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EL 875 AND EL 889

ERINGA HOMESTEAD AND ILBUNGA SIDING

PROGRESS AND FINAL REPORTS FOR THE PERIOD 14/9/81 TO 4/8/82

Submitted by
CRA Exploration Pty Ltd
1982

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TENEMENT: E.L. 875 - Eringa H.S. & E.L. 889 - Ilbunga Siding.

TENEMENT HOLDER: CRA Exploration Pty. Ltd.

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CRA EXPLORATION PTY. LIMITED

FIRST QUARTERLY REPORT FOR THE WESTERN PEDIRKA BASIN TENEMENTS SOUTH AUSTRALIA, FOR THE PERIOD ENDING 27TH DECEMBER, 1981

Exploration Licences: Eringa 875
Ilbunga 889

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AUTHOR: D.R. McBAIN

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DATE: 29TH DECEMBER, 1981.

SUBMITTED BY: D.R. McBain

ACCEPTED BY:

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DEPT. OF MINING AND ENERGY SECURITY
4473

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1. SUMMARY

The existing data was evaluated and interpreted with a view to ascertaining the distribution, thickness and depth of the coal seams, with the prospect of optimising the location of the two boreholes to be drilled in the 1982 drilling programme.

The interpretation is uncertain in parts due to the rather poor quality of the available seismic data.

2. CONCLUSIONS

2.1 The quality of the data from the Emery and Mt. Ross seismic surveys is rather poor, which caused limitations and uncertainties in their interpretation.

2.2 The areal extent of the shallower coal seams may be more widespread than indicated, due to the uncertainties in the interpretation.

2.3 The data from two proposed boreholes will provide an indication of the coal thickness, distribution, and quality, and facies variations related to depth.

2.4 Assuming significant coal intersections re-processing of the seismic data is recommended.

3. INTRODUCTION

The Western Pedirka Basin tenements were applied for as part of CRA Exploration Pty. Limited's coal exploration initiative within South Australia. The target sought within these E.L.'s is high quality Permian black coal.

Eringa E.L. 875 (Plan SAa 708) and Ilbunga E.L. 889 (Plan SAa 707) were granted to CRA Exploration Pty. Limited on 14th September, 1981 and 27th September, 1981 respectively, for a period of twelve months. This report details all work carried out by CRA Exploration Pty. Limited within the two E.L.'s up to the 27th December, 1981.

4. WORK CARRIED OUT

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4.1 Data Acquisition

Previous mineral, oil well and seismic data was acquired from the S.A.D.M.E. and B.M.R. in Canberra for the area covered by the E.L.'s and the adjoining areas.

4.2 Data Evaluation and Interpretation

The aim of the evaluation and interpretation was to define the extent, thickness and depth of the Purni Formation, and the distribution, thickness and number of the coal seams.

As an initial step, using the available borehole information as control the existing seismic survey data was evaluated, (see Appendix I). The evaluation and the interpretation was hampered by the rather poor quality of the data, the field design of the Mt. Ross seismic survey does not optimise recovery from the target horizon, and the resolution of the surveys is about 15 metres, so it is impossible to detect if one has a solid or thinly interbedded coal seam.

The report on the evaluation of available seismic data is presented in Appendix I.

4.3 Planning of Drilling Programme

Based on the evaluation and interpretation of the available data two borehole sites were chosen (Plan SAa 1123). The estimated depths and targets are indicated in Table 1.

TABLE 1

Borehole Site	Estimated Total Depth (M)	Estimated depth to top of Purni formation (M)	Estimated thickness of Purni formation (M)	Estimated Number of coal seams
A	905	655	250	Six
B	460	375	85	One

007

Borehole site A is a stratigraphic - type hole, and should intersect thicker coal seams than on the basin margin; and will give an indication of the coal seam thicknesses and quality in the deeper parts of the basin.

Borehole site B should give an indication of the likely coal development and quality in the shallower parts of the basin. It is expected that only one main thick seam will be intersected rather than the six of site A; however thinner seams below the resolution limit may be present, and still be of interest.

From the results of these two boreholes it should be possible to:

a) Compare the development of the coal seams between the deeper and shallower parts of the basin.

b) Obtain an indication of the comparative qualities of the coal seams in the deeper and shallower parts of the basin.

c) Examine depth related facies changes.

d) Re-process the existing seismic data using these boreholes as control.

These boreholes will be fully geophysically logged, and it is anticipated that deviation, dipmeter, sonic and temperature logs will be run in addition to the usual suite of logs.

If finance is available, additional seam cores will be taken by wedging off the borehole.

The drilling could present problems due to the depth, soft Mesozoic sediments, artesian water and the possibility of gas.

It is envisaged that the Tertiary, Mesozoic will be drilled using rotary-mud techniques, with diamond drilling through the part of the Purni formation containing the coal seams. Gas blow-out preventers will be used during the drilling.

As to when the drilling is carried out will depend to a degree on the availibility of a suitable rig and geophysical logging unit.

5. FUTURE EXPLORATION

Following the evaluation of the drilling programme it is envisaged that re-processing of the seismic data will be undertaken, using the borehole logs, especially the sonic log, as control.

008

The aim of the re-processing and re-interpretation of the seismic data must be to better define the basin and the areal extent, thickness and depth of the coal seams.

D.R. McBAIN

DRM/lc

REFERENCES

Afmeco, 1980 Drilling in Tieron Area, South Australian Department of Mines & Energy open file Env. 3902.

French Petroleum, 1964 Well completion report of Witcherrie No. 1.

French Petroleum, 1966 Emery Seismic Survey, South Australian Department of Mines & Energy open file Env. 546 (unpublished).

French Petroleum, 1966 Mt. Crispe No. 1 - Well completion report.

Vamgas, 1970 Mt. Ross Seismic Survey, South Australian Department of Mines & Energy open file Env. 1473 (unpublished).

KEYWORDS

Abminga SG53-10, Dalhousie SG53-11, Pedirka Basin, Permian, Mesozoic, Tertiary, Crown Point Formation, Purni Formation, Coal-black, Drill-rotary, Drill diamond, Geophys-aeromag, Geophys-grav, Geophys-seismic.

LOCATION

Abminga	SG53-10	1:250,000
Dalhousie	SG53-11	1:250,000

LIST OF PLANS

Plan No.	Title	Scale
SAa 707	Ilbunga E.L. 889 - E.L. location	1:500,000
SAa 708	Eringa E.L. 875 - E.L. location	1:500,000
SAa 1123	Pedirka Basin - Eringa E.L. 875, Ilbunga E.L. 889 - Isopach map of Purni Formation	1:250,000

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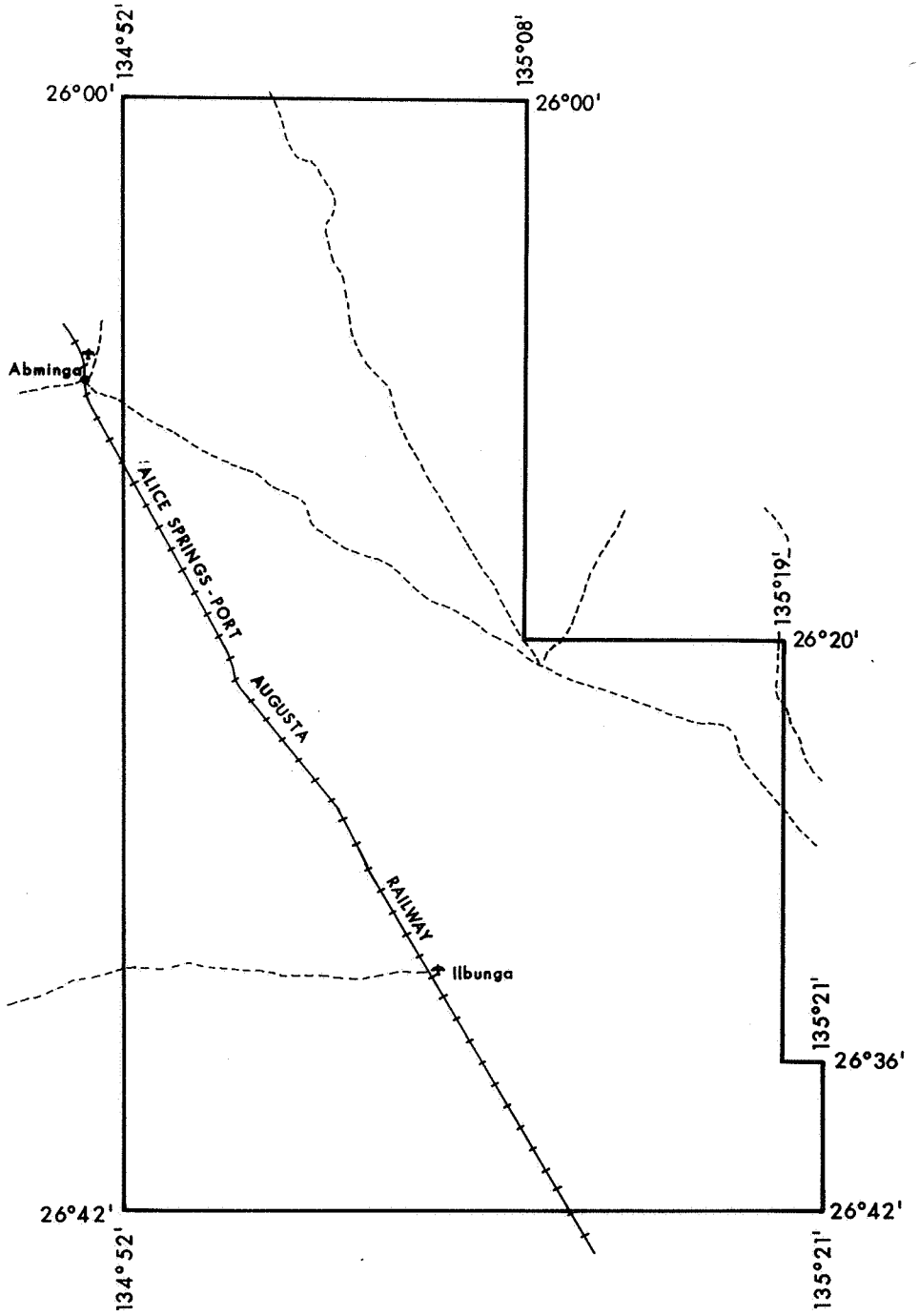
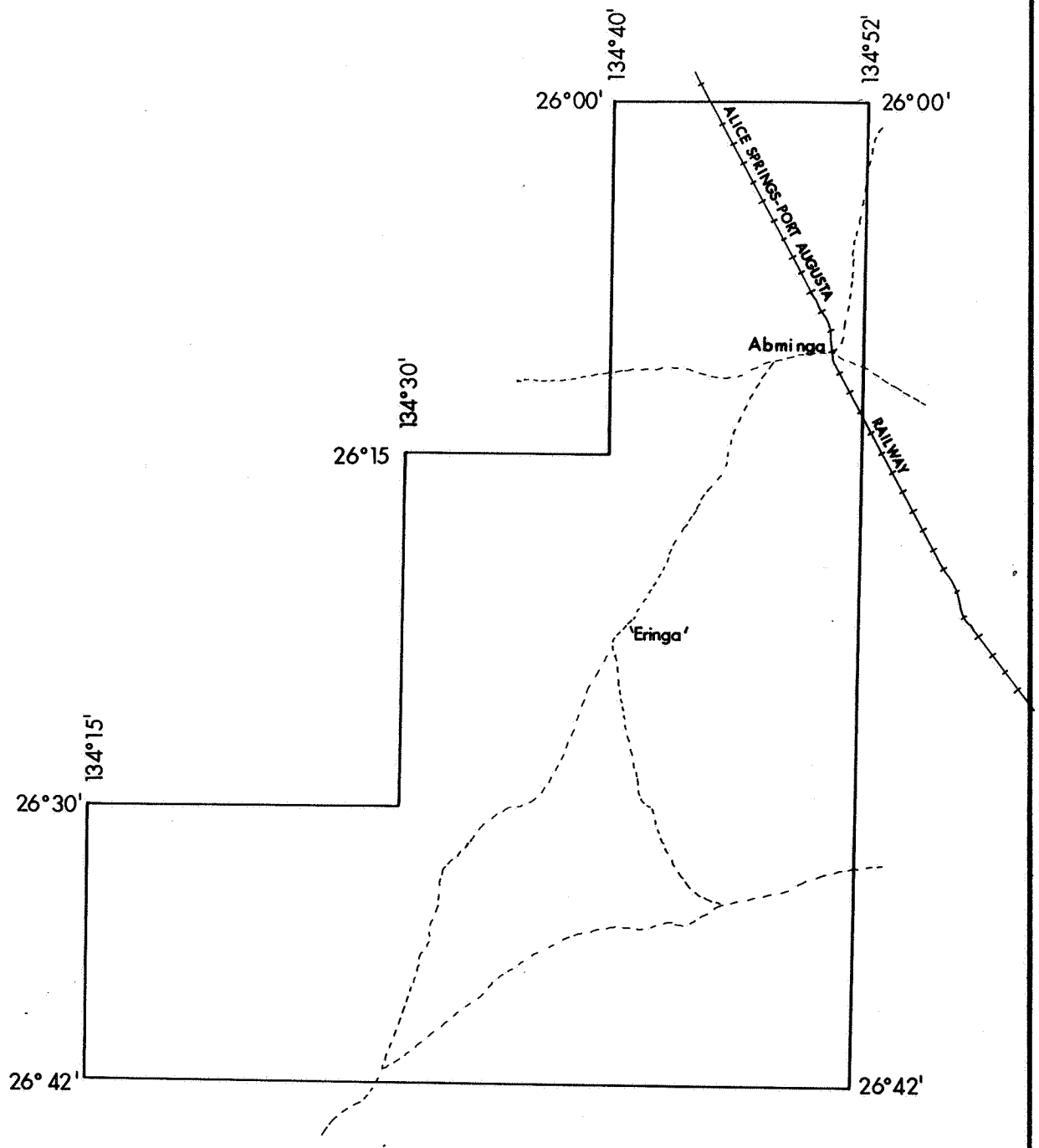
LIST OF APPENDICES

Appendix I - Pedirka Basin Coal - Eringa E.L. 875 and Ilbunga E.L. 889, South Australia - An evaluation of Available Seismic Data



C. R. A. EXPLORATION PTY. LIMITED	
ILBUNGA E.L. 889 E.L. LOCATION	
Ref. : ABMINGA SG53-10.	
Scale : 1:500,000.	Drawn : S.J.B.
Author :	Report No. :
Date : DECEMBER 1981	Plan No. : SAa 707.



C. R. A. EXPLORATION PTY. LIMITED	
ERINGA E.L. 875 E.L. LOCATION	
Ref. ABMINGA SG 53-10	
Scale 1:500,000	Drawn D.D.
Author	Report No.
Date DECEMBER 1981	Plan No. SAa 708

APPENDIX I

CRA EXPLORATION PTY. LIMITED

PEDIRKA BASIN COAL

ERINGA E.L. 875 AND ILBUNGA E.L. 889, SOUTH AUSTRALIA

AN EVALUATION OF AVAILABLE SEISMIC DATA.

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ACCEPTED BY:

RECEIVED
8 FEB 1982
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4. COMMENTS OF SEISMIC DATA	2
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1. INTRODUCTION

The Eringa and Ilbunga coal prospects are located in the Permian Pedirka Basin in the far north of South Australia (Figure 1). Targets for the area are seams of high quality coal of Upper Permian age contained within the Purni Formation.

The area is covered by regional gravity data at a spacing of one station per 36 square kilometres, aeromagnetic coverage at a line spacing of eight kilometres and flying height of 460 metres barometric. Two seismic surveys give sub-surface information for part of the area and high energy reflectors outlined in those surveys are thought to be related to thick sections of coal.

2. INTERPRETATION

From the available seismic data the areas of well developed sections of high energy reflectors have been outlined (Figure 1). These suggest that the lease area covers the margins of a broad relatively weakly deformed to undeformed basin with two partially defined embayments reaching back towards the south west. Regional post depositional tilting of this basin has occurred and the embayments shallow towards the south west and a post Permian unconformity dips at a shallow angle toward the north east. The embayments are divided by the Mt. Barr structure which has had pre-Permian upward movement. High energy reflectors occur beyond the embayments over much of the margins and ridge structures although in those areas continuity of individual reflectors is difficult to infer.

At Witcherie No. 1 to the east of the lease area the "P_2" reflector is a strong energy arrival which correlates with the unconformity between Mesozoic and Permian and the interpreted extent of this reflector (Vamgas, 1970) has been accepted in this interpretation to calculate depths to and thicknesses of the Purni Formation: The existence of a sequence of strong reflections has in this report been inferred to relate to the coal bearing sequence and only those areas where multiple reflections occur have been outlined as prospective. Where continuity of reflections is also good, a highly prospective area can be outlined.

The plan of the well developed areas can be interpreted in two ways. Conservatively, as shown, the most prospective areas are interpreted as isolated basins. However in com-

parison with the gravity trends for the area it is suggested that broad channels interconnecting the outlined areas will occur. This also suggests that the area to the south east also prospective for broad channel deposits of coal.

Because the quality of the seismic data is not good the areas outlined in this interpretation may be conservative. Extensions of good quality coal may well extend beyond those areas over the internal ridges and onto the surrounding margins. The quality of the data does not preclude this possibility and the limits of the "P_2" reflector should be considered the limits of the prospective area.

3. RECOMMENDED DRILLHOLES

An initial two hole drilling programme is recommended based on the existing seismic data. The first priority hole is situated at the intersection of line 4 and line 3. At this site a well developed sequence of flat lying reflectors is noted within a broad well defined embayment. Depth to the "P_2" reflector at this site is estimated at 650 metres and the thickness of prospective section at this site is 250 metres. Within this section six good reflectors occur with a minimum thickness for each reflector of 15 metres.

The second recommended drillhole is to test the shallowest prospective section on line 5 at S.P.5. Here a single reflector below the "P_2" reflector is the target. Depth to the "P_2" reflector is estimated at 375 metres with approximately 85 metres of prospective section containing a single 15 metre minimum thickness band.

4. COMMENTS ON SEISMIC DATA

There are a number of weaknesses in the existing data which have direct relevance to this report.

1. The available interpretations in the form of contour plans of "C" horizon, "P_2" horizon and "P" horizon contain a number of erroneous interpolations at the limits of the surveys. When compared in the area south of lines 2 and 4 negative isopachs for the 'P_2-P' interval occur and the interpretation in that area should be ignored. Within the survey area this does not occur and the contours are accepted.

2. The field design of the Mt. Ross Seismic Survey does not optimise recovery from the target horizons. Best recovery occurs from the Mesozoic section and correlation of lower energy reflectors below the Mesozoic from record to record is difficult. Only the high energy reflectors can be confidently correlated. In addition two survey controls are poor:-

(i) A single velocity distribution has been assumed for the whole survey. This has lead to obvious moveout errors in both the upper Mesozoic section and the lower section. Estimates of depth to a horizon are based on this processing and will in places contain significant errors.

(ii) Statics corrections for near surface velocity variations are also poor and in places portions of records are unusable because of insufficient control on this part of the survey. This will impart false structures on records and diminish the quality of correlations.

In addition the limits of resolution of the survey mean that intervals of less than approximately 15 metres will not be differentiated. Many of the high energy reflections are of this dimension. They could be true 15 thick uniform sections or be composed of thinner regular interbeds from which an interference wavelet is produced at the same wavelength.

Following the drilling of the recommended drillholes, reprocessing of all available seismic data is recommended. Velocity control should be improved by utilising sonic log data from the two recommended holes and including the velocity information recorded in refractions from the French Petroleum Emery Seismic Survey. Tapes for the surveys within the area are held by Delhi Petroleum, 33 King William Street, Adelaide and approval from transcription and reprocessing should be sought from that Company.

Extensions of the seismic data to the south east is recommended following the initial exploration drillholes. As mentioned above much of this area remains prospective.

B. FINLAYSON

BF/pw

019

REFERENCES

Vamgas, 1970 Mt. Ross Seismic Survey. South Australian Department of Mines and Energy Open File Env. 1473, Unpub.

French Petroleum, 1966 Emery Seismic Survey. South Australian Department of Mines and Energy Open File Env. 546, Unpub.

Afmeco, 1980 Drilling in Tieyon Area. South Australian Department of Mines and Energy Open File Env. 3902.

TABLE 1 RECOMMENDED DRILLING

A.	Location	SP15	Line 3	Estimated top of Purni Estimated thickness of Purni - 250 metres. Total Depth	655 metres. 905 metres.
B.	Location	SP 5	Line 5	Estimated top of Purni Estimated thickness of Purni - 85 metres. Total Depth	375 metres. 460 metres.

KEYWORDS

Abminga SG 53-10, Dalhousie SG 53-11, Pedirka Basin, Permian, Mesozoic, Purni Formation, Crown Point Formation, Coal-black, Geophys-aeromag., Geophys-grav., Geophys-seismic

LOCATION

Abminga SG 53-10 1:250 000
Dalhousie SG 53-11 1:250 000

020

LIST OF FIGURES

Fig. 1 Pedirka Basin S.A. - Isopach 1:250 000 Map of Purni Formation

Fig. 2 Pedirka Basin S.A. - Geological Cross-Section

134°00' 134°15' 134°30' 134°45' 135°00' 135°00'

26°00' 26°15' 26°30' 26°45'

NORTHERN TERRITORY / SOUTH AUSTRALIA

09 P?
18 P?
07 No P
08 No P
16 No P
03 P?
14 No P
06 No P
05 No P

Thin Permian in small depressions?

340m
255m
425m
170m
85m
340m
ERINGA EMBAYMENT
Depth to top of Purni Formation 780m
255m
Approx. Limit of Lower Permian
Limit of Purni Formation
Depth to top of Purni Formation 875m
ILBUNGA EMBAYMENT
A
650m
a'
MT. CHRISTIE NO. 1
EMERY EMBAYMENT
Area of Probable Development of Purni Formation
B
Thin Purni 375m
Approx. Limit of Purni Formation
a

BOUNDARY OF ERINGA E.L 875

BOUNDARY OF ILBUNGA E.L 889

LOCATION DIAGRAM OF PEDIRKA BASIN E.L.s

SCALE

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

N

LEGEND

- ·0·22 340m — Isopachs of Purni Formation and time thickness
- Limits of Purni Formation
- Limits of Lower Permian (Crown Point Formation)
- Highly prospective coal areas
- 650m A — Proposed drillhole with depth to Permian.
- 09 P / No P — Afmeco Drillholes - with Permian section - without Permian section
- a — a' — Line of Section (Fig 2, Plan SAa 1118)

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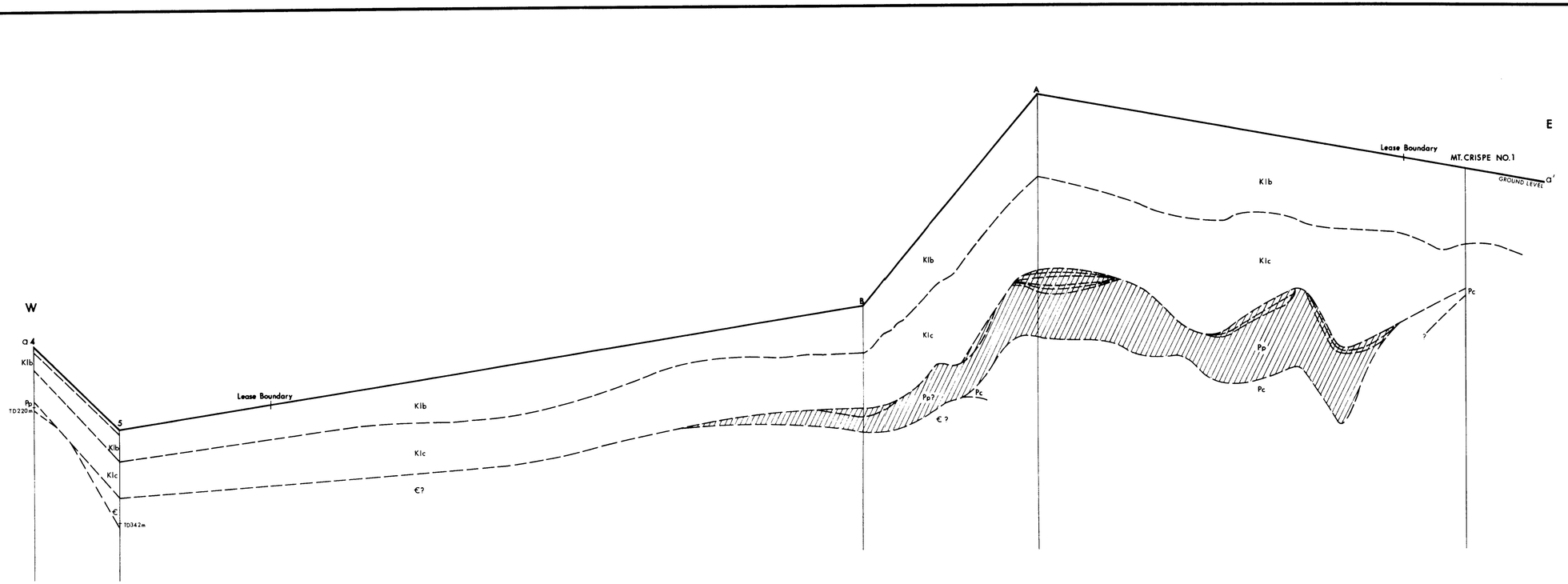
PEDIRKA BASIN
ERINGA E.L.875, ILBUNGA E.L.889
ISOPACH MAP OF PURNI FORMATION

Ref: ABMINGA SG53-10, DALHOUSIE SG53-11	
Author: B F	Scale: 1 250,000
Drawn: S.J.B.	Report No: 10910
Date: NOVEMBER 1981	Plan No: SAa 1123

4473-1



N

LEGEND

4,5	Afmeco Drillholes
A,B	Recommended Drillholes
MT. CRISPE NO.1	Stratigraphic Drillhole
Klb	Bulldog Shale
Klc	Cadnowie Formation
Pp	Purnie Formation (with approx. position of coal measures)
Pc	Crown Point Formation
€	Possible Cambro Ordovician Sequence

SCALE

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

Vertical Scale: 1 : 10,000

4473-2

FIG 2

CRA EXPLORATION PTY. LIMITED

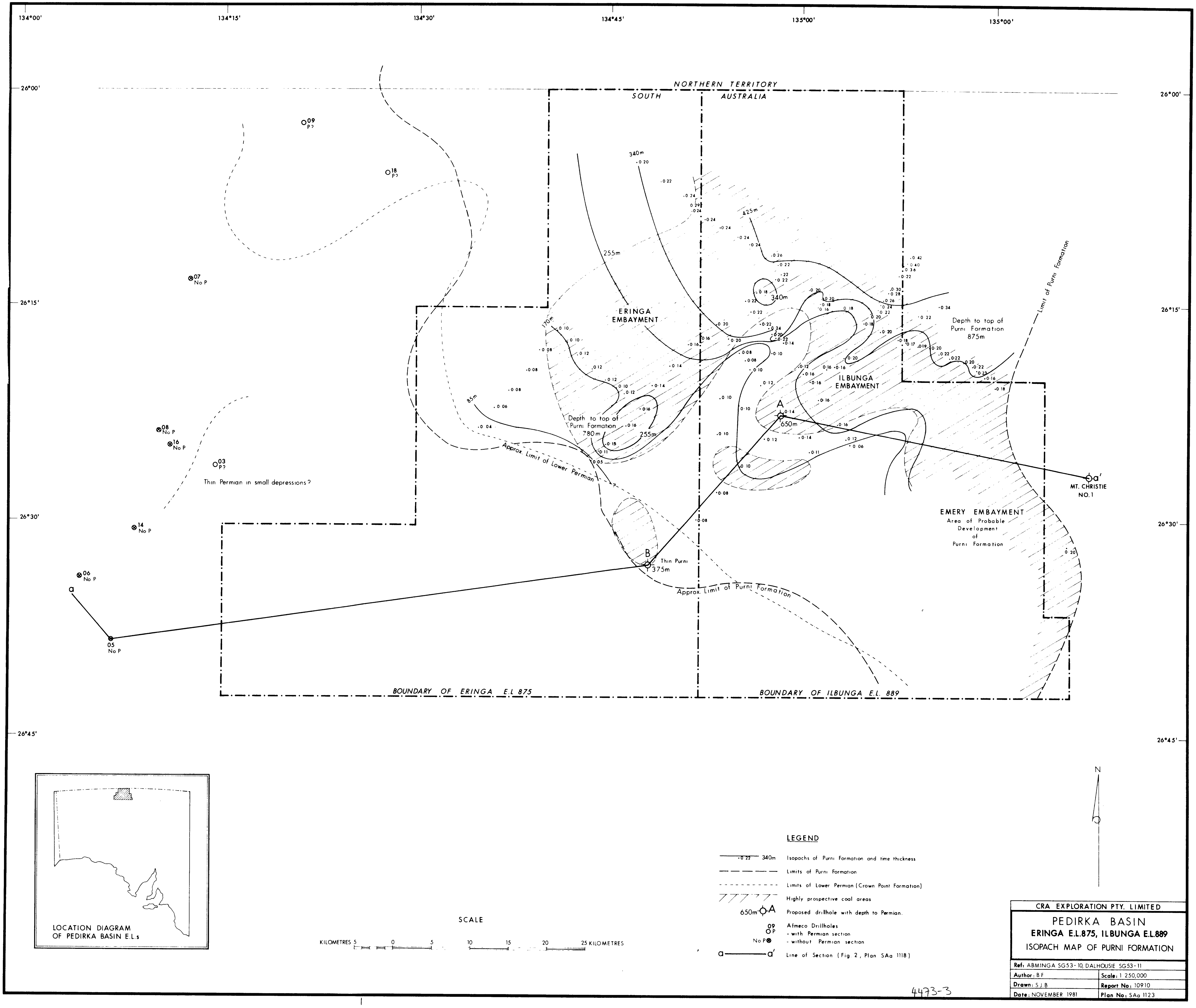
PEDIRKA BASIN, S.A.

ERINGA E.L.875, ILBUNGA E.L.889

GEOLOGICAL CROSS SECTION

LOOKING NORTH

Ref: ABMINGA SG53-10, DALHOUSIE SG53-11	
Author: B.F.	**Scale:** 1:250,000
Drawn: S.J.B.	**Report No:** 10910
Date: NOVEMBER 1981	**Plan No:** SAa 1118



134°00'
134°15'
134°30'
134°45'
135°00'
135°00'
26°00'
26°15'
26°30'
26°45'
NORTHERN TERRITORY
SOUTH AUSTRALIA
ERINGA EMBAYMENT
ILBUNGA EMBAYMENT
EMERY EMBAYMENT
Area of Probable Development of Purni Formation
Depth to top of Purni Formation 780m
Depth to top of Purni Formation 875m
Limit of Purni Formation
Approx. Limit of Lower Permian
Approx. Limit of Purni Formation
Thin Permian in small depressions?
Thin Purni
340m
425m
255m
170m
85m
A
650m
B
375m
a
a'
MT. CHRISTIE NO. 1
09 P?
18 P?
07 No P
08 No P
16 No P
03 P?
14 No P
06 No P
05 No P
BOUNDARY OF ERINGA E.L 875
BOUNDARY OF ILBUNGA E.L. 889
N
LOCATION DIAGRAM OF PEDIRKA BASIN E.L.s
SCALE
KILOMETRES 5 0 5 10 15 20 25 KILOMETRES
LEGEND
0.22 340m Isopachs of Purni Formation and time thickness
Limits of Purni Formation
Limits of Lower Permian (Crown Point Formation)
Highly prospective coal areas
650m A Proposed drillhole with depth to Permian.
09 Afmeco Drillholes
P - with Permian section
No P - without Permian section
a——a' Line of Section (Fig 2, Plan SAa 1118)
CRA EXPLORATION PTY. LIMITED
PEDIRKA BASIN
ERINGA E.L.875, ILBUNGA E.L.889
ISOPACH MAP OF PURNI FORMATION
Ref: ABMINGA SG53-10, DALHOUSIE SG53-11
Author: B F
Scale: 1 250,000
Drawn: S J B
Report No: 10910
Date: NOVEMBER 1981
Plan No: SAa 1123
4473-3

CRA EXPLORATION PTY. LIMITED

SECOND QUARTERLY REPORT FOR THE WESTERN PEDIRKA BASIN TENEMENTS, SOUTH AUSTRALIA, FOR THE PERIOD ENDING 27TH MARCH, 1982.

EXPLORATION LICENCES: ERINGA E.L. 875 & ILBUNGA E.L. 889

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S.A.D.M.E.

DATE: 30TH MARCH, 1982

SUBMITTED BY: D.R. McBain

ACCEPTED BY:

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3.2 Proposed Drilling Programme	1
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LOCATION	2
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1. SUMMARY

A data review was undertaken which resulted in surrender of the south-western portion of Eringa E.L. 875.

Tenders have been called for drilling to be undertaken in the Pedirka Basin. It is now envisaged that one hole will be drilled initially.

2. INTRODUCTION

The Western Pedirka Basin tenements were applied for as part of CRA Exploration Pty. Limited's coal exploration initiative within South Australia. The target sought within these E.L.'s is high quality Permian black coal.

Eringa E.L. 875 (Plan SAa 1448) and Ilbunga E.L. 889 (Plan SAa 707) were granted to CRA Exploration Pty. Limited on 14th September, 1981 and 27th September, 1981 respectively, for a period of twelve months. This report details all work carried out by CRA Exploration Pty. Limited within the two E.L.'s in the quarter to the 27th March, 1982.

3. WORK CARRIED OUT

3.1 Data Review

The data acquired and evaluated in the last quarter was reviewed. From review of the seismic data it was apparent that no Permian sediments occurred in the south western portion of Eringa E.L. 875. As the target in these E.L.'s is Permian black coal it was clear that this portion of Eringa had no further potential. The area was surrendered on 16th March, 1982.

3.2 Proposed Drilling Programme

Specifications were sent to suitable contractors for the proposed drilling programme. Tenders will close at the end of May. It is now envisaged that one hole will be drilled initially.

D.R. McBAIN

DRM/pw

024

KEYWORDS

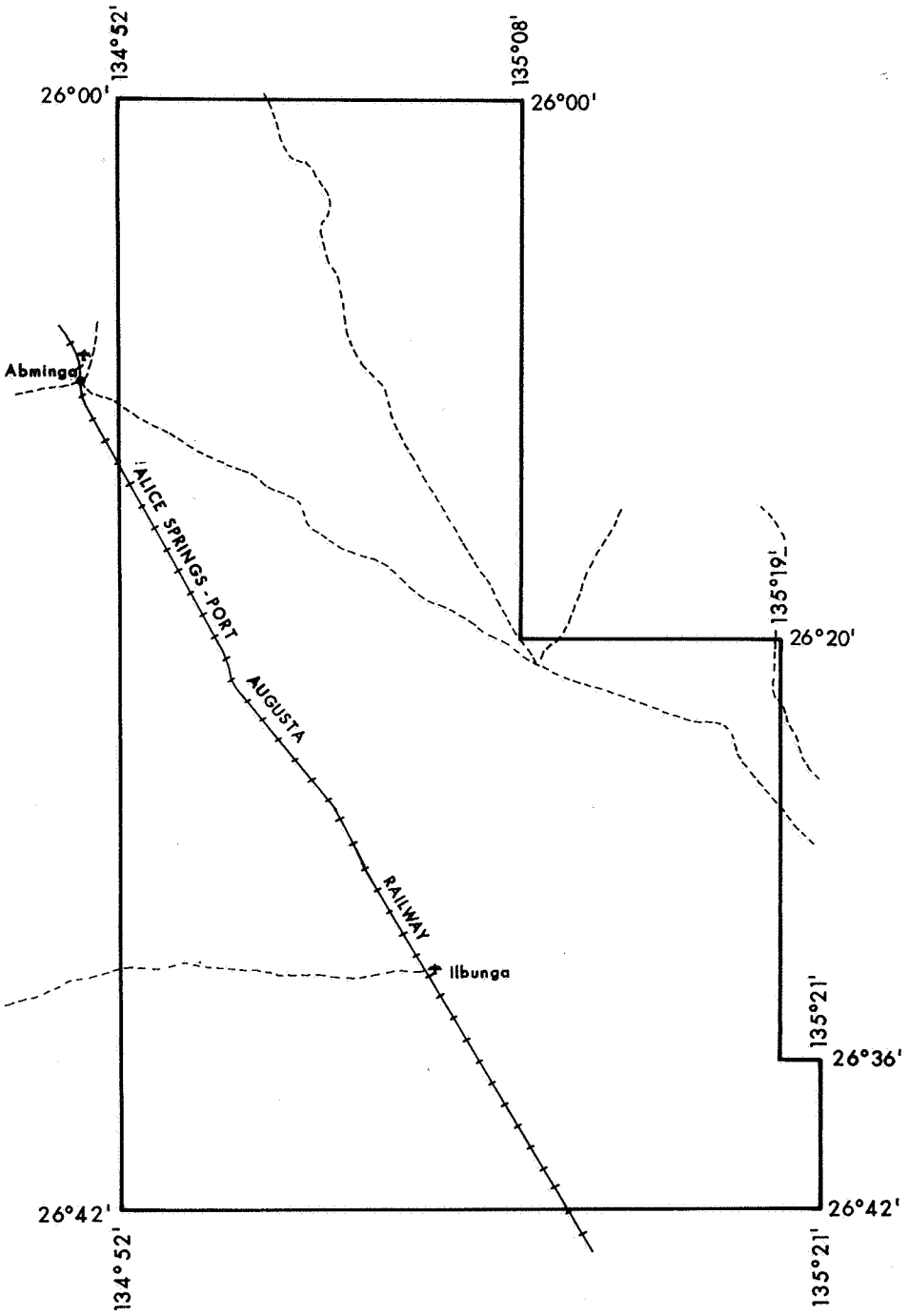
Abminga SG 53-10, Dalhousie SG 53-11, Pedirka Basin, Permian, Coal-black, Drill, Geophys-seismic

LOCATION

Abminga SG 53-10	1:250 000
Dalhousie SG 53-11	1:250 000

LIST OF PLANS

Plan No.	Title	Scale
SAa 707	Ilbunga E.L. 889 - E.L. Location	1:500 000
SAa 1448	Eringa E.L. 875 - E.L. Location	1:500 000



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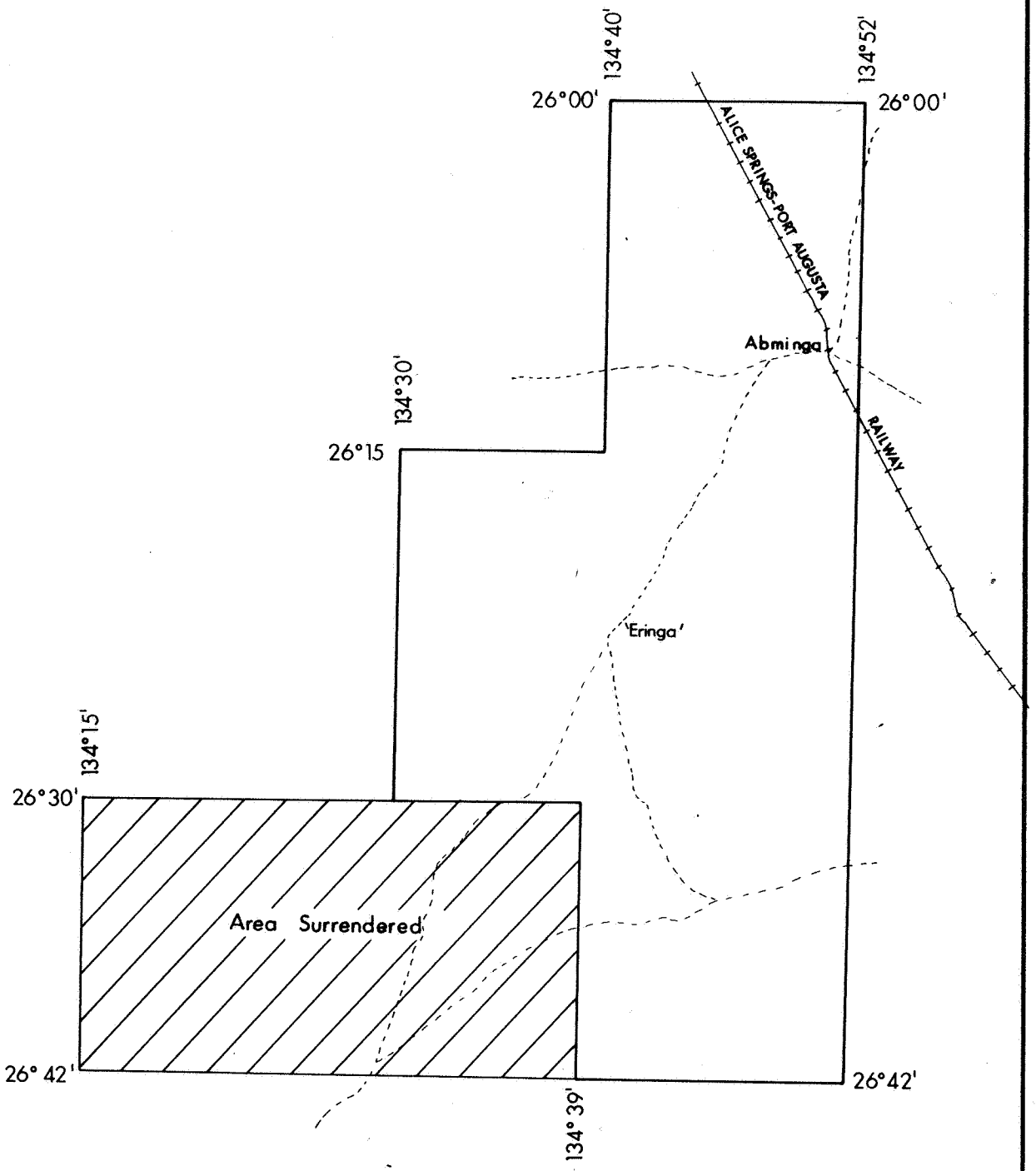
ILBUNGA E.L. 889

E.L. LOCATION

Ref. : ABMINGA SG53-10.	
Scale : 1:500,000.	Drawn : S.J.B.
Author : D. McBain	Report No. : 11012
Date : DECEMBER 1981	Plan No. : SAa 707.



C. R. A. EXPLORATION PTY. LIMITED	
ERINGA E.L. 875 E.L. LOCATION	
Ref. ABMINGA SG 53-10	
Scale 1:500,000	Drawn D.D.
Author D. Mc Bain	Report No. 11012
Date March 1982	Plan No. SAa 1448

CRA EXPLORATION PTY. LIMITED

FINAL REPORT - WESTERN PEDIRKA BASIN TENEMENTS, SOUTH AUSTRALIA

EXPLORATION LICENCES: ERINGA E.L. 875 & ILBUNGA E.L. 889

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1. SUMMARY

Following evaluation and interpretation of the existing subsurface and geophysical data, a two hole drilling programme was proposed shortly after issue of these tenements. The existing seismic data was rather poor quality which made the interpretation locally very subjective.

Subsequently the project and data were re-evaluated. It was concluded that the prospects for coal deposits at less than 500 metres were slim. Furthermore due to the lack of velocity control for the interpretation of the seismic material, planned boreholes could have been deeper than estimated. With the downturn in the outlook for export coal a possible coal mine in the Pedirka Basin is not considered economically viable.

It is recommended that Eringa E.L. 875 and Ilbunga E.L. 889 be surrendered.

2. CONCLUSIONS

2.1 The quality of the data from the Mt. Ross and Emergy seismic surveys is rather poor. This caused limitations and uncertainties in the interpretation.

2.2 The prospect for coal at depths of less than 500 metres is generally poor.

2.3 The only area where coal may occur at less than 500 metres is in the south-eastern portion of Ilbunga E.L. 889. No seismic data is available for this area.

2.4 With the downturn in the outlook for export coal a possible coal mine in the Pedirka Basin is not considered to be an economically viable proposition.

3. RECOMMENDATIONS

3.1 It is recommended that Eringa E.L. 875 and Ilbunga E.L. 889 be surrendered.

4. INTRODUCTION

The Western Pedirka Basin tenements were applied for as part of CRA Exploration Pty. Limited's coal exploration initiative within South Australia. The target sought within these E.L.'s has been high quality Permian black coal.

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Eringa E.L. 875 (Plan SAa 1448) and Ilbunga E.L. 889 (Plan SAa 707) were granted to CRA Exploration Pty. Limited on 14th September, 1981 and 27th September, 1981 respectively, for a period of twelve months. This report details all work carried out by CRA Exploration Pty. Limited within the two E.L.'s prior to their surrender.

5. WORK CARRIED OUT

5.1 Data Acquisition

Previous mineral, oil well and seismic data was acquired from the S.A.D.M.E. and B.M.R. in Canberra for the E.L.'s and adjoining areas.

5.2 Data Evaluation and Interpretation

The data evaluation and interpretation was presented in the "First Quarterly Report For The Western Pedirka Basin."

Leading from the data evaluation the south-western portion of Eringa E.L. 875 was surrendered, as it was considered, from the seismic survey, to contain no Permian coal measures.

5.3 Planning of Drilling Programme

Based on the data evaluation and interpretation a two hole drilling programme was proposed. The aims and rationale for the programme were presented in the "First Quarterly Report For The Western Pedirka Basin."

5.4 Project Re-evaluation

Recently a re-evaluation of the potential of the Western Pedirka was undertaken. It was concluded that:-

a. The prospects for multiple coal seams at depths less than 500 metres are considered to be generally poor.

b. The south-eastern portion of Ilbunga E.L. 889 is the only prospective area for coal at less than 500 metres. However, no seismic data is available for this area.

c. Without adequate velocity control for the seismic data the planned boreholes could be considerably deeper than originally estimated. In the case of Site A (McBain 1981) the hole could be up to 200 metres deeper than the 905 metres estimated.

d. The recent downturn in the outlook for the export coal market has affected the projected future economic viability of any export coal mine in the Pedirka Basin. The high initial capital costs of an underground mine, linked with the remote location would require a considerable firming of export coal prices to make a mine in this location economic.

e. As a result of the above Eringa E.L. 875 and Ilbunga E.L. 889 be surrendered.

D. R. McBain

D.R.McBAIN

DRM/pw

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REFERENCES

McBain, D.R.	1981	First Quarterly Report for the Western Pedirka Basin, South Australia, for the Period Ending 27th December, 1981.
McBain, D.R.	1982	Partial Surrender of Eringa E.L. 875, South Australia.
McBain, D.R.	1982	Second Quarterly Report for the Western Pedirka Basin, South Australia, for the Period Ending 27th March, 1982.

KEYWORDS

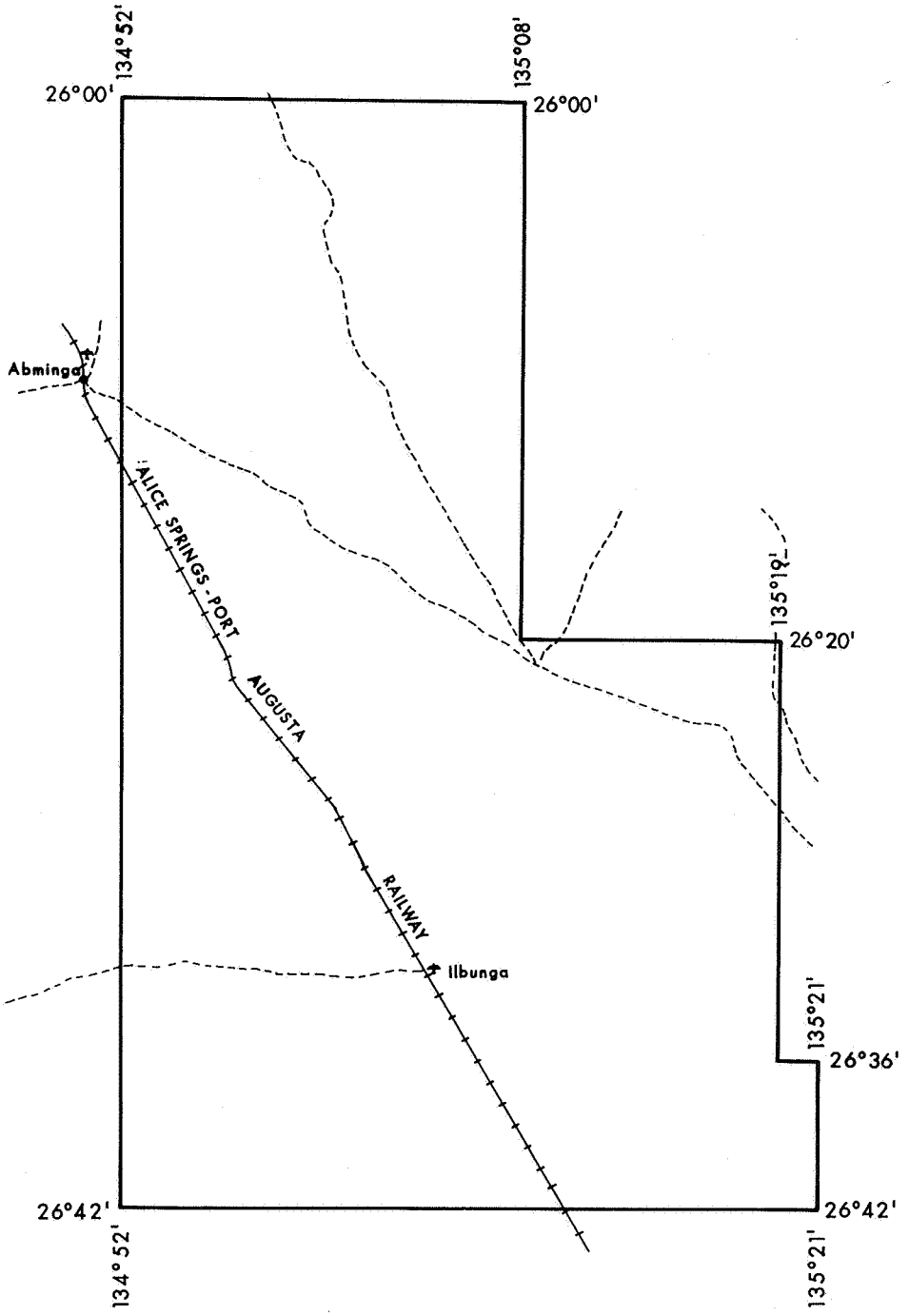
Abminga SG 53-10, Dalhousie SG 53-11, Pedirka Basin, Permian, Coal-black, Drill-rotary, Drill diamond, Geophys-aeromag., Geophys-grav., Geophys-seismic, data review.

LOCATION

Abminga SG 53-10	1:250 000
Dalhousie SG 53-11	1:250 000

LIST OF PLANS

Plan No.	Title	Scale
SAa 707	Ilbunga E.L. 889 - E.L. Location	1:500 000
SAa 1448	Eringa E.L. 875 - E.L. Location	1:500 000

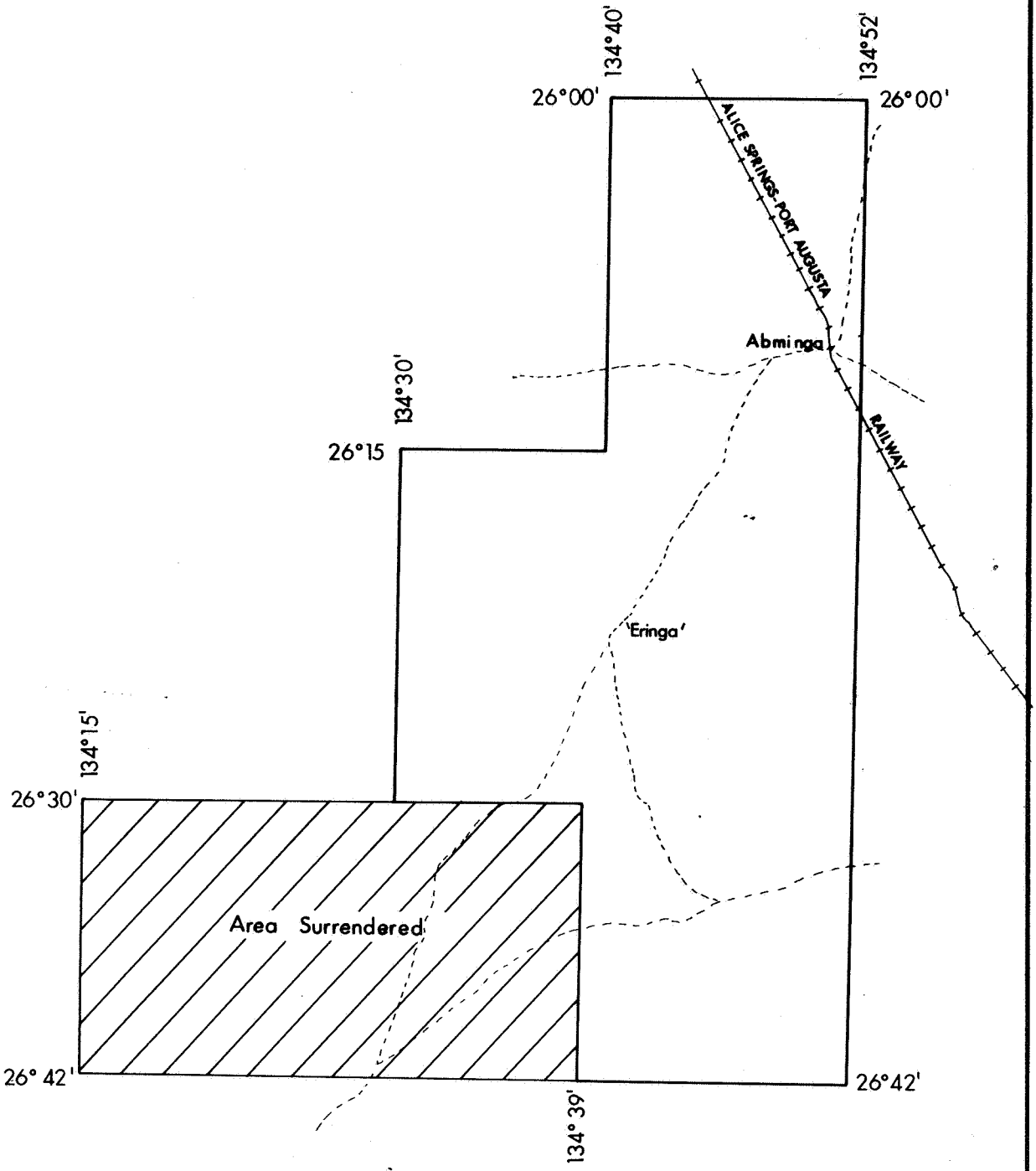


C. R. A. EXPLORATION PTY. LIMITED

ILBUNGA E.L. 889

E.L. LOCATION

Ref. : ABMINGA SG53-10.	
Scale : 1:500,000.	Drawn : S.J.B.
Author : D. McBain	Report No. : 11012
Date : DECEMBER 1981	Plan No. : SAa 707.



C. R. A. EXPLORATION PTY. LIMITED	
ERINGA E.L. 875 E.L. LOCATION	
Ref. ABMINGA SG 53-10	
Scale 1:500,000	Drawn D.D.
Author D. Mc Bain	Report No. 11012
Date March 1982	Plan No. SAa 1448