CONTENTS ENVELOPE 6671

TENEMENT: P.E.L. 35 - Polda Trough.

TENEMENT HOLDER: Quadrent Energy Development Ltd.

QED

Quadrant Energy Development Ltd
32 Grenfell Street, Adelaide, South Australia 5000
GPO Box 2578, Adelaide, South Australia 5001
Telephone (08) 231 0212. Telex AA87209

18th March 1986
319/JES:bc-238q

The Director-General,
South Australian Department of Mines & Energy,
151 Greenhill Road,
EASTWOOD, S.A. 5063.

Dear Sir,

Quarterly Report - Petroleum Exploration Licence No. 35

Quadrant Energy Development Ltd., hereby submits its Quarterly Report for the period ending 21st February 1986.

During the period, the following activities took place:

1. Negotiations commenced with another South Australian company to farm out a 20% interest in the licence. It is expected that these negotiations will be concluded within the next three months.

2. All basic data on the permit was acquired and a review is in progress.

3. Landsat data was purchased and interpretation has commenced.

4. Negotiations began with contractors for a 50 kilometre experimental seismic survey on the permit, to be completed during the next three months. This survey will include two main methods, dynamite and vibroseis, with the possibility of some weightdrop, depending on crew availability.

Yours faithfully,

John E. Squarek,
Managing Director.

RECEIVED
19 MAR 1986
DEPT. OF MINES AND ENERGY SECURITY

0004

PMA

26th June, 1986.

1943/SIM:rms-1233a

Petroleum Management Associates Pty Ltd

100 Greenhill Road
Unley, Adelaide
South Australia 5061

Telephone (08) 271 1022
Telex AA 82418

Allert, Heard and Company,
15 Franklin Street,
ADELAIDE S.A. 5000.

Attention: Mr. R. Allert

Dear Sir,

RE: QUARTERLY REPORT - PETROLEUM EXPLORATION LICENCE NO. 35

As technical consultants to Quadrant Energy Development Ltd., the Operator of PEL 35, we hereby submit the 2nd quarterly report for that permit covering the period 21st February to 21st May, 1986 on their behalf.

Yours faithfully,

A.J. Wright
Managing Director.

1233a-SIM:rms-26/6/86.

PETROLEUM EXPLORATION PERMIT NO. 35

2ND QUARTER REPORT

21ST FEBRUARY - 21ST MAY, 1986

TECHNICAL WORK

1. With the gathering of basic data a bore hole evaluation commenced. This study is in progress with new data being added as it comes on open file. The study is to be finalized during October, 1986.

2. The Landsat study is still underway and also should be completed during October, 1986.

3. The preparations for the seismic survey mentioned last quarter continued and the approval to conduct the survey was given by the South Australian Department of Mines & Energy on 29th April, 1986. This survey was part of the farm-out negotiations mentioned in (1) and hence have also come to a halt.

4. A field trip was undertaken during March to assist in all studies. A report is appended.

EXPENDITURE

Hereunder are the costs related to exploration tasks in PEL 35 for the six month period November 21st, 1985 to May 21st, 1986.

1.	Geology & Geophysics	$ 28,565.00
	i.e. Landsat Study Bore Hole Study Seismic Survey Preparation	
2.	Office Costs	$ 9,675.18
	i.e. Management Overheads Materials etc.	
		$ 38,240.18

1222a-SIM:rms

APPENDIX 1

1. POLDA BASIN FIELD TRIP

1.1 Introduction and Aims

A reconnaissance field trip of PEL 35 was undertaken by Chris Dee, associate geologist, from the 2nd to the 7th of March, 1986.

The aims of the field trip were:

(i) To identify the margins of the Polda Basin in outcrop.

good one!

(ii) To map outcrop geology along the coast and in road cuts, creeks etc.

(iii) To identify the major topographic regions in the permit.

(iv) To recognise areas of major calcrete development.

(v) To carry out ground work for the landsat interpretation.

(vi) To check road conditions for the proposed seismic survey.

(vii) To visit the local council to discuss the seismic survey.

1.2 Basin Margins

The precise margins of the Polda Basin are difficult to identify in outcrop, due to the presence of the Quaternary Bridgewater Formation, which consists of aeolian sandstones deposited in a large coastal dune field. This formation blankets a large proportion of the Polda Basin and surrounding area. Therefore the margins of the Polda Basin can be mapped only tentatively from outcrop geology.

The northern boundary is marked by a line of granite outcrops at Waddikee Rocks, Pinthaput Hill, Uncontitchie Hill, Cocata Hill, Kolbala Hill and on the coast east of the entrance to Baird Bay.

In the east, quartz, muscovite, feldspar schists outcrop at Darke Range and Rooligie Range. These basement outcrops trend north-south. The similar lithology and trend of these outcrops suggest that they may be faulted sections of one original range.

To the south the coastal cliffs consist of Bridgewater Formation. The first outcrop of basement was encountered on the Mt. Hope to Port Drummond road, where quartz, feldspar, biotite gneiss occurs.

The Polda Basin lies within these basement outcrops, however the precise location of the basin margins can only be mapped from geophysical and borehole data.

1.3 Outcrop Geology

Apart from the outcrops of basement outlined in the previous section, outcrop within the PEL 35 permit area is virtually restricted to coastal cliffs and Mt. Wedge. This is because most of the permit is covered by either calcrete or sand dunes.

Mt. Wedge consists of red pebbly sandstone, cross-bedded and dipping to the west at 10-15°. This sandstone also outcrops unconformably beneath the Bridgewater Formation at Talia Caves, where it also dips to the west at 10-15°. A north-south trending fault hading to the east is proposed between Mt. Wedge and Talia Caves to explain these outcrops occuring at similar elevation, 20 km apart in the dip direction. Mt. Wedge also appears to be fault bounded on the southern and eastern sides. The red sandstone has not been reliably dated, but previous workers have suggested a Precambrian age.

The coastal cliffs south of Elliston and near Venus Bay consist of aeolianite of the Bridgewater Formation, generally with two to five layers of calcrete present towards the top of the cliff. The Bridgewater sediments display high angle cross-bedding and appear to dip to the east, away from the coast. This may be a result of formation thinning away from the coast, as this formation was deposited in the Quaternary as a series of coastal dunes and would be expected to thin away landwards. The aeolianite consists of fine grained quartzose sand with very abundant shell fragments. It is the presence of these shell fragments that has resulted in the widespread formation of surficial calcrete in the Polda Basin area.

The linear nature of the coastline south from Elliston indicates the existance of a major fault, probably hading to the southwest.

There are several minor road cuttings along the Flinders Highway, however these all consist of Bridgewater Formation overlying calcrete.

No creeks or rivers are present in the Polda Basin area, partially due to the low rainfall, but mainly due to the permeable nature of the Bridgewater Formation.

1.4 Topography

The fossil sand dunes of the Bridgewater Formation form a hilly, rolling topography in the western part of the permit. The hills are covered with calcrete pebbles and boulders, while salt lakes are common in the low areas.

The eastern half of the permit is characterised by relatively flat wheat growing country. Sand ridges are common in the north and southeast.

1.5 Calcrete Areas

Calcrete forms on the land surface as water rich in calcium and carbonate ions evaporates, leaving a deposit of calcium carbonate. The high temperatures and low rainfall of the Polda Basin area are ideal for the formation of calcrete, however the major factor contributing to the abundance of calcrete is the very high shell fragment content of the Bridgewater Formation aeolianites. These rocks are very porous and permeable and formation waters dissolve some of the calcium carbonate present in the shell fragments. In the hotter parts of the year evaporation of groundwater near the surface results in the formation of calcrete.

The presence of calcrete is significant because it masks the underlying geology of the basin, reducing the effectiveness of surface mapping and remote sensing methods. In these areas borehole data and geophysical data, such as seismic, are needed to determine the basin geology under the surface calcrete. Calcrete also causes problems with some energy sources when shooting seismic, therefore an experimental seismic survey is required to determine the best energy source to use in the calcrete areas.

In PEL 35 calcrete is best developed in the western part of the permit, such as on the cleared plains around Nowhere Else on the Sheringa to Tooligie road, where the Bridgewater Formation is also best developed.

In the coastal cliffs the calcrete is usually present in a number of distinct layers, but is never more than 8 metres thick in total.

1.6 Landsat Ground Work

The field trip has enabled the landsat image to be calibrated to the major surfaces lithologies and a detailed geological interpretation can now be undertaken.

Faults may be recognised, providing they were active after the deposition of the Bridgewater Formation of Quaternary age.

1.7 Road Conditions

All roads within the permit area are in good condition and present no problems to conventional vehicles. Tracks within the conservation parks and on private property may require four-wheel drive in unfavourable weather conditions.

The Flinders and Eyre Highways are sealed, as are the roads along the Ceduna-Port Lincoln Railway and from Darke Peak to Rudall.

In general the fences are approximately 5m off the road on one side and up to 25 m from the road on the other side, thus leaving enough room to run seismic between the road and the fences.

There is a water pipeline along the Elliston to Lock road which will have to be avoided when drilling shot holes or shooting dynamite seismic.

1.8 Local Council

A visit was made to the Elliston District Council to discuss the upcoming seismic programme with the council clerk. The council has no problems with the proposed seismic being acquired along the roads. Vibroseis can be acquired on the road itself and dynamite shot holes can be drilled between the road and the fences. Traffic may be detoured if sufficient warning is given to the council before the survey begins.

1.9 Conclusions

All major aims of the field trip were accomplished. The presence of calcrete, sand dunes and the Bridgewater Formation, however, masks the geology of the Polda Basin proper.

Basement outcrops were identified in the north, east and south of the permit, while areas of major calcrete development were mapped in the western part of the block.

It is apparent that granite forms shallow outcrop over the northern portion of the permit area which accordingly, has no hydrocarbon potential.

It is anticipated that a review of significant boreholes drilled in the basin to date will add to our understanding of the basin, as will the proposed seismic survey.

27/2483

0010 **PMA** 3

8th September, 1986. 2086/AJW:rms-1371a

Petroleum Management Associates Pty Ltd

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Unley, Adelaide
South Australia 5061

Telephone (08) 271 1022
Telex AA 82418

The Director General,
South Australian Dept. of Mines & Energy,
Oil and Gas Division,
191 Greenhill Road,
EASTWOOD S.A. 5063.

Dear Sir,

RE: QUARTERLY REPORT - PEL NO. 35

As technical consultants to Quadrant Energy Development Ltd. and Continental Oil Exploration Pty. Ltd., we hereby submit the 3rd Quarterly Report for the above permit covering the period 21st May to 21st August, 1986, on both companies behalf.

Yours faithfully,

A.J. Wright
Managing Director.

RECEIVED
10 SEP 1986
DEPT. OF MINES AND ENERGY SECURITY

18/9/86.

1343a-SIM:rms-08/9/86.

PETROLEUM EXPLORATION PERMIT NO. 35

3RD QUARTER REPORT

22ND MAY, 1986 - 21ST AUGUST, 1986

TECHNICAL WORK

1. The bore hole evaluation study was completed and the final report is attached.

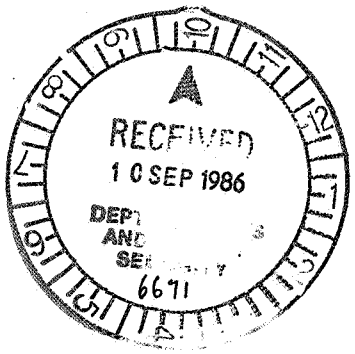
2. A landsat study was incorporated into the above mentioned final report. Landsat interpretation of the permit area proved difficult due to the ubiquitous sand cover.

3. Recommendations regarding a reduction of both permit size and expenditure commitment were submitted to the South Australian Department of Mines & Energy (SADME).

EXPENDITURE

Hereunder are the costs related to exploration tasks in PEL 35 for the three month period May 22nd, 1986 - August 21st, 1986.

1.	Geology and Geophysics i.e. Bore Hole/Landsat study	$ 11,068.00
2.	Office Costs i.e. Materials etc.	$ 537.47
		$ 11,605.47



BORE HOLE STUDY

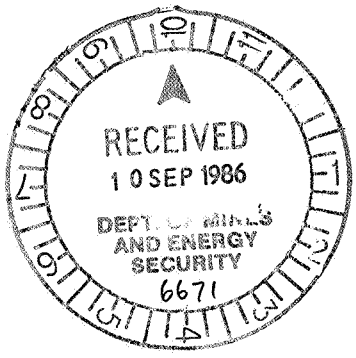
PEL 35

POLDA BASIN

SOUTH AUSTRALIA

Prepared for

Continental Oil Exploration



Report No: 084
August, 1986.
WP: 1334a-SIM:rms

Petroleum Management Associates Pty. Ltd.
Adelaide.

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1. AIM & SCOPE OF STUDY

Petroleum Exploration Licence No. 35 (PEL 35), covering the onshore Polda Basin, South Australia, was awarded in November 1985 for a five year permit term (Figure 1). The Year one commitment was to conduct geological studies in the area to determine the most likely areas for hydrocarbon entrapment and more specifically to plan for seismic reflection surveying which was to be carried out during Year two.

The major aim of this study was to correlate the previous bore-hole information in the area, in order to determine the extent of the onshore Polda Basin. This had previously been determined by the -20 milligal contour on the regional Bouger Gravity maps.

The study was conducted in two parts. Firstly a field trip was undertaken to check surface correlations, and secondly a review and analysis was carried out of all previous mineral exploration in the onshore portion of the basin and hydrocarbon exploration in the offshore portion. The results of the field trip have been previously forwarded.

2. GEOLOGICAL HISTORY

The Polda Basin formed in Proterozoic time as one of a series of east west grabens developed across the Gawler Craton and Musgrave Block during periods of stress relief. Early deposition took place in a large inland depression and is apparently represented by equivalents of the Blue Range Beds (Figure 2) seen in outcrop to the north. Conglomerate, sandstone and shale comprise the Corunna Conglomerate of Adelaidean age.

At various times during the lower Cambrian, deep fractures apparently trapped mantle magmas allowing extrusion of basalts over wide areas. Also during the lower Cambrian, episodes of overthrusting are reflected in inferred wrench fault structural assemblages to the north. The depth to magnetic basement map suggests the Polda Basin consists of a series of infra-basins along an east west trend in an en echelon arrangement.

The depositional environment during Cambrian time is envisaged as a large shallow inland lake in which intermittent inundation from runoff and precipitation caused reworking of the lake bottom sediments. During dry periods, the lake bed and the deformed clay surface became incorporated as intraclasts in the overlying sediment. Offshore this sequence also has thick deposits of halite interpreted as salt swells. The lower Cambrian is also known to include redbed shale and silstone.

A major unconformity separates these Cambrian red bed sequences from Permian glacigene sediments which were widely deposited presumably on a terrain of high relief. The lower glacigene unit typically comprises unsorted glacio-fluvial outwash deposits whereas the upper half of the sequence was probably deposited in a glacial lake in which floating ice dumped pebbles and other detritus into a thick mudstone sequence.

Early Jurassic time saw the formation of rift grabens prior to the Australia/Antarctica break up. The Polda Basin developed as one of these grabens within which accumulated a sequence of coarse and fine carbonaceous sediments of fluviatile origin, together with local interbedded coals. Later sedimentation was of a deep marine flysch facies, typical of rapidly filling deep troughs.

Break up continued through Eocene time but the Polda Basin failed to completely rift. Tertiary sediments are similar to that of the Jurassic, being of a fluvial-lacustrine origin.

3. EXISTING DATA

The onshore portion of the Polda Basin has not previously been explored for petroleum but has been constantly evaluated for uranium, coal and potash. In the licence area the most recent work was conducted by CRA Exploration. Their programme commenced in the early 1980's and was centred on coal (both Tertiary and Jurassic). The Electricity Trust of South Australia (ETSA) discovered a coal deposit just west of the township of Lock and believed other deposits may exist elsewhere in the basin. Their exploration comprised mostly gravity surveys and bore hole drilling and did find other coal deposits, none of which were economically extractable. During the time of this exploration phase, Australian Occidental was exploring for oil and gas in the offshore portion of the Basin. Australian Occidental discovered large quantities of salt in the offshore area which motivated CRA to begin exploring onshore. CRA drilled one deep borehole to penetrate prospective sediments which previously had not been evaluated onshore. In conjunction with this exploration the South Australian Department of Mines and Energy (SADME) recorded two seismic lines across the gravity low known as the Kilaroo Sub-Basin. Line No. PB 83-001 is enclosed (Enclosure 14). On the basis of this seismic line, a bore hole, 83 KD1A was drilled into pre-Permian sediments but did not penetrate any salt horizons. No further work was carried out.

Other companies have been active in the area since the mid 1970's and two phases of exploration have been reviewed. Firstly, the work of Chevron Exploration in uranium exploration in the central onshore portion of the basin and secondly, that of Esso Exploration in coal prospecting in the western onshore area.

The SADME has also sunk several bores in the area for stratigraphic information and has produced a regional Bouger Gravity map which broadly defined the basin.

The work of these three groups (CRA, Chevron and Esso) together with the continuous work in the area by the SADME form the basic data of this study. The petroleum exploration results of Australian Occidental in the offshore basin are also included. All boreholes were evaluated and the key ones composited in dip and strike lines across the basin (Enclosure 1). The dip lines consist of lines A-A', B-B', C-C', D-D', E-E', F-F', (Enclosures 2-7) and the strike lines G-G', H-H', I-I', J-J', K-K', L-L', (Enclosures 8-13).

4. DISCUSSION OF FINDINGS

As most of the bore holes reviewed were very shallow (evaluating the Tertiary and Jurassic sediments), no absolute data on the deeper horizons is available in the majority of areas. Many holes however, intersected relatively shallow "basement".

The dip lines in the western portion of the basin show the sedimentary section to be very thin (< 100m) and hence not prospective for hydrocarbon exploration. The southern end of line C-C' (Enclosure 4) indicates a small area of Permian deposition which is still very shallow and non prospective. This area is the "Lock Coal Field" held by ETSA. The eastern lines show a small but deep sub-basin. Many of the holes to the north of these lines indicate that major fault systems control the northern boundary whereas the southern ends of the lines show dip out of the basin. From this evaluation and the confirmation of seismic line PB 83-001, the sub-basin, known as the Kilaroo Sub-Basin, is an asymetrical trough, fault bound to the north. Sediment packages all thicken northwards to the fault edge from the south. This is best displayed on line F-F' (Enclosure 7).

The strike lines G-G' (Enclosure 8) and L-L' (Enclosure 13) indicate no sediments in the extreme north or south of the permit area. Line H-H' (Enclosure 9) runs along the downthrown side of the major north bounding fault and indicates thick sediment packages. The strike lines indicate two main basins, one offshore with a major separating high (probably fault controlled) running along the coast and a second deep, small sub-basin in the east of the permit area. Line I-I' (Enclosure 10) shows this latter basin.

The sediments in all holes were correlatable and there are no major facies changes in the age packages penetrated in the onshore basin. There are however, large changes in the offshore region in the pre-Permian sediments and it could reasonably be expected that such facies changes may also occur onshore.

Correlating this data to the Bouger Gravity map indicates that the Kilaroo Sub-Basin is well defined by gravity but the gravity low to the north and west of the permit is not indicative of a thick sedimentary section.

Three of the bore holes, LDH 10, 11 and 17, were all recorded as having oil shows. Inspection of the show intervals indicates very carbonaceous sands but the cuttings are old and require further tests to determine if live oil was once present.

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The eastern portion of the permit known has the Kilaroo Sub-Basin is well defined by gravity, well bores and one seismic line. It is an asymmetrical basin bounded on the north by a large down-to-the-south fault system and on the east, south and west by normal basin dip.

The central portion of the permit contains one small coal basin, the Lock Coal Field. The western areas of the permit are non prospective for oil and gas.

From the findings of the field trip and the current review all areas of the permit west of the township of Lock and the Yeelanna/Minnipa road and north of 33o 30'S latitude (Figure 1) are considered non-prospective for hydrocarbons.

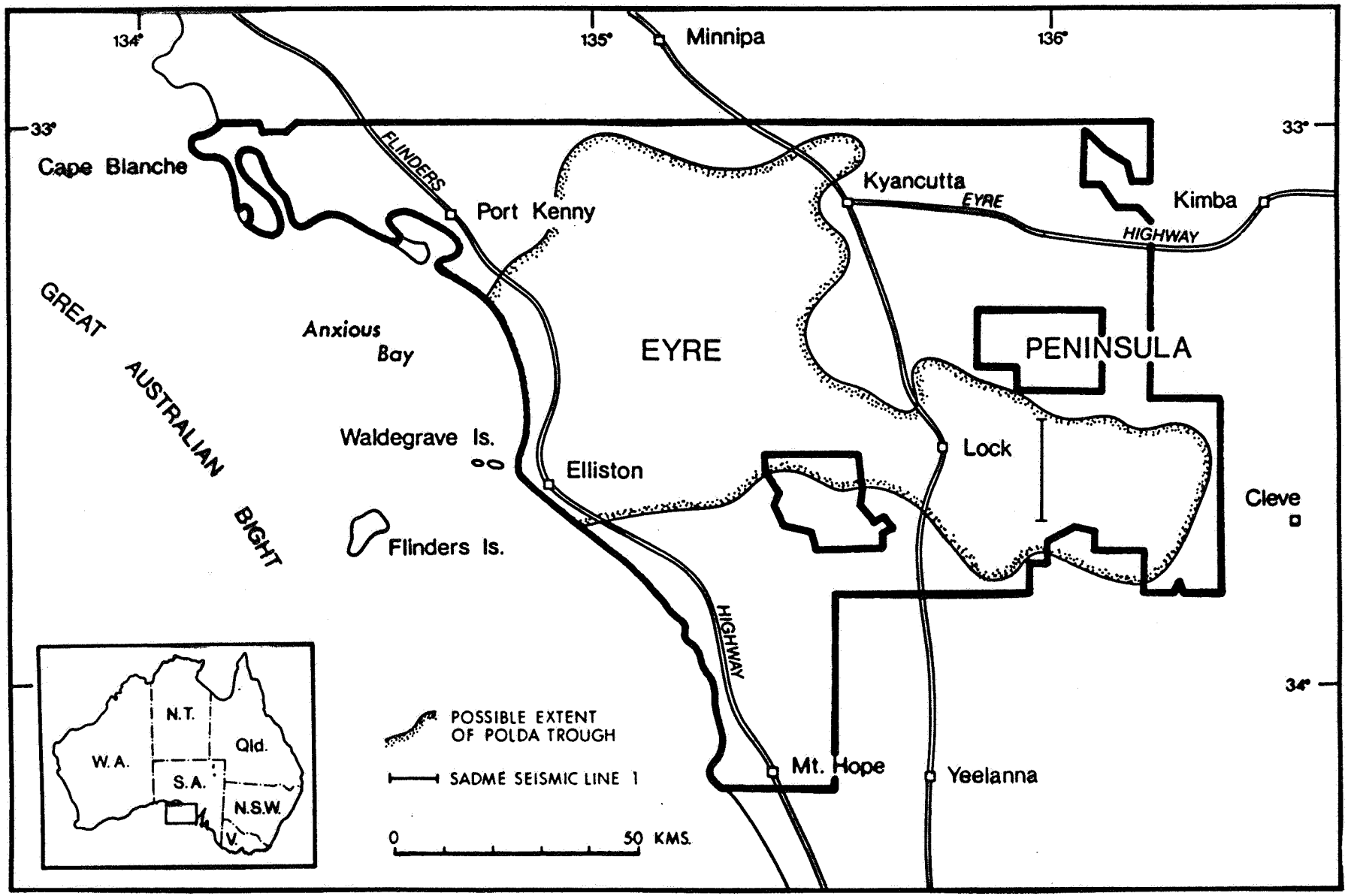
The remaining area is still considered prospective for hydrocarbons and further studies (geochemical and structural) should be carried out along with seismic reflection surveying along the roads in the area.

The potential for hydrocarbons lies at depth within Cambrian or older strata and these sediments are restricted to a relatively small area onshore. The risk for hydrocarbon discovery is therefore high which, coupled with the reduced oil price, leads us to recommend that Continental seek a farminee to assist in the cost of further evaluating the petroleum potential.

It is also recommended that the SADME be approached to seek a reduction in permit size to cover only the Kilaroo Sub-Basin (Figure 3) and an amendment to the work programme. The work programme for the reduced permit should delay if possible the seismic and drilling by one year, in order that Continental may find a farminee to assist in the costs associated with this work.

During the review of the bore hole data, three bores were recorded as having oil shows. It is recommended that geochemical analysis be performed on these samples during Year two.

LOCATION MAP
CURRENT LICENCE AREA
PEL 35



PMA Petroleum Management Associates

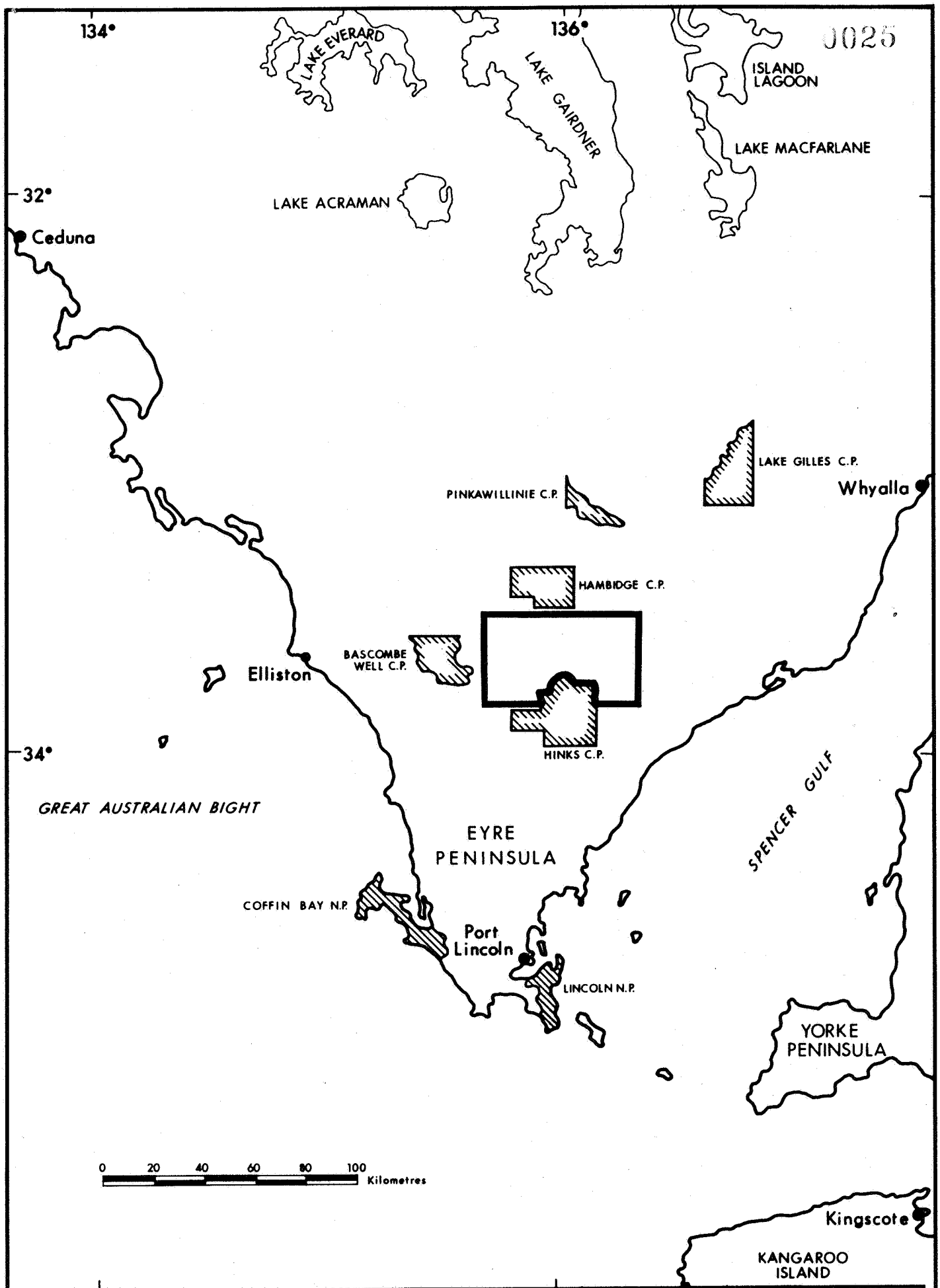
Author: A.J.W.	Date: SEPT. 1986
Drawn: C.R.	Report No:
Drawing No:	Figure No: 1

Figure 2.

KILAROO SUB-BASIN

STRATIGRAPHIC TABLE

	AGE	ROCK UNIT	LITHOLOGY
Quaternary	Pleistocene	Bridgewater Fm.	Limestone and Clay
Tertiary	Middle Eocene	Poelpena Fm.	Sand, Silt & Lignite
Mesozoic	Upper Jurassic	Polda Fm.	Sand, interbedded Clay & Lignite
Palaeozoic	Permo/ Carboniferous	Coolardie Fm.	Sand and Shale
	Cambrian?	Unnamed Sequence	Not drilled
Proterozoic	Adelaidean	Blue Range Beds	Coarse Sandstone, Conglomerate
	Carpentarian	Lincoln Complex	Granite Gneiss



POLDA BASIN
SOUTH AUSTRALIA
RECOMMENDED LICENCE AREA

PMA Petroleum Management Associates

Author: A.J.W.	Drawing No:
Drafted: C.R.	Report No:
Date: AUGUST 1986	Figure No: 3

PMA Petroleum Management Associates Pty Ltd

POLDA BASIN

BORE HOLE CORRELATIONS LOCATION MAP

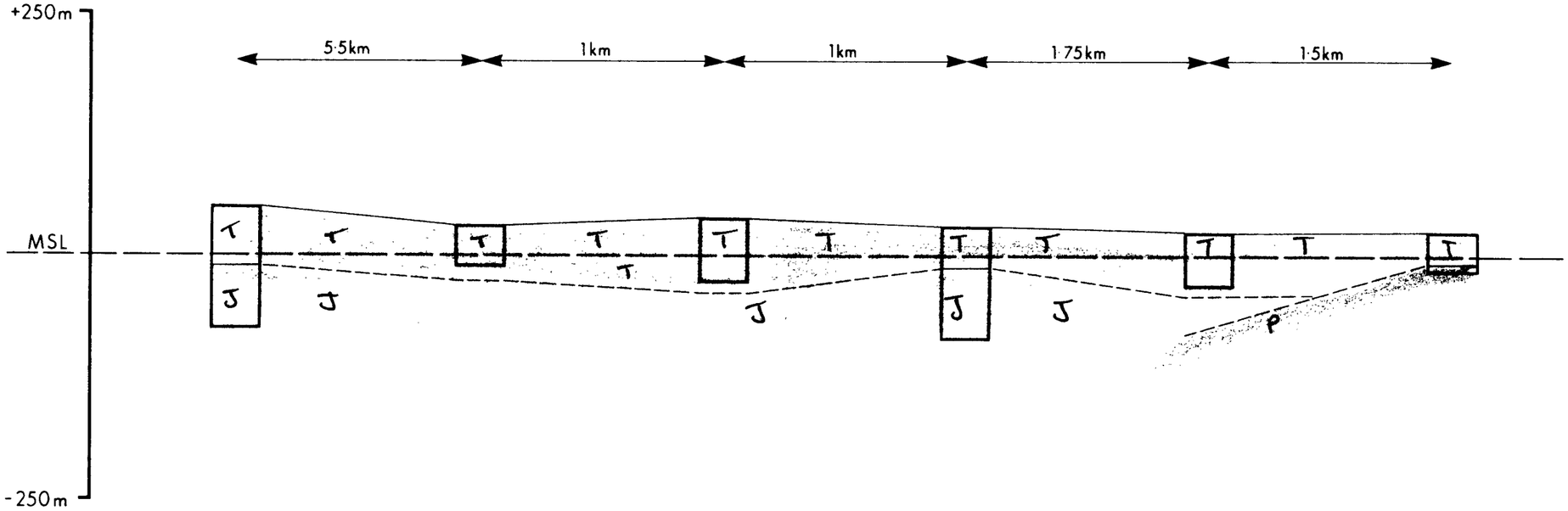
6671-1

Author: S.I.M. | Date: JULY 1986 | ENCL. 1

A
SOUTH

A'
NORTH

ESSO EXPLORATION RWF5	ESSO EXPLORATION RWF9	ESSO EXPLORATION RWF12	ESSO EXPLORATION RWF4A	ESSO EXPLORATION RWF13	ESSO EXPLORATION RWF11
T.D.-74m G.L.+49m	T.D.-11m G.L.+31m	T.D.-27m G.L.+37m	T.D.-86m G.L.+28m	T.D.-32m G.L.+22m	T.D. 37m K.B. G.L.?



T TERTIARY

J JURASSIC

PERMO-CARBONIFEROUS

LOWER PALAEOZOIC (CAMBRIAN?)

P PRE-CAMBRIAN

GRANITE

Vertical Scale : 1:5000
Horizontal Scale : Diagrammatic

Encl. 2

PMA Petroleum Management Associates

POLDA BASIN

BORE HOLE CORRELATIONS A-A'

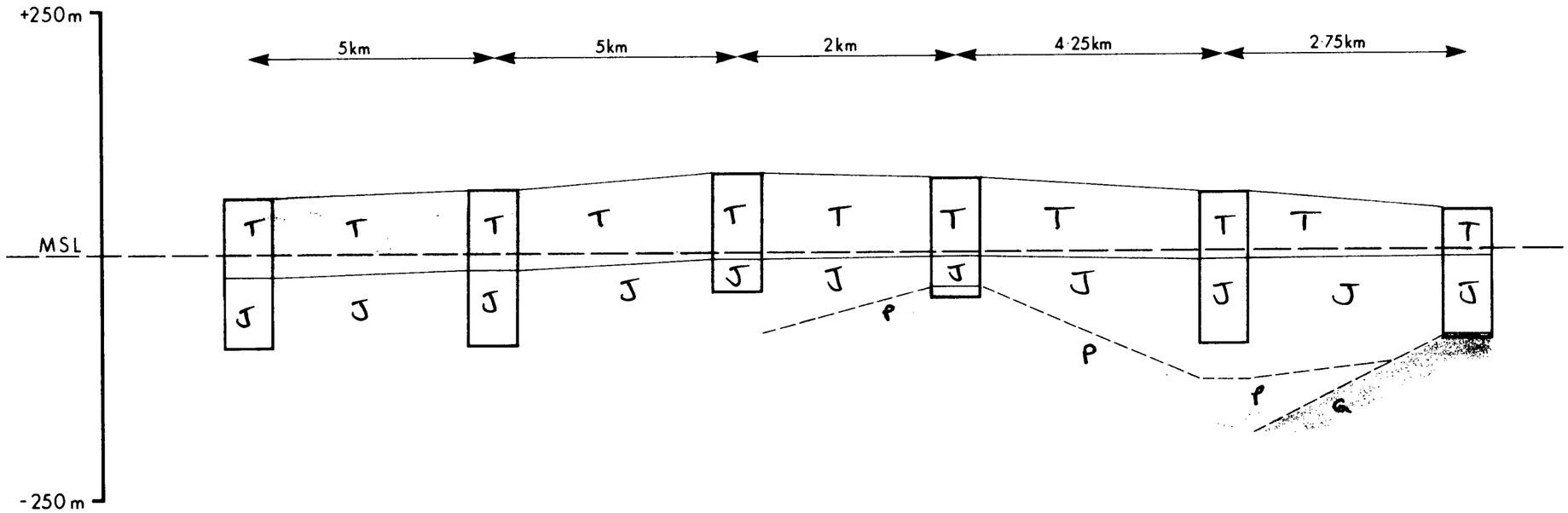
Author S I M.	Date JULY 1986	Rpt No
Drawn C R	Dpt No	Dpt No

6671-2

B
SOUTH

B'
NORTH

ESSO EXPLORATION RWF19	ESSO EXPLORATION RWF20	ESSO EXPLORATION RWF10	ESSO EXPLORATION RWF21	ESSO EXPLORATION RWF22	ESSO EXPLORATION RWF1
T.D.-96m G.L +58m	T.D.-94m G.L.+66m	T.D.-40m G.L.+80m	T.D.-44m G.L.+76m	T.D.-94m G.L.+58m	T.D.-87m G.L.+39m



T TERTIARY

J JURASSIC

PERMO-CARBONIFEROUS

LOWER PALAEOZOIC (CAMBRIAN?)

P PRE-CAMBRIAN

GRANITE

Vertical Scale : 1:5000
Horizontal Scale : Diagrammatic

Encl. 3

PMA Petroleum Management Associates

POLDA BASIN
BORE HOLE CORRELATIONS
B-B'

Author S.I.M	Date JULY 1986	Rpt No
Drawn C.R	Dwg No	Fig No

6671-3

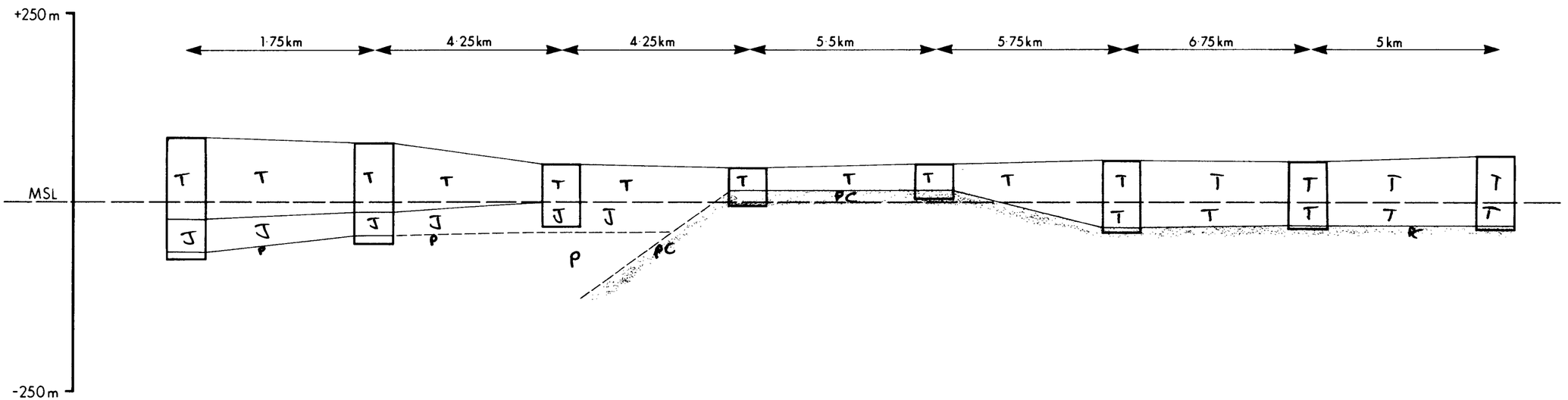
C

SOUTH

C'

NORTH

CRA EXPLORATION 81LRM59	CRA EXPLORATION 80LRM31	CRA EXPLORATION 80LRM30	CRA EXPLORATION 81LRM55	CRA EXPLORATION 81LRM54	CRA EXPLORATION 81LRM51	CRA EXPLORATION 80LRM29	CRA EXPLORATION 80LRM50
T.D. - 75m G.L. +85m	T.D. - 53m G.L. +78m	T.D. - 32 m G.L. +50m	T.D. - 5m G.L. +45m	T.D. +7m G.L. +50m	T.D. - 38m G.L. +52m	T.D. - 35m G.L. +53m	T.D. - 35m G.L. +60m



T TERTIARY

J JURASSIC

P PERMO-CARBONIFEROUS

LOWER PALAEOZOIC (CAMBRIAN?)

PC PRE-CAMBRIAN

GRANITE

Vertical Scale : 1:5000

Horizontal Scale : Diagrammatic

Encl. 4

PMA Petroleum Management Associates

POLDA BASIN

BORE HOLE CORRELATIONS C-C'

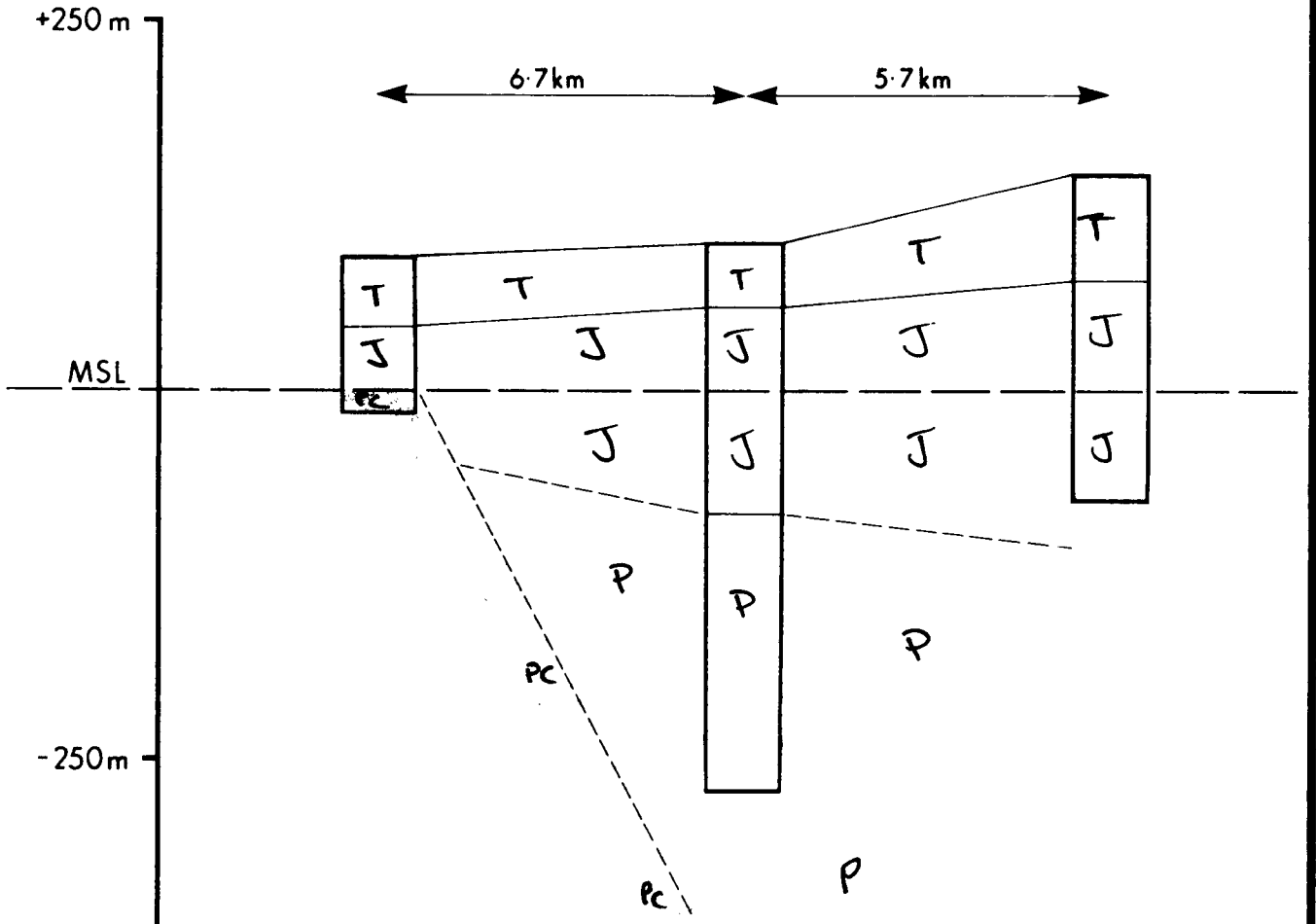
Author S I M	Date JULY 1986	Rpt No
Drawn C R	Dwg No	Fig No

6671-4

D — SOUTH

D' — NORTH

CRA EXPLORATION 80LRM17	SOUTH AUST. DEPT. OF MINES AND ENERGY Lock 1	CRA EXPLORATION 81LRM67
T.D. - 15m	T.D. - 270m	T.D. - 75m
G.L. + 90m	G.L. + 100m	G.L. + 145m



T TERTIARY

J JURASSIC

P PERMO-CARBONIFEROUS

LOWER PALAEOZOIC (CAMBRIAN?)

PC PRE-CAMBRIAN

GRANITE

Vertical Scale : 1:5000
Horizontal Scale : Diagrammatic

Encl. 5

PMA Petroleum Management Associates

POLDA BASIN

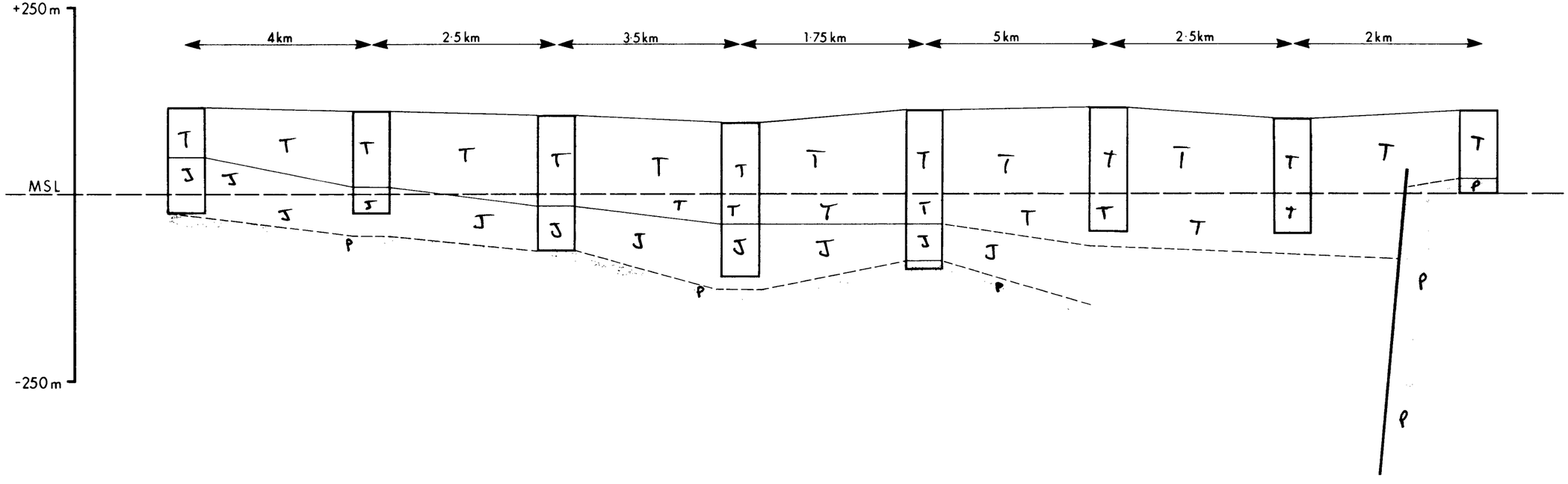
BORE HOLE CORRELATIONS D-D'

Author S I M	Date JULY 1986	Rpt No
Drawn C R	Dwg No	Fig No

E
SOUTH

E'
NORTH

CRA EXPLORATION	CRA EXPLORATION	CRA EXPLORATION	SOUTH AUST. DEPT. OF MINES AND ENERGY	CRA EXPLORATION	CRA EXPLORATION	CHEVRON EXPLORATION	CRA EXPLORATION
80LRM20	**80LRM19**	**81LRM61**	**Tuckey 1**	**81LRM62**	**80LRM7**	**LDH10**	**80LRM8**
T.D. -25m G.L. +115m	T.D. -25m G.L. +110m	T.D. -82m G.L. +105m	T.D. -110m G.L. +95m	T.D. -100m G.L. +110m	T.D. -50m G.L. +115m	T.D. -52m G.L. +100m	T.D. 0m G.L. +110m



T TERTIARY

J JURASSIC

PERMO-CARBONIFEROUS

LOWER PALAEOZOIC (CAMBRIAN?)

P PRE-CAMBRIAN

GRANITE

Vertical Scale : 1:5000
Horizontal Scale : Diagrammatic

Encl. 6

PMA Petroleum Management Associates

POLDA BASIN
BORE HOLE CORRELATIONS
E-E'

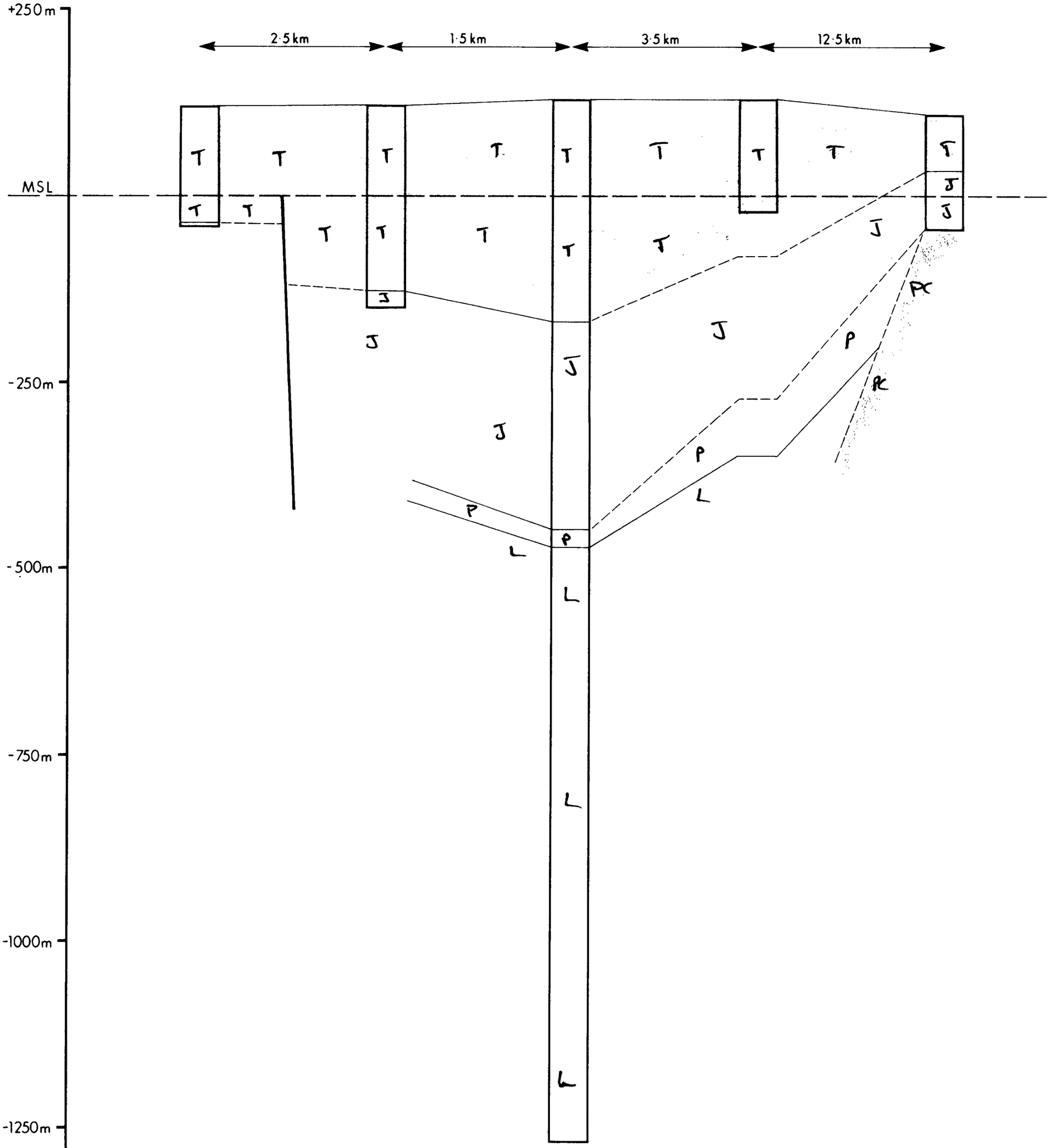
Author: S I M	Date: JULY 1986	Ref No
Drawn: C R	Dwg No	Fig No

6671-5

F NORTH

F' SOUTH

CRA EXPLORATION	CRA EXPLORATION	CRA EXPLORATION	CRA EXPLORATION	CRA EXPLORATION
81LRM42	**81LRM41**	**83KD1A**	**80LRM4**	**81LRM63**
T.D. -42m G.L. +120m	T.D. -150m G.L. +120m	T.D. -1268m G.L. +130m	T.D.-20m G.L. +130m	T.D.-47m G.L.+110m



- TERTIARY
- JURASSIC
- PERMO-CARBONIFEROUS
- LOWER PALAEOZOIC (CAMBRIAN?)
- PRE-CAMBRIAN
- GRANITE

Vertical Scale : 1:5000
Horizontal Scale : Diagrammatic

Encl. 7

PMA Petroleum Management Associates

POLDA BASIN
BORE HOLE CORRELATIONS
F-F'

Author S I M	Date JULY 1986	Rpt No
Drawn C R	Dwg No	Fig No

6671-6

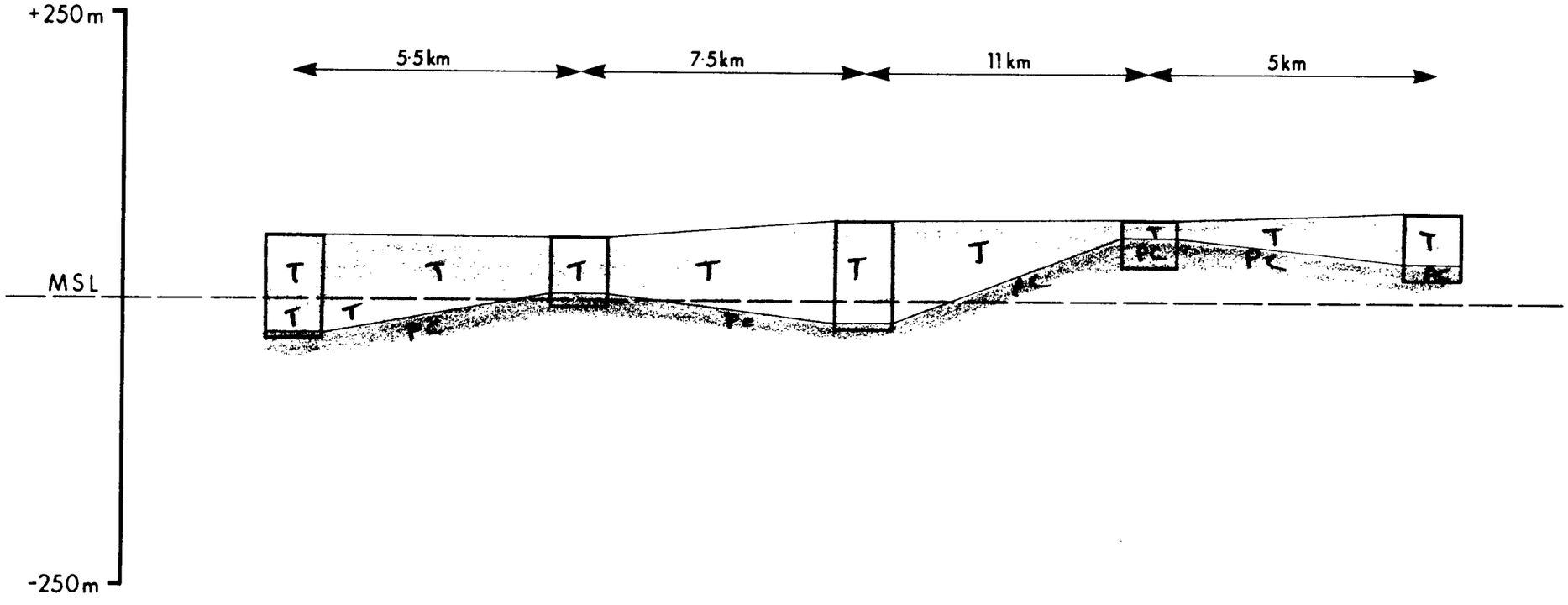
G

WEST

G'

EAST

CRA EXPLORATION	CRA EXPLORATION	CRA EXPLORATION	CRA EXPLORATION	CRA EXPLORATION
80LRM29	**81LRM49**	**81LRM47**	**81LRM69**	**81LRM46**
T.D.-35m G.L.+55m	T.D.-5m G.L.+55m	T.D.-25m G.L.+70m	T.D.+30m G.L.+70m	T.D.+20m G.L.+76m



- T — TERTIARY
- JURASSIC
- PERMO-CARBONIFEROUS
- LOWER PALAEOZOIC (CAMBRIAN?)
- PC — PRE-CAMBRIAN
- GRANITE

Vertical Scale : 1:5000
Horizontal Scale : Diagrammatic

Encl. 8

PMA Petroleum Management Associates

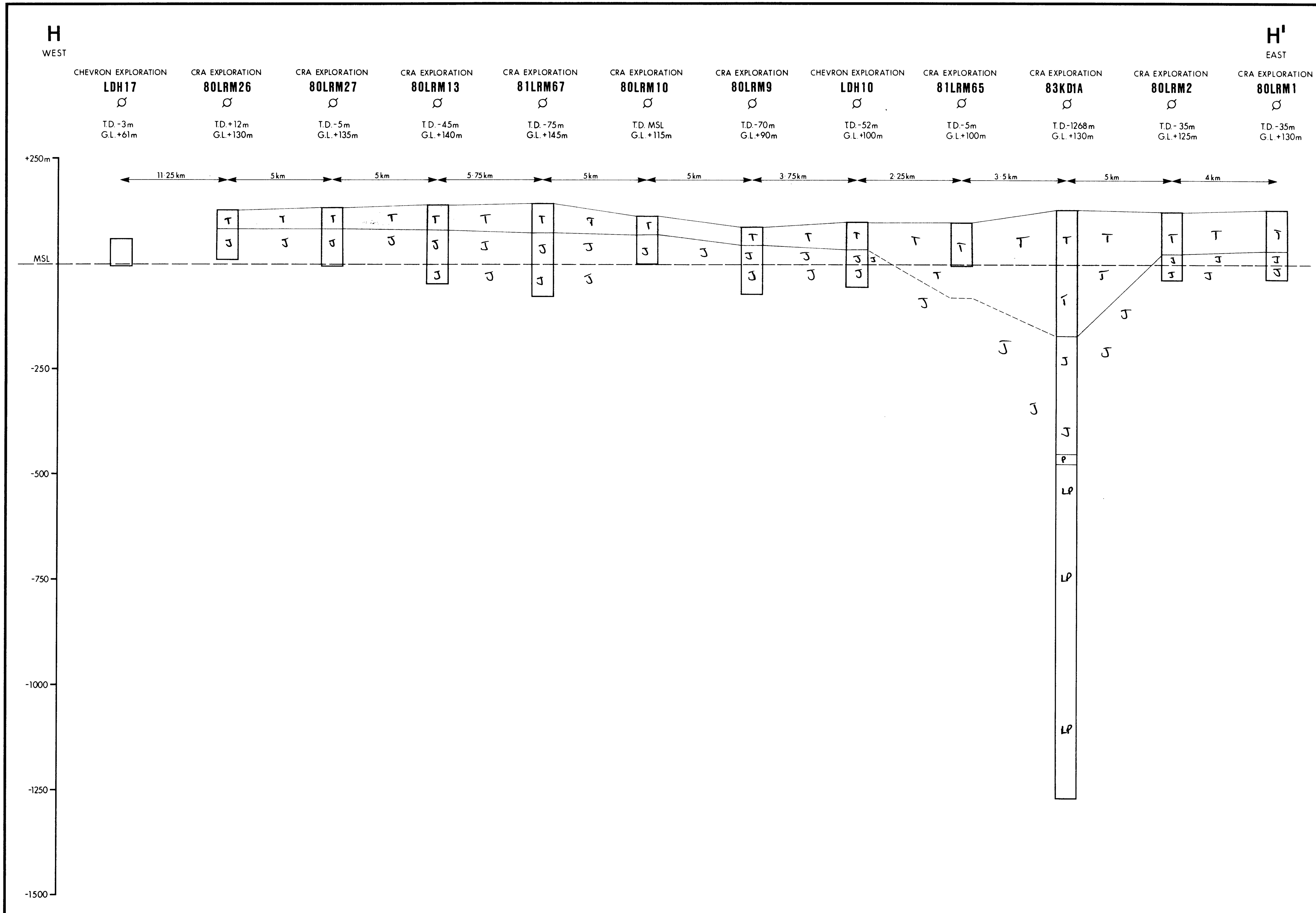
POLDA BASIN

BORE HOLE CORRELATIONS

G-G'

Author S I M	Date JULY 1986	Rpt No
Drawn C. R	Dra No	Plot No

6671-7



T TERTIARY

J JURASSIC

P PERMO-CARBONIFEROUS

LP LOWER PALAEOZOIC (CAMBRIAN?)

PRE-CAMBRIAN

GRANITE

Vertical Scale: 1:5000
Horizontal Scale: Diagrammatic

Encl. 9

PMA Petroleum Management Associates

POLDA BASIN
BORE HOLE CORRELATIONS
H-H'

Author S.M.	Date JULY 1986	Plt No.
Drawn C.R.	Dwg No.	Fig No.

6671-8

I — WEST

I' — EAST

AUST. OCCIDENTAL	OUTBACK OIL	AUST. OCCIDENTAL	SOUTH AUST. DEPT. OF MINES AND ENERGY	SOUTH AUST. DEPT. OF MINES AND ENERGY	SOUTH AUST. DEPT. OF MINES AND ENERGY	CRA EXPLORATION	SOUTH AUST. DEPT. OF MINES AND ENERGY	CHEVRON EXPLORATION	SOUTH AUST. DEPT. OF MINES AND ENERGY	CRA EXPLORATION	CRA EXPLORATION
Columbia 1	**Gemini 1**	**Mercury 1**	**Colton 1**	**Mucka Cudla 1**	**Polda 1**	**80LRM30**	**Lock 1**	**LDH11**	**Tuckey 1**	**83KD1A**	**80LRM5**
T.D. - 2151m G.L. - 75m	T.D. - 885m G.L. - 72m	T.D. - 3235m G.L. - 78m	T.D. - 90m G.L. +35m	T.D. - 89m G.L. +37m	T.D. - 135m G.L. +37m	T.D. - 32m G.L. +50m	T.D. - 269m G.L. +100m	T.D. - 3m G.L. +125m	T.D. - 123m G.L. +90m	T.D. - 1268m G.L. +130m	T.D. - 5m G.L. +110m

27·5km | 11km | 66km | 19·5km | 34·5km | 5km | 43km | 6·25km | 11·5km | 9km | 3·75km

+250m
MSL
-250m
-500m
-750m
-1000m
-1250m
-1500m
-1750m
-2000m
-2250m
-2500m
-2750m
-3000m
-3250m

TERTIARY
JURASSIC
PERMO-CARBONIFEROUS
LOWER PALAEOZOIC (CAMBRIAN?)
PRE-CAMBRIAN
GRANITE

Vertical Scale : 1:5000
Horizontal Scale : Diagrammatic

Encl. 10

PMA Petroleum Management Associates

POLDA BASIN
BORE HOLE CORRELATIONS
I-I'

Author S.I.M.	Date JULY 1986	Rpt No
Drawn C.R.	Drg No	Fig No

6671-9

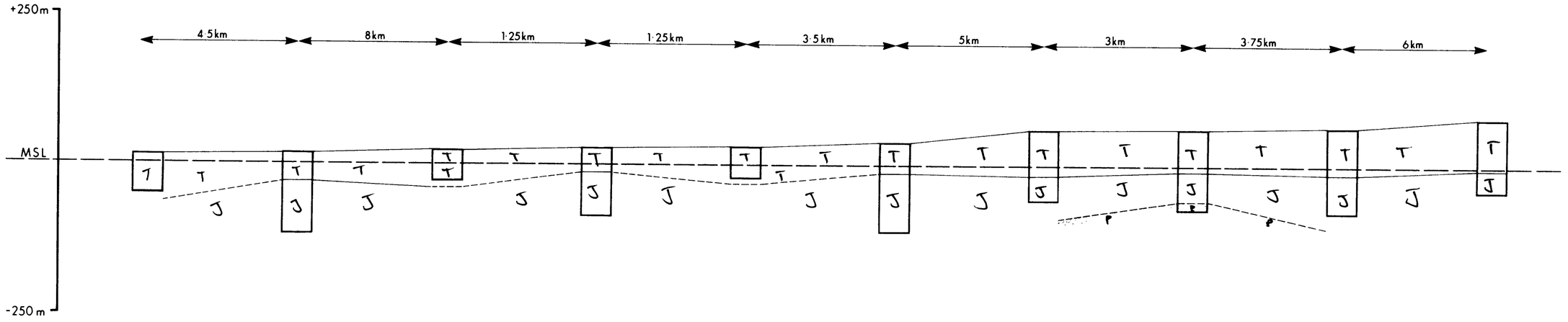
J

WEST

J'

EAST

ESSO EXPLORATION RWF6	ESSO EXPLORATION RWF8	ESSO EXPLORATION RWF14	ESSO EXPLORATION RWF4A	ESSO EXPLORATION RWF15	ESSO EXPLORATION RWF2	ESSO EXPLORATION RWF3	ESSO EXPLORATION RWF16	ESSO EXPLORATION RWF7	ESSO EXPLORATION RWF10
T.D.-78m G.L.?	T.D.-115m G.L.+17m	T.D.-28m G.L.+22m	T.D.-86m G.L.+28m	T.D.-27m G.L.+29m	T.D.-110m G.L.+38m	T.D.-62m G.L.+65m	T.D.-71m G.L.+65m	T.D.-75m G.L.+68m	T.D.-40m G.L.+80m



T TERTIARY

J JURASSIC

PERMO-CARBONIFEROUS

LOWER PALAEOZOIC (CAMBRIAN?)

P PRE-CAMBRIAN

GRANITE

Vertical Scale : 1:5000

Horizontal Scale : Diagrammatic

Encl. 11

PMA Petroleum Management Associates

POLDA BASIN

BORE HOLE CORRELATIONS

J-J'

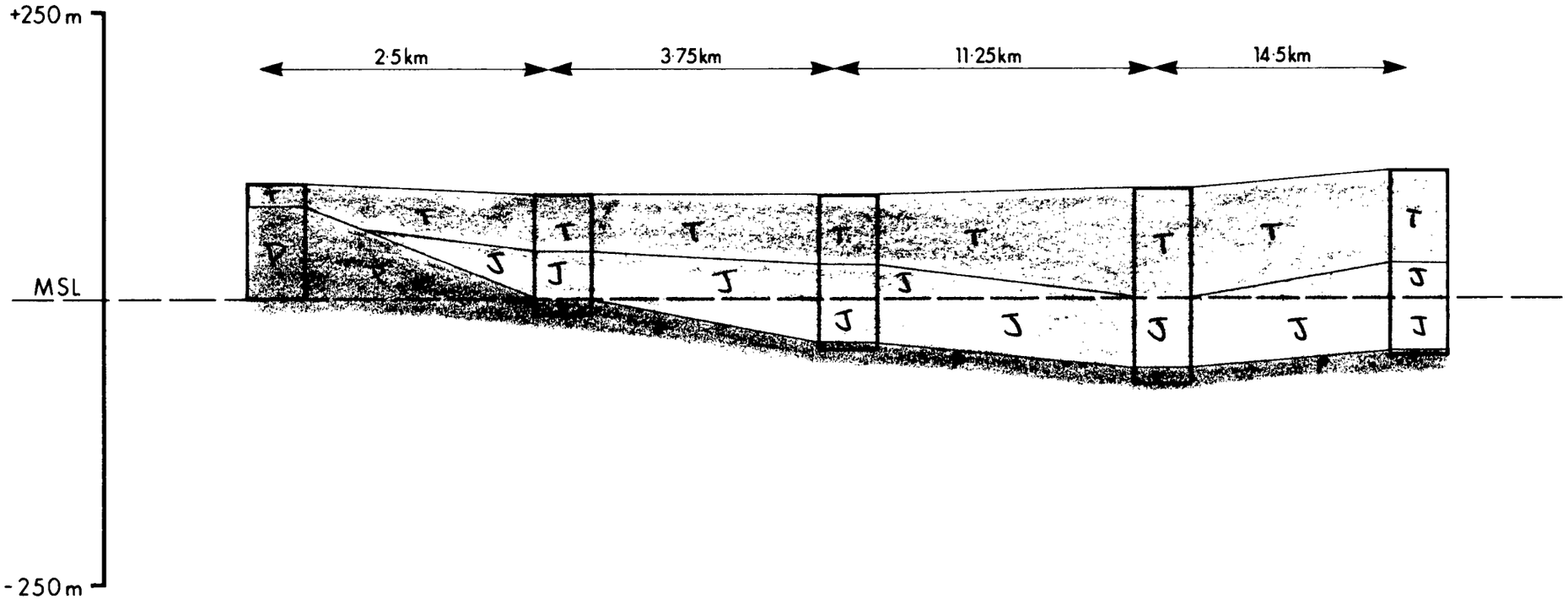
STM	JULY 1986	
CR		

6671-10

K
WEST

K'
EAST

CRA EXPLORATION	CRA EXPLORATION	CRA EXPLORATION	CRA EXPLORATION	CRA EXPLORATION
80LRM16	**80LRM17**	**80LRM18**	**81LRM61**	**81LRM63**
T.D. MSL G.L.+100m	T.D.-15m G.L.+90m	T.D.-38m G.L. +90m	T.D.-75m G.L.+95m	T.D.-47m G.L.+110m



T TERTIARY

J JURASSIC

PERMO-CARBONIFEROUS

LOWER PALAEOZOIC (CAMBRIAN?)

PRE-CAMBRIAN

GRANITE

Vertical Scale : 1:5000
Horizontal Scale : Diagrammatic

Encl. 12

PMA Petroleum Management Associates

POLDA BASIN
BORE HOLE CORRELATIONS
K-K'

Author S I M	Date JULY 1986	Rpt No
Drawn C R	Dwg No	Fig No

6671-11

L

WEST

L'

EAST

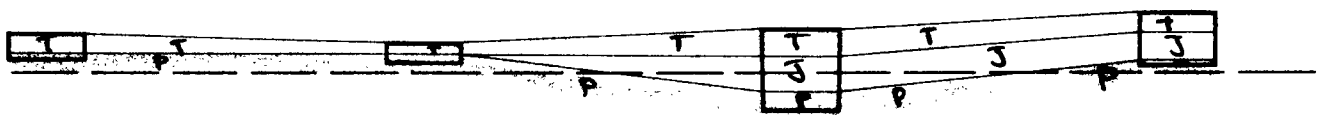
CRA EXPLORATION	CRA EXPLORATION	CRA EXPLORATION	CRA EXPLORATION
80LRM38	**80LRM36**	**80LRM35**	**80LRM32**
T.D. +10m	T.D. +10m	T.D. -25m	T.D. MSL
G.L. +22m	G.L. +18m	G.L. +28m	G.L. +38m

+250 m

-250 m

MSL

10·75 km | 10 km | 9·5 km



T TERTIARY

J JURASSIC

PERMO-CARBONIFEROUS

LOWER PALAEOZOIC (CAMBRIAN?)

P PRE-CAMBRIAN

GRANITE

Vertical Scale : 1:5000

Horizontal Scale : Diagrammatic

Encl. 13

PMA Petroleum Management Associates

POLDA BASIN

BORE HOLE CORRELATIONS

L-L'

Author S I M	Date JULY 1986	Rpt No
Drawn C R	Dwg No	Dist No

6671-12

SOUTH AUSTRALIAN

DEPARTMENT OF MINES AND ENERGY

SURVEY : POLDA BASIN

AREA : 83-001

LINE : 1

SP : 180 - 846

FINAL STACK

NORTH →

RECORDING PARAMETERS

RECORDED BY : DME

INSTRUMENTS : INPUT/OUTPUT DHR 1632
24 CHANNEL

RECORD LENGTH : 2 SECS.

RECORDING FILTER : 500/OUT

SPREAD DIAGRAM :

```
      TR.1                       TR.24
   *  I------------------------I
```

SHOT PATTERN :

```
*   I <-----------575M-----------> I
  *   I <-----------575M-----------> I
    *   I <-----------575M-----------> I
```

DATE RECORDED : 1983

GEOPHONE TYPE : SINGLE/MARK PRODUCTS
L25E 40 HZ.

NUMBER OF GROUPS : 24

COVERAGE : 600%

GROUP INTERVAL : 25 M.

SHOT INTERVAL : 50 M.

SPREAD PATTERN : 0 -- 50 -- 625

ENERGY SOURCE : 1 KG. ANZITE BLUE

SOURCE DEPTH : 20 M. AVERAGE

SURVEY DATUM : 0 METRES A.H.D.

PROCESSING SEQUENCE

[1] REFORMAT FROM SEGY
RESAMPLE TO 2 MS. SAMPLE RATE

[2] PREFILTER (DESIGNED AND APPLIED IN F-K DOMAIN)

[3] PREDICTIVE DECONVOLUTION :
GAP = 20 MSEC.
120 MSEC. OPERATOR
0.1% WHITE NOISE ADDED
2 GATES (LENGTH = 800 MSEC.)

[4] DATUM STATIC CORRECTIONS USING DIGICON'S STATICSG
(PROCESSING DATUM = 100 M.)

[5] COMMON DEPTH POINT GATHER

[6] VELOCITY ANALYSIS BEFORE RESIDUAL STATICS

[7] RESIDUAL STATICS COMPUTATION AND APPLICATION

[8] VELOCITY ANALYSIS AFTER RESIDUAL STATICS

[9] NORMAL MOVEOUT CORRECTION

[10] PRE-STACK MUTE (COMPUTER GENERATED STRETCH MUTE)

[11] TIME VARIANT EQUALIZATION (WINDOW LENGTH 500 MS.)

[12] COMMON DEPTH POINT STACK 6 FOLD

[13] DIGITAL BANDPASS FILTER :

TIME (SECOND)	BANDPASS/SLOPE (DB/OCTAVE)
0.0	20/18-100/36 HZ
0.6	15/18-80/36 HZ
1.4	15/18-70/36 HZ
1.6	25/18-70/36 HZ

[14] TIME VARIANT EQUALIZATION (WINDOW LENGTH 100 MS.)

PROCESSED BY : DIGITAL EXPLORATION LTD.

DIGICON, BRISBANE

QUALITY CONTROL CHECK

GEOPHYSICIST : RICK SLACK
SUPERVISOR : KEN ALLEN

DATE : OCTOBER 1983

HORIZONTAL SCALE : 12 TRACES/INCH
VERTICAL SCALE : 5 INCHES/SEC
POLARITY : NORMAL RELATIVE TO FIELD RECORDING

Encl. 14

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