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EVALUATION OF COAL OCCURRENCES  
AT  
IDA BAY  
WEST OF SOUTHPORT LAGOON  
TASMANIA

Report prepared for Australian Paper Manufacturers Limited  
by M.R. Bunny, B.Sc.(Hons); M.Aus.I.M.M., Consulting Geologist.

EARTH RESOURCES AUSTRALIA PTY LIMITED

June, 1975



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EVALUATION OF COAL OCCURRENCES AT IDA BAY  
WEST OF SOUTHPORT LAGOON

Prepared for : Australian Paper Manufacturers Limited

Prepared by: Earth Resources Australia Pty Limited

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*Fig 3 - Southport Plain Area*

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### CONCLUSIONS

This program has shown that, contrary to earlier expectations, a significant section of coal measure sediments exists beneath the plain area to the west of Southport Lagoon.

This section dips at some 15 degrees, probably to the WSW, and is perhaps 200 m thick. It may extend under the plain for some considerable distance to the south, perhaps as far as the east side of Recherche Bay where coal is reported to have been worked by convicts.

The present program has intersected the basal 100 m or so of this section, where four seams are shown to exist. Unfortunately none of these is of commercial importance.

The lowermost and thickest of the seams intersected may well correlate with the seam occurring in the cutting on the Catamaran Road. As this seam appears to underlie, without structural disruption, that worked in the Ida Bay Mine, there is a possibility of this latter seam occurring in the upper part of the section towards the western part of the plain. Evaluation of this possibility was precluded by budgetary considerations which necessitated conclusion of the program.

In view of the circumstances, the following conclusions must be drawn:

1. Economic coal is not present on the eastern side of the plain.

2. Additional seams may exist in the untested part of the section towards the western edge of the plain, but even if present, the following factors are pertinent:

- (a) thickness and quality may not be adequate to be of commercial interest. Certainly our observations and those of earlier workers in the general vicinity note extreme quality variation in seams over relatively short distances.

- (b) Being towards the western edge of the plain, any seams encountered, even if of economic quality, may well be too close to the edge of the plain to permit open cut extraction as they would have to be worked towards the west (down dip).

- (c) Any such seams may occur beneath a cover of Tertiary gravels which may be 5 m or more thick.



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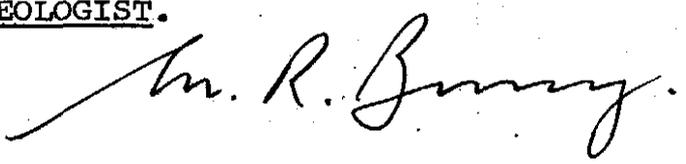
CONCLUSIONS (Cont)

Despite the above observations, there is some slight possibility of the existence of economic open cut coal in the area, and the Company should therefore keep this in mind for the future.

EARTH RESOURCES AUSTRALIA PTY LIMITED

M.R. Bunny, B.Sc.(Hons); M.Aus.I.M.M.,  
CONSULTING GEOLOGIST.

June, 1975.



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EVALUATION OF COAL OCCURRENCES AT IDA BAYWEST OF SOUTHPORT LAGOON1. INTRODUCTION

Coal was worked at the Ida Bay Coal Mine in 1892, when 330 tons were produced. Three seams were reported in the area, but only one was worked. The coal was reported to be dirty and not a good steaming coal, and quality varied greatly throughout the mine.

Where worked the seam was 1.52 m thick and dipped at 20 degrees to the southwest, having a strike of 335 to 340 degrees. The following analyses are given, but it is suspected that these are for selected sections rather than for the whole seam:

Moisture %	3.8	2.8	1.54
Ash %	11.8	15.9	17.55
Fixed Carbon %	55.5	67.3	64.90
Volatiles %	28.9	14.0	16.01
Sulphur %	-	0.8	0.45

The wide range of volatile contents indicates varying degrees of rank upgrading due to dolerite intrusions.

A second seam, of nearly 2 m thick, is reported to occur about 0.8 km south of the first, and about 30 m higher up. These seams occur on the western side of the Catamaran Road where they dip into the hill beneath a dolerite sill. The approximate positions of the seams are shown on the map accompanying this report. Because of their geographic location, these particular seams offered no open cut potential.

During the course of investigations in the area, however, a seam outcrop was discovered on the eastern side of the Catamaran Road (see Map), dipping at about 25 degrees to the southwest and therefore presumably underlying the seams on the west of the road. This outcrop is extremely weathered and distorted, but a seam of banded coal of some 1 to 2 m thick is indicated. The strike of this seam is such that if unaffected by doleritic intrusions it would crop out towards the eastern side of the extensive plain area which occurs to the west of Southport Lagoon. If this was the case, there was also the possibility of the seams higher in the section cropping out towards the western side of the plain, adjacent to the Catamaran Road.

Initial field examination of the area discouraged this hypothesis, as outcropping dolerite was encountered some 350 m south of the seam outcrop in the road cutting (see Map), suggesting a transgressive dolerite body, and further suggesting that much of the plain area would be underlain by dolerite, as suggested by earlier workers, and as was found to be the case for much of the Lune Plain (see earlier Report).



The present program was thus designed to evaluate to what extent, if at all, Triassic coal measure sediments were present beneath the plain, and if so, whether there was any coal of suitable quality and thickness amenable to open cut extraction.

## 2. PRESENT PROGRAM

Initial plans were to undertake a backhoe costean across the northern end of the plain to the south of the outcrop area. However as the diamond drill rig used for the Catamaran program was still in the area the backhoe program was abandoned in favour of drilling a few shallow holes to evaluate the subcrop geology. Apart from being more definitive, this method was further favoured as being less disruptive to the environment. Oral approval for the modified program was given by both the Director of Environmental Control and the Director of Mines.

The location of holes drilled are shown on the accompanying map, and bore logs are appended to the Report. Graphic logs are shown in Figure 1.

## 3. SUMMARY OF DRILLING

### 3.1 Ida Bay No. 1

This was a shallow auger hole put in on the eastern side of the Catamaran Road about 80 m south of the seam outcrop. The purpose of this hole was to evaluate the effectiveness of auger drilling and to establish whether the clays which crop out in the area were of sedimentary or doleritic origin.

The hole confirmed the presence of coal measure sediments, but showed that due to the soft, wet and plastic nature of the decomposed sediments, the auger would not return sample beyond about 7 metres due to clogging of the flights.

Having established that sediments continued south of the seam outcrop, it was decided to drill a line of holes across the northern part of the plain. Access was conveniently afforded by a disused track leading to an abandoned saw-mill site. This track had been corduroyed in the past and offered some degree of traction for the logging skidder which was used to tow the Gemco rig.

### 3.2 Ida Bay No. 2

This hole was sunk a few metres east of the break in slope which marks the easter edge of the plain. The hole was augered to 5 m and revealed decomposed dolerite.



### 3.3 Ida Bay No. 3 & 3C

Ida Bay No. 3 was sited some 100 m west of No. 2, or about 90 m west of the break in slope. In view of previous findings, it was with some considerable surprise that this hole yielded decomposed coal measure sediments from 0 to 7.5 m, with coal fragments being recovered from the auger flights between 7.5 and 8.8 m. The rig was shifted 1 m west to drill a core hole, Ida Bay 3C.

Ida Bay 3C revealed a seam of inferior coal 2.58 m thick between 7.89 and 10.47 m, this overlying a massive lithic sandstone unit. The hole was terminated at 37.79 m, still in the sandstone.

Core from this hole showed the sediments to be dipping at approximately 15 degrees, and from other evidence and the interpreted sediment-dolerite boundaries (see Map) this dip was assumed to be to the southwest.

This hole is thus of considerable significance, as it suggested the presence of a coal measure section of some 150 to 200 m thick underlying the plain area. This section may well extend as far south as the eastern side of Recherche Bay where coal is reported to have been worked by convicts. Air-photo interpretation supports this conclusion.

### 3.4. Ida Bay Nos 4C and 5C

Having established the presence of sediments beneath the plain, the remainder of the drilling was aimed at evaluating as much of the section as possible within the limits of the budget. To this end considerable compromise was necessary, and it was not possible to establish overlap of the section penetrated in each hole.

Ida Bay No. 4C was drilled about 90 m west of 3C and to a total depth of 26.8 m. Two thin coal seams were intersected, their thicknesses being 0.73 m (12.03 to 12.76 m) and 0.45 m (24.07 to 24.52 m) respectively.

Ida Bay No. 5C was drilled a further 90 m west on the saw mill track. This hole had a total depth of 13.11 m and intersected 0.12 m of inferior coal between 9.75 and 9.87 m. Continuation of this hole to the desired depth of 30 m was precluded by budgetary considerations and the decision to stop at that particular depth was prompted by both loss of water and a pump failure.

It is estimated that between the base of 5C and the top of 4C, some 15 to 20 m of the section has not been penetrated, however the brown colour of the surface mud between the two holes suggests that no carbonaceous or coaly section occurs in this interval. This observation appears reasonably valid, as the area of projected seam outcrop between bores 3C and 4C, and between 2C and 3C, was characterised by quite black surface muds.



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4. COAL QUALITY

None of the seams intersected during the present program contained coal of sufficiently good quality to be of commercial interest. The seams are heavily banded, and the high specific gravity of the coal plies indicated very high ash contents. No samples warranted laboratory investigation



APPENDIX

BORE LOGS



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BORE NAME: Ida Bay No. 1 (Auger Hole)  
 DATE DRILLED: 29th April, 1975  
 TOTAL DEPTH: 10.98 m  
 SUNK BY: Mono Pumps (Australia) Pty Limited

DESCRIPTION	FROM	TO (metres)	INTERVAL
Surface soil and debris	0.00	0.91	0.91
Claystone, buff, waxy	0.91	1.83	0.92
Mudstone, mid-grey, puggy	1.83	3.66	1.83
Sandstone, mid-grey, very fine, grading to siltstone, midgrey, very clayey; moist and puggy	3.66	5.49	1.83
As above, but sample returns becoming poor with increasing depth	5.49	7.32	1.83
No sample returns, hard band at 8.75m	7.32	9.15	1.83
Sandstone, very fine, light to mid grey, very wet and returning as mud	9.15	10.98	1.83

NOTE: Hole abandoned at 10.98 m due to lack of sufficient diagnostic sample returns caused mainly by wet ground.



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BORE NAME: Ida Bay No. 2 (Auger Hole)  
DATE DRILLED: 29th April, 1975  
TOTAL DEPTH: 5.0 m  
SUNK BY: Mono Pumps (Australia) Pty Limited

DESCRIPTION	FROM	TO (metres)	INTERVAL
Clay, bright to very bright green with medium sand-sized white flecks throughout; derived from decomposed dolerite.	0.00	5.00	5.00

NOTE: Hole abandoned at 5.00 m in decomposed dolerite.



011

514012

BORE NAME: Ida Bay No. 3 (Auger Hole)  
DATE DRILLED: 29th April, 1975  
TOTAL DEPTH: 8.84 m  
SUNK BY: Mono Pumps (Australia) Pty Limited

DESCRIPTION	FROM	TO (metres)	INTERVAL
Clay, mid-grey, sandy, puggy - decomposed lithic sandstone	0.00	7.62	7.62
COAL, dull to inferior, mixed with clay as immediately above	7.62	8.84	1.22

NOTE: Hole completed at 8.84 m and rig shifted one metre west to drill core hole, Ida Bay 3C.



012

BORE NAME: Ida Bay No. 3C

514013

DATE DRILLED: 30th April, 1975 to 3rd May, 1975

TOTAL DEPTH: 37.79 m (17.53m cored, 20.26m open hole)

SUNK BY: Mono Pumps (Australia) Pty Limited

DESCRIPTION	FROM	TO (metres)	INTERVAL
Clay - fine to medium decomposed lithic sandstone, mid-grey with greenish tinge containing white, green and black lithic fragments	0.00	6.09	6.09
Siltstone, very clayey, mid-grey, grading to fine to very fine mid-grey sandstone; 1.11m core recovered	6.09	7.89	1.80
<u>TOP OF SEAM</u>			
COAL, Dmb, fissile	7.89	7.92	0.03
COAL, dull, inferior and fissile at top (Sample 3C/1)	7.92	8.13	0.21
Claystone, buff, waxy, ? slickensided; crystalline pyrite present	8.13	8.22	0.09
COAL, dull to inferior (Sample 3C/2)	8.22	8.59	0.37
Mudstone, black, highly carbonaceous, and COAL, inferior grading to COAL dull in part (Sample 3C/3)	8.59	8.82	0.23
COAL, dull, fragmented (Sample 3C/4)	8.82	8.96	0.14
Mudstone, dark brown, highly carbonaceous, with bright COAL fragments near base (Sample 3C/5)	8.96	9.11	0.15
COAL dull to inferior (Sample 3C/6)	9.11	9.15	0.04
Mudstone, black, carbonaceous	9.15	9.165	0.015
CORE LOSS between 7.92 and 9.30m		9.30	0.125
COAL, Db, some overdrilled	9.30	9.36	0.06



DESCRIPTION	FROM	TO (metres)	INTERVAL
Mudstone, black, very carbonaceous; grades to COAL, inferior, fissile in part	9.36	9.405	0.045
Claystone, mid-brown, waxy, soft and puggy	9.405	9.496	0.091
Mudstone, black, very carbonaceous; grades to COAL inferior, becoming fissile towards base	9.496	9.602	0.106
COAL, Db, fragmented	9.602	9.708	0.106
Claystone, mid brownish grey, slightly fissile	9.708	9.814	0.106
Claystone, mid to light grey with greenish tinge at base	9.814	10.008	0.274
COAL inferior, some thin bright bands throughout	10.008	10.164	0.076
CORE LOSS between 9.30 and 10.47m		10.47	0.306
<u>BASE OF SEAM</u>			
Claystone, mid-grey, waxy	10.47	10.51	0.04
Claystone, mid-grey, waxy, as above but somewhat fractured in part; oblique joint near base; Sample at 11.0m	10.51	11.58	1.07
Siltstone, mid-grey to sandstone mid-grey, fine to very fine, and mudstone, midgrey, silty, interbedded; soft carbonaceous blebs throughout	11.58	13.26	1.68
Siltstone, mid-grey with green tinge; carbonaceous laminations throughout; dip 12 to 15 degrees.	13.26	13.53	0.27
Sandstone, medium to coarse, uniform, green-grey with soft clay cement; almost plastic. Sample at 14.33m	13.53	14.33	0.80
Sandstone as immediately above; pyrite crystal aggregates to 3cm throughout	14.33	14.95	0.62



014

DESCRIPTION	FROM	TO (metres)	INTERVAL
Sandstone as immediately above with mudstone pale grey interbedded in units to 0.06m; mudstone at base is slightly carbonaceous	14.95	15.70	0.75
Sandstone as immediately above	15.70	17.22	1.52
<u>Rock Roller bit from 17.22m to 30.78m:</u>			
Sandstone as immediately above, with carbonaceous zones at 19.8m and 26.2m; soft mudstone interbeds between 28.0 and 28.3m; sandstone becomes harder with increasing depth; dark water returns at 30.78m	17.22	30.78	13.56
<u>NMLC corebit from 30.78m:</u>			
Siltstone, clayey, carbonaceous	30.78	30.93	0.15
Sandstone, medium to coarse, green-grey as above, with thin oblique white carbonate filled joints at 31.5m	30.78	32.00	1.22
Sandstone as immediately above; fairly hard but not greatly indurated	32.00	32.31	0.31
Siltstone, dark grey, carbonaceous; irregular boundary with overlying sandstone	32.31	32.46	0.14
Sandstone, medium to coarse, mid-grey with green tinge green tinge, lithic; cross-bedded for basal 0.6m; scattered coaly and carbonaceous fragments throughout; oblique calcite filled joint for 0.18m at base of unit	32.46	34.04	1.58
Sandstone as immediately above, with abundant irregular coaly fragments and wisps throughout	34.04	34.24	0.20
Sandstone as above, uniform; bedding vaguely visible, especially at top where dip is 15 degrees	34.24	35.51	1.27
Sandstone as above, uniform	35.51	37.73	2.22



015

DESCRIPTION	FROM	TO (metres)	INTERVAL
Sandstone, granule to conglomerate in part containing clay fragments flattened in bedding; green-grey. Sample at base	37.73	37.79	0.06

BASE OF HOLE



BORE NAME: Ida Bay No. 4C  
 DATE DRILLED: 5th May to 6th May, 1975  
 TOTAL DEPTH: 26.82 m (3.28 m Cored, 23.54 m Open Hole)  
 SUNK BY: Mono Pumps (Australia) Pty Limited

DESCRIPTION	FROM	TO (metres)	INTERVAL
Clay, grey-green, gritty, moist - decomposed sandstone	0.00	3.05	3.05
Clay as above becoming mid-grey with depth, wet and sticky; a few coaly fragments on final auger flight. Hole cased to 10.67m	3.05	10.67	7.62
Sandstone, coarse, clayey, with coaly bands at 11.27m and 11.43m; unit passes to grey claystone at 11.58m, becoming carbonaceous at 11.74m; COAL intersected at 11.88m	10.67	11.88	1.21
<u>Hole Cored from 11.88m to 14.78m :</u>			
Claystone, pale green, waxy, ? tuffaceous, slightly carbonaceous at top and base	11.88	12.03	0.15
COAL dull to inferior, core broken (Sample 4C/1)	12.03	12.18	0.15
Mudstone, black, highly carbonaceous, grading to COAL inferior in part	12.18	12.73	0.55
COAL dull to inferior, hard	12.73	12.76	0.03
Claystone, mid-grey, slightly waxy, plant remains in bedding	12.73	12.81	0.08
CORE LOSS between 11.88 and 13.26m		13.26	0.45
Claystone, grey with green tinge, waxy, plant remains in bedding; becomes increasingly silty over basal 10cm where grades to very fine sandstone	13.26	14.28	1.02
Caving material	14.28	14.78	0.50
Mudstone, grey, silty	14.78	17.67	2.89
Sandstone, very fine, light to mid-grey; drilling rate slows at 22.09m; thin coaly band at 23.16m; highly carbonaceous band at 23.31m; black water returns at 24.07	17.67	24.07	6.40



017

DESCRIPTION	FROM	TO (metres)	INTERVAL
<u>Hle Cored from 24.07m to 25.45m:</u>			
COAL, dull, banded, brittle (Sample 4C/2)	24.07	24.37	0.30
Mudstone, brown, highly carbonaceous, soft and puggy	24.37	24.49	0.12
COAL inferior	24.49	24.52	0.03
Mudstone, mid-grey, slightly carbonaceous at top, waxy; slightly silty in part	24.52	25.45	0.93
Mudstone as immediately above	25.45	26.82	1.37

BASE OF HOLE

018

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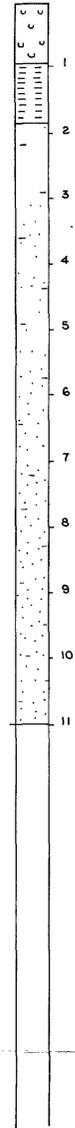
BORE NAME: Ida Bay No. 5C  
 DATE DRILLED: 7th May, 1975  
 TOTAL DEPTH: 13.11m (1.22m Cored, 11.89m Open Hole)  
 SUNK BY: Mono Pumps (Australia) Pty Limited

DESCRIPTION	FROM	TO (metres)	INTERVAL
Clay, green, gritty; ? Tertiary	0.00	3.05	3.05
<u>Rock Roller bit to 9.75m:</u>			
Clay as above passes to grey clayey sand with coarse to granule fragments at 4.2m; Small agates and chalcedony returning at 4.42m; water returns yellowish green to 7.0m, where becomes orange due to gritty limonitic clays; small agates, chalcedony, fossil wood and vugh carbonates returning with cuttings; water becomes mid-brown at 7.77m, possible base of Tertiary?; yellowish water indicates limonitic clays at 8.53m; black water returns and coal cuttings at 9.75m	3.05	9.75	6.70
<u>Hole Cored from 9.75m to 10.97m :</u>			
COAL dull to inferior, brittle	9.75	9.87	0.12
Siltstone, mid-grey, slightly carbonaceous at top; finely laminated in part; zone of brecciation and thin carbonate veins, joints and fault-plane infilling 0.3m from base	9.87	10.97	1.10
Siltstone as immediately above, grading to mudstone mid-grey in part; no trace of carbonaceous matter.	10.97	13.11	2.14

NOTE: Hole abandoned at 13.11m, due mainly to loss of water and broken pump.



IDA BAY N° 1  
(ACCESS HOLE)

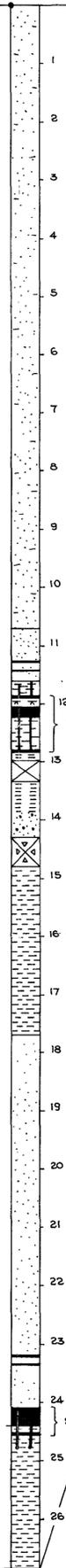


IDA BAY N° 5C



91 M

IDA BAY N° 4C



91 M

IDA BAY N° 3C



120 M

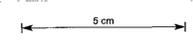
IDA BAY N° 2



REFERENCE

-  SURFACE SOIL & DEBRIS
-  SANDSTONE
-  SILTSTONE
-  MUDSTONE/SHALE
-  CLAYSTONE
-  CARBONACEOUS UNIT
-  COAL (SEE LOG FOR DETAILS)
-  TUFFACEOUS UNIT
-  CORE LOSS
-  CAVING MATERIAL
-  DECOMPOSED DOLORITE

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FIG. 1

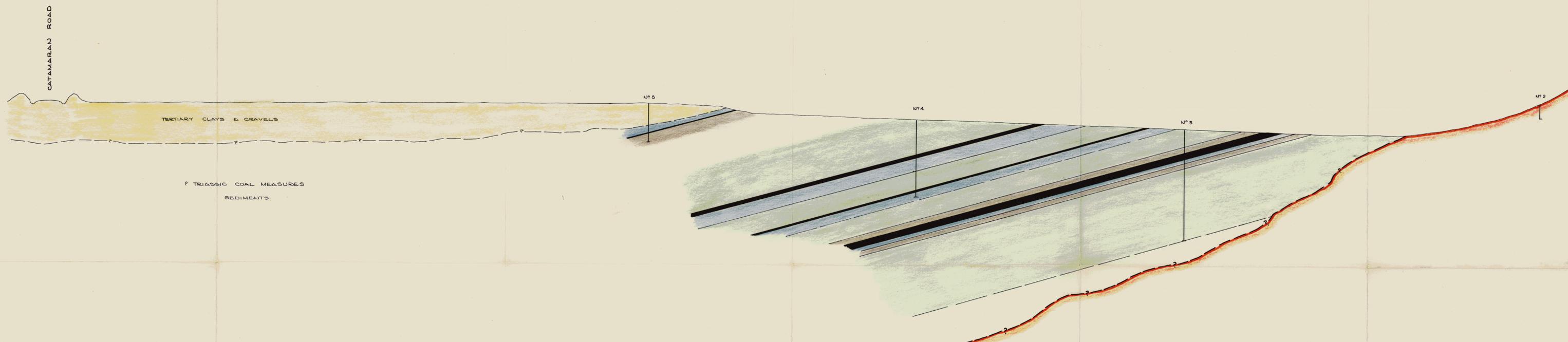
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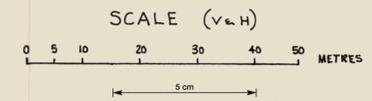
SOUTHPORT DRILLING AREA

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TO ACCOMPANY REPORT BY M. R. BUNNY B.Sc. (HONS) M. AUST. I. MIN. JUNE, 1978



- TERTIARY —  CLAYS & GRAVELS
- JURASSIC —  DOLORITE INTRUSIVES
- TRIASSIC —  SANDSTONE
- SILTSTONE
- MUDSTONE / SHALE
- COAL & CARBONACEOUS SEDIMENTS



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75-1105 **FIG. 2**

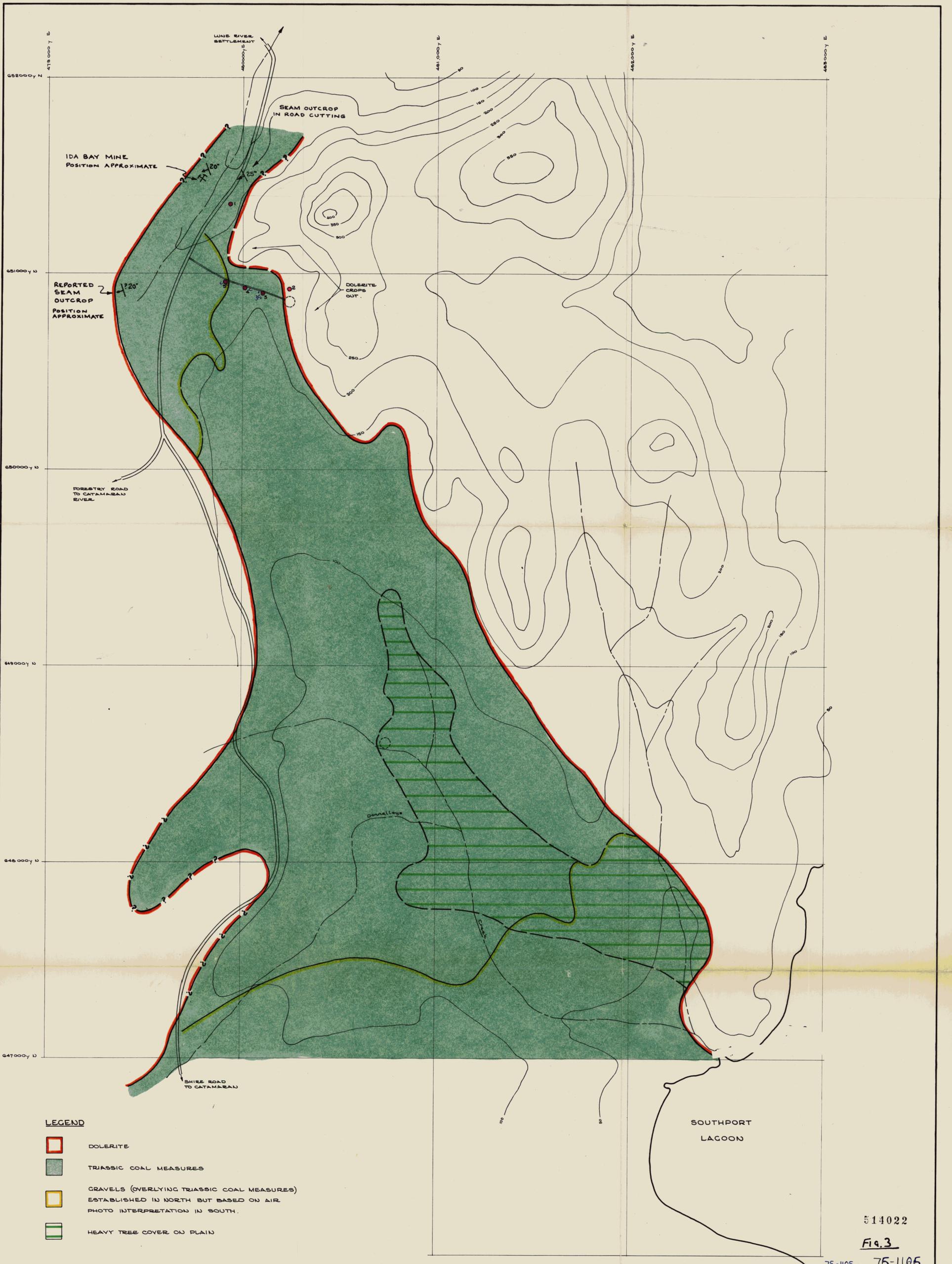
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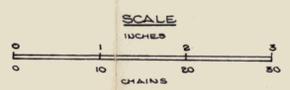


**LEGEND**

- DOLERITE
- TRIASSIC COAL MEASURES
- GRAVELS (OVERLYING TRIASSIC COAL MEASURES)  
ESTABLISHED IN NORTH BUT BASED ON AIR  
PHOTO INTERPRETATION IN SOUTH.
- HEAVY TREE COVER ON PLAIN

- SAW MILL SITE (ABANDONED)
- DRILL HOLE
- ROAD
- TRACK TO MILL SITE

**NOTE**  
LIMITS OF THE PLAIN ARE DEFINED BY THE INTERPRETED SEDIMENT/ DOLERITE BOUNDARY EXCEPT IN EXTREME NORTH-WEST WHERE THE ROAD MARKS THE WESTERN EDGE OF THE PLAIN.



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Fig. 3

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