T.D. 91·4 m	DETECTOR SIZE 4" x 3/4"
SURFACE ELEVATION	DIGITAL READ OUT –
BOREHOLE MEDIUM Water and mud [illegible]	ELECTRIC
FLUID LEVEL 3·7 m	FIRST READING 98·5 m
DRILLER	RESIST. SCALE (DIV.) 2
INTERPRETATION DATA	S.P. SCALE (MV/DIV.) 2
PROBE Nº [illegible]	PROBE SIZE 1 1/2"
CALIBRATION STANDARD	RES. TYPE SINGLE POINT
'K' FACTOR	RIG TIME
DEAD TIME [illegible]	
OPERATOR M.A.	

REMARKS High Noise and drift in S.P.


WIRELINE LOGGING
VB3R
P_2
K
P_{WO}
K
S
K
P_{WE}



HOLE
WIRELINE LOGGING YB2R
EQUIPMENT DATA
LOGGING DATA
YB2R
Tcl
Pzp
Pw
P w f
Ptd / P w o
Puv'

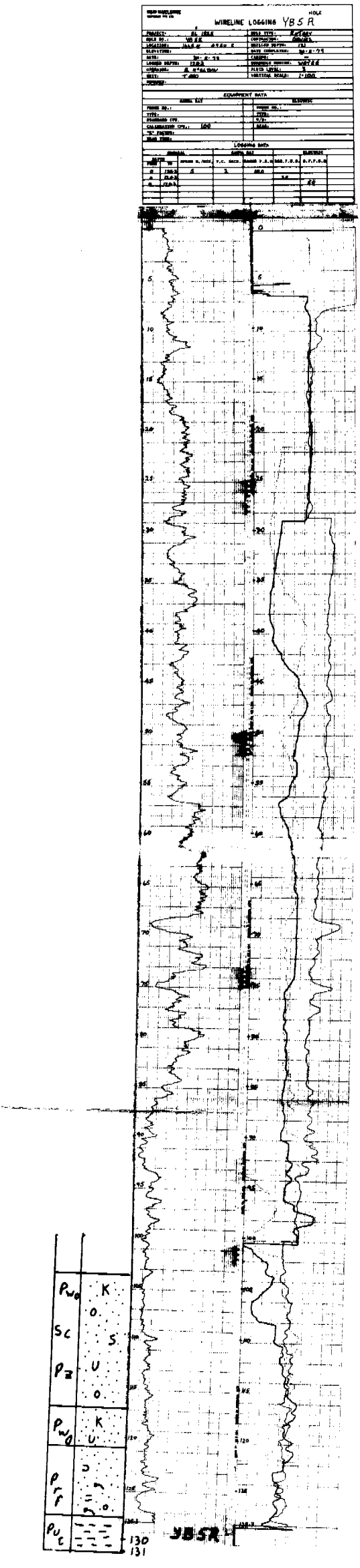
[redacted]

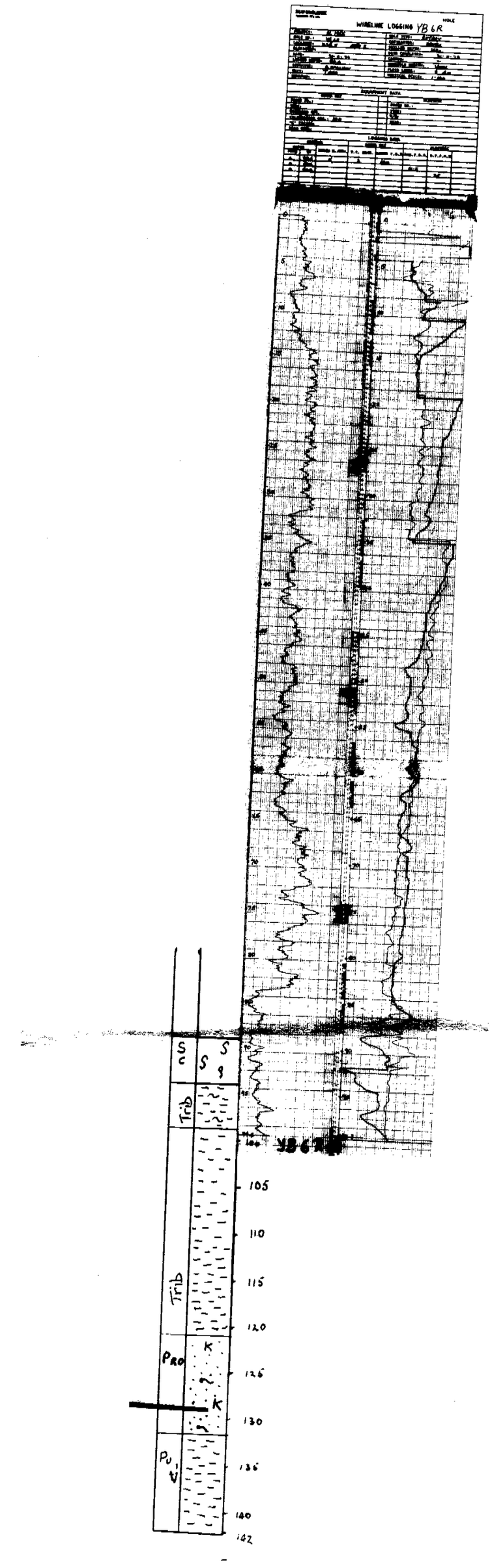
65
70
[redacted]
85
90
95
100
105
110
115
120
125
130
135
140
145
150
155
160
161

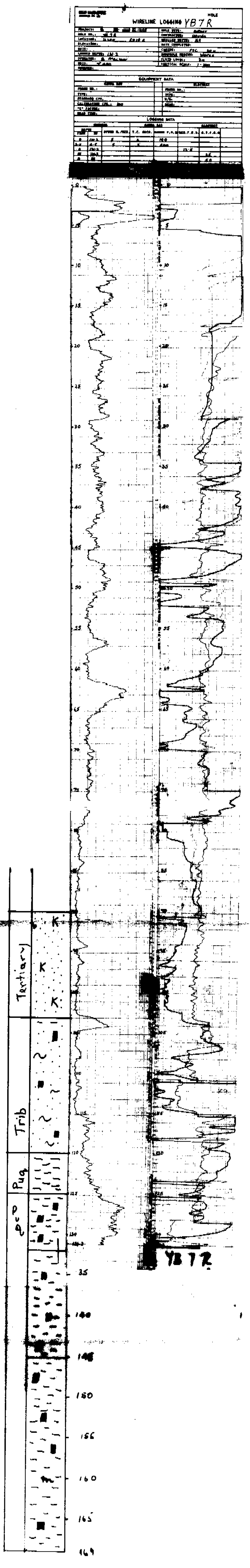
Tertiary

Trib

Trib


WIRELINE LOGGING YBSR
HOLE
PROJECT:
HOLE NO.:
LOCATION:
ELEVATION:
DATE:
LOGGED DEPTH:
CASING:
UNIT:
EQUIPMENT DATA
LOGGING DATA
YBSR


WIRELINE LOGGING YB 6R
Trib
Trib
105
110
115
120
126
130
135
140
142


HOLE
WIRELINE LOGGING YB7R
EQUIPMENT DATA
LOGGING DATA
Tertiary
K
Trib
Pug
YB 7R

APPENDIX IV

PALYNOLOGY

APPENDIX IV PALYNOLOGY

The following palynological results were reported by Dr. P.R. Evans of the University of N.S.W.

Hole YB4R

Sample Depths: 151-153m, 153-155m.

Both samples yielded rare pollen that indicated a Cainozoic age. No characteristics of a particular age zone of the Cainozoic were isolated.

Hole YB6R

Sample Depths: 95-97m, 97-99m.

No palynomorphs; but the organic matter present proved readily oxidisable and alkali soluble; i.e. chemically immature and certainly post-Carboniferous (?) Cainozoic age.

Hole YB7R

Sample Depth: 115-117m.

As for YB4R.

Sample Depth: 159-161m.

No fossils, but the organic matter appeared to be very mature, comparable with sample 7609 from Y174RD on E.L. 1199, in which residual organic matter after HF and Schultz digestion was opaque and very mature. The results do not discount the possibility that the sample represents sediments of Proterozoic age. Logged as Mt. Doreen Formation.

General

Although all samples looked very promising in hand specimen, being rich in organic matter and fine-grained, they proved to be largely comprised of clayey material in which (?) humic amorphous matter was fixed. The samples could be construed as representing products of soils in which concentrates of humus have been preserved and then partly lithified.

The few pollen recovered from the samples from YB4R and YB7R are distinctive but insufficient to allow accurate dating. The apparent complete lack of Nothofagus-type pollen might suggest that the sediments are post-Miocene, but this conclusion must be regarded as highly speculative.