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REPORT ON THE COAL OCCURRENCES AND POTENTIAL OF EXPLORATION LICENCE 5/61, EAST COAST, TASMANIA

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OPEN FILE

By

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REPORT ON THE COAL OCCURRENCES AND POTENTIAL OF EXPLORATION LICENCE 5/61, EAST COAST, TASMANIA

1. INTRODUCTION

E.L.5/61 held by Industrial and Mining Investigations Pty. Limited, covers an area of 450 square miles. Within this area exist large areas of coal bearing Triassic sediments. Several known coalfields exist within the area, some of which have yielded considerable tonnages of coal. All mines within E.L.5/61 are now closed, the only working mine in the vicinity being the Cornwall Coal Co. underground workings at Fingal, approximately three miles to the west of the area held under licence (see Maps 7 and 9).

The Mt. Nicholas, Cornwall and Jubilee leases on the southern slopes of the Nicholas Range (see Map 5) have been worked out. The Seymour, Douglas River, Denison River, St. Albans, Steep Creek, Combend and Mt. Paul coalfields (Map 6) are small in area. The most promising areas for possible economic coal occurrences appear to be the northern slopes of the Nicholas Range and the area from - and including - the Dalmayne coalfield, west towards the Fingal area, south towards the Douglas River area, and northwest to include the northern slopes of the Fingal Tier (see Maps 5, 6 and 7).

Investigations to date have, in the main, been concentrated within the Dalmayne area, and it is these investigations and results which form the major portion of this report.

The area north of Bicheno (Map 7) has been included in a report by Tasmanian Government geologist V.M. Threader, viz. "Interim Report of the Geology & Coal Resources of the N.E. Coalfields of Tasmania 1968". The Tasmanian Mines Department has been involved in a coal drilling programme in the area between Fingal and the western boundary of E.L.5/61 for several years (see Map 7 for bore localities up to 1968) and close contact has been maintained with Mr. Threader during the current investigations.

2. LOCATION AND ACCESS

E.L.5/61 is situated on the East Coast of Tasmania between international grid co-ordinates 5,334,715N and 5,407,779N and from 590,110E to the coast.

The area is served in the north by the Esk Highway and in the east and south by the Tasman Highway. The N.E. railway runs from St. Marys in the north to Launceston, a distance of 80 miles to the N.W.

3. RELIEF

Great variations occur in the topography of the area (see Maps 2, 3, 4). The geomorphological units of the area can be classified as follows:

1. Dolerite Plateau & Monadnocks)
2. East Coast Ranges) See Fig. 1
3. Coastal Plains & Lowlands)

The topography is dominated by the eastern section of the "Fingal Tier" and its southern extension, the Nicholas Range, Mt. Peter and Mt. Paul (Dolerite Plateau or monadnocks) and the East Coast Ranges (granite). The structural position of the East Coast Ranges has been determined by faulting. It is not known whether the prominence of these masses is the direct effect of faulting or of differential erosion along a fault-line scarp.

The Coastal Plain area north of Bicheno is devoid of superficial deposits and is probably of marine origin, i.e. a "Plain of Degradation". The lowland area south-southwest of Bicheno, extending to Moulting Lagoon and Oyster Bay, contains only a few feet of weathered rock and soil over bedrock. It is bounded by the dolerite mass to the west and by the granitic Coastal Ranges to the east.

4. HISTORY OF MINING - GENERAL

Coal mining began in the St. Marys area in 1886 to supply steaming coal for the local railway. Mining continued at various fields until 1966, a total of approximately 6 million tons of coal being obtained from the workings at Mt. Nicholas, Cornwall, Jubilee, Dalmayne and Seymour.

5. COAL TYPE

The coal measures of the Fingal area are of a Triassic age and are associated with feldspathic sandstone. It can be correlated with the Nymboida coal seams of N.S.W. and the Ipswich stage of Southern Queensland.

The coal is a non-coking bituminous variety with a high ash content and an average calorific value of 10,000 B.T.U./lb. It is principally used as domestic fuel and for steam raising.

6. GEOLOGY (See Maps 5, 6 & 7, plus Appendix B)

Reid (1922) covered the complete area - maps 5 & 6 - in his report "The Coal Resources of Tasmania" - Mineral Resources No. 7.

Threader (1968) covered the area north of Bicheno - map 7 - in his report "Interim Report on the Geology and Coal Resources of the N.E. Coalfields of Tasmania". Apart from the relocation of the Cornwall Fault and the outlining of the areas of Triassic sandstone covered by dolerite scree, by Threader, the geological maps are practically identical. The geology of the Mt. Elephant-Piccaninny Pt. area is outlined in Appendix B.

The rock types of the area are briefly described below, chronologically, from oldest to youngest.

The basement rocks of the area are strongly folded Silurian sediments known as the Mathinna Beds. These sediments are folded along a general NNE-SSW axis and consist of sandstones, mudstones, siltstones, slates and phyllites. These sediments are intruded by Devonian granites but they have no bearing on the coal prospects of the area.

The Silurian is overlain unconformably by Permian sediments. Very broadly, these sediments are freshwater and marine, and consist of sandstones, arkoses, siltstones, conglomerates and limestones. No complete sections of the Permian have been observed. In 1890, 427 feet (130 metres) of Permian sediments were observed in the Harefield bore & 500 feet (152.40 metres) in the Killymoon bore.

Conformably overlying the Permian are Triassic sediments consisting of feldspathic sandstones, sandstones, mudstones and carbonaceous mudstones. The economic coal measures are located within the top 660 feet (201 metres) of the succesSsion, within the feldspathic sandstone member. The succession has a measured maximum thickness of 1055 feet (321.5 metres) which was revealed in Mines Department Borehole no. 6. At present there is no satisfactory basis for correlation of Triassic beds.

A dolerite sheet of Jurassic Age, which may be over 1,000 feet thick in parts, overlies the Triassic sediments. It is roughly conformable with the sediments and has acted as a vast protective covering for them, preventing their removal by erosion. Dolerite scree is widespread and generally covers the contact between the dolerite and the underlying sediments. Hydro Electric Commission boreholes have intersected up to 380 feet (115.8 metres) of scree. This scree causes difficulty in interpreting the form of the dolerite intrusion and in locating coal outcrops.

Recent (Cainozoic) fluviatiles overlie the Triassic sediments within valleys and areas lacking dolerite.

7. STRUCTURE

The Permian sediments rest unconformably on the Silurian. The contact is nearly planar and dips at 1^{o} or less to the south. The Permian-Triassic contact is thought to be conformable within the area of interest. Where the Permian and Triassic are disconformable, they are separated by a conglomerate of a few inches which grades upwards into a clean creamy sandstone.

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The general dip of the Triassic is thought to be 2° to 4° to the southeast. However, rolls and faults increase this dip in some areas.

The main dolerite sheet shelves to the west with respect to the Triassic beds. West of Fingal the dolerite is in contact with lower Triassic beds, i.e. no economic coal measures. East of Fingal, the dolerite is in contact with Triassic beds above the economic coal workings. Overall, the sheet has a dip to the southeast roughly conformable with the sediments. It is presumable that coal is present beneath the dolerite, if the dolerite is a roughly concordant sheet. This main sheet of dolerite is in the form of a plateau, almost unbroken from St. Marys to the Tasman Peninsula and fringed by old coal workings. Dolerite also occurs as a capping to the Nicholas Range, Mt. Peter and Mt. Paul, and as isolated outcrops on the flanks of the ranges and in valley floors. The relationship of these occurrences to the main dolerite mass is unknown.

Vertical faulting with some tilting was observed within the area on all scales. According to Reid (1922) the major faults, namely, the Cornwall and Dalmayne Faults occur mainly to the east of the coal-bearing country. McNeil (1965) places the Cornwall Fault west of the Dalmayne area, the Lagoon Fault follows the coast (see Map 7 and Fig 2). McNeil also omits the Douglas and Siltstone Faults on the basis that they were formulated upon dubious coal seam correlation. The Cornwall Fault is reported to have a displacement of 500 feet (152.4 metres) whereas small faults within the Cornwall Coal Co. workings have displacements of only a few centimetres. The faulting is of Tertiary Age and is a definite factor to be remembered when planning the extraction of coal.

8. COAL SEAMS

Eight seams were identified by Reid 1922, named the Alpha, Beta, Gamma, Delta, Eta, Theta, Iota and Kappa seams. He states that the main seam in the Fingal, Mt. Nicholas, Cornwall, Dalmayne, Seymour and Douglas coalfields is the Delta seam. As the character of individual seams is variable over short distances, correlations based on thickness, distance apart, nature of roof and floor rock is invalid. Thus little faith is held in Reid's correlations. At present no satisfactory basis for correlation of seams is known, there being no known marker horizons in the sedimentary succession. This fact is strongly suggestive of "cyclic" sedimentation - units being easily mistaken for each other.

At the Cornwall Coal Mine, which is now closed, there are three seams (see Fig 1). Using local seam names, the seams are the Hitit (4'9"-1.45m) with the Fenton (8'-2.44m) approximately 100 feet (30.5m) below it and the Blue (11'-3.35m) approximately 30'-40' (9.14-12.19m) above it.

At the Duncan & Yates Mines of Fingal (presently in operation) the main seam is 7' (2.13m) thick. This seam is present for 5,000' (1523.9m) to the south, and approximately 2,000' (608.57m) to the east in workable widths. (Information obtained from Mines Dept. boreholes.)

Further east it deteriorates into a mudstone-coal sequence. This seam is thought, by the Mines Dept., to be the Hitit seam of Cornwall, and it may well be the seam worked at the Dalmayne Colliery twelve miles (19.3Km) to the E.S.E. of the Duncan Mine.

9. BRIEF NOTES ON COALFIELDS WITHIN E.L.5/61 (except the Dalmayne)

(i) Mt. Nicholas Coal Area

(a) Location and Extent (Maps 2, 5 & 7)

The district known as the Mt. Nicholas coalfield occupies about 50 square miles (129.5 sq.Km) of country situated 2½ miles (4 Km) northwest of St. Marys, and running in a westerly direction for approximately six miles (9.7 Km). The Nicholas Range occupies a central position within the area. The main coal mines and leases were on the southern fall of this range, at an altitude from 182.9 to 365.75 metres above the level of the Break O' Day Plain, which covers the whole southern portion of the area at an altitude of approximately 244 metres above sea level.

(b) Access (Maps 2, 5 & &

The Fingal Railway connects Launceston and St. Marys, a distance of 80 miles (128.7 Km). The Esk Highway follows this railway. At the time of operation of the two main mines at Mt. Nicholas and Cornwall, sidings and branch lines were constructed and the coal was loaded directly into the railway trucks.

(c) Geology (see Maps 5 & 7) and Drilling

1878. Two bores were drilled on the floor of the Break O'Day Valley through predominantly Permian sediments. No economic coal measures were intersected

HAREFIELD BORE	Triassic 9' to 280'6"	(2.74 to 85.50m)
	Permian 280'6" to 707'	(85.50 to 215.50m)
	Silurian 707' to 724'10"	(215.50 to 226.93m)
KILLYMOON BORE	Permian 0 to 500'3"	(0 to 152.48m)
	Silurian 500'3" to 505'6"	(152.48 to 154.08m)

In 1971-72, the Mines Dept. Borehole 13 was drilled in the saddle between Huntsmans Cap and Mt. Nicholas, north of the Nicholas workings (see Maps 4 & 5). Four seams of coal were intersected, three of good quality (see Log - Fig 19)

In 1957 the Cornwall Coal Company drilled two boreholes to the east of their workings at Cornwall (see fig. 15). The three main seams of the workings were intersected (assay results - see fig. 14b).

(d) Coal Seams

Reid (1922) states that eight seams are present within the Mt. Nicholas Coalfield. The main seam worked - Reid's "Delta" seam - is the Hitit seam. Little work was carried out on the Blue and Fenton seams. The Hitit seam where first worked at the Mt. Nicholas mine, was 16' (4.87m) in thickness, variation in thickness over the life of the mine being considerable. The Hitit seam at the Cornwall Mine averaged approximately 6' (1.83m) thickness.

(e) Mt. Nicholas Mine

These workings (Map 7) were closed in 1958. Over the period of operation 1,721,072 tons of coal were produced.

A typical analysis of Mt. Nicholas coal is as follows:

Moisture	4.88
Volatiles	26.82
Fixed Carbon	47.68
Ash	20.62
Sulphur	0.48
S.G.	1.52
B.T.U.	9742

(f) Cornwall Coal Co. Mine

These workings (Map 7) were closed in 1963. Over the period of operation 3,989,276 tons of coal were produced. A typical analysis of Cornwall coal is as follows:

Moisture	3.80
Volatiles	21.74
Fixed Carbon	54.38
Ash	20.18
Sulphur	0.36
S.G.	1.43
B.T.U.	10,007

(for leases currently held by Cornwall Coal Co. see Maps 8 & 9)

(g) Jubilee Coal Co. Mine

These workings (lease - see Map 5) were closed in 1960. Over the period of operation 665,142 tons of coal were produced. A typical analysis of the Cornwall coal is as follows:

Moisture	3.92
Volatiles	28.52
Fixed Carbon	47.46
Ash	20.10
Sulphur	0.60
S.G.	1.47
B.T.U.	9653

(h) Conclusions

Only the southern slopes of the Nicholas Range have been worked for coal. An adit driven north from the Cornwall workings and the intersections from Mines Dept. borehole 13, indicate the presence of coal seams on the northern slopes of the "Range". This area to the north of the Nicholas Range contains large areas of Triassic sediments and certainly warrants further investigation.

(ii) Seymour Coalfield

(a) Location & Extent (see Map 6 & 7)

The Seymour Coalfield comprises 6 square miles (15.54 Km) of country situated on the sea coast and extending from Seymour in the north to Bicheno in the south. The area is in the form of a plain and is approximately 1½ miles (2.41Km) wide.

(b) Access (Maps 2, 6 & 7)

Access is by way of the St. Marys to Swansea Road, i.e. the Tasman Highway.

(c) Geology (see Maps 6 & 7) and Drilling

Four bores were drilled within the Seymour coalfield in 1888 (see Map 6). Little coal was intersected in these bores.

(d) Coal Seams

Three seams are outlined by the drilling at Seymour. The seam worked at the Seymour Mine is thought by Reid to be the Delta seam. The seam was narrow, never being greater than 5'6" (1.68m) in thickness.

(e) Seymour Mine

This mine was worked from 1924-1931, and 1959-1964. A total of 28,207 tons of coal was produced.

(f) Conclusions

This area appears of little interest due to the thinness of the main seam.

(iii) The Douglas River Coal Area

(a) Location and Extent (Maps 6 & 7)

This area of approximately 10 square miles (25.9 sq. Km) of country, comprises the land on either bank of the Douglas River and extends from the river mouth 7 to 8 miles (11.26-12.87 Km) upstream.

(b) Access (Maps 2, 6 & 7)

Access to this area is extremely difficult, no means of transport are available except by foot.

(c) Geology (See Maps 6 & 7) and Drilling

One bore was drilled within the area in 1888 (see Map 6). Little coal was intersected in this bore.

(d) Coal Seams

Due to faulting, it is difficult to say how many coal seams are present in this area. The main seam present is thought by Reid to be the Delta seam, a southern continuation of the Dalmayne Colliery seam. This seam, where it is exposed by the Douglas River, is approximately 8' (2.44m) in thickness.

(e) Mt. John Coal Company Workings

In 1915, 25 tons of coal were produced from an adit driven on the 8' seam. This is the only coal removed from the area.

(f) Conclusions

The 8' (2.44m) seam may be a southern continuation of the Dalmayne Colliery seam, and thus the area from the Douglas River north to the Dalmayne area (see Maps 5, 6 & 7) warrants further investigation.

(iv) The Denison River Area

(a) Location & Extent (Maps 6 & 7)

This area is situated midway between the townships of Seymour and Bicheno, and about 3 miles (4.81Km) from the mouth of the Denison River. Only 2 sq. Km may be regarded as coal bearing (Reid 1922).

(b) Access (Maps 2, 6 & 7)

The only access is the St. Marys to Swansea road, i.e. the Tasman Highway.

(c) Geology (See Maps 6 and 7)

(d) Coal Seams

Reid (1922) mentions 4 seams in the Denison River area. All seams are thin, the maximum thickness recorded being 17" (43 cm)

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(e) The Mt. John Mining Co.

There has been no production from this area, although a lease was held over a 500 acre (1.2 sq. Km) area by the above company.

(f) Conclusions

This area appears of little interest.

(v) The St. Albans Area

(a) Location & Extent (Maps 6 & 7)

This area is situated midway between the source and mouth of the Apsley River, about 7 miles (11.26 Km) due west of Bicheno (see Map 5).

(b) Access (Maps 2, 6 & 7)

Three miles (4.83 Km) north of Bicheno, an unsealed road branches off the St. Marys-Swansea road and follows the Apsley River to the St. Albans area.

(c) Geology (See Maps 6 & 7)

(d) Coal Seams

Reid (1922) mentions the presence of 6 seams. All seams are narrow and uneconomic.

(e) Conclusions

This area appears of little interest.

(vi) Steep Creek Area

(a) Location & Extent (Map 6)

This area is situated to the north of the old township of Llandaff. Reid (1922) regards 500 acres (2 sq. Km) as "productive of coal".

(b) Access (Maps 2 & 6)

The area is within one mile (1.6 Km) of the St. Marys-Swansea Road, i.e. the Tasman Highway.

(c) Geology (see Map 6) and Drilling

In the late 19th century, four bores were drilled in the Steep Creek area. No significant coal was intersected in these bores.

(d) Coal Seams

Reid (1922) mentions the presence of "his" eight seams within the Steep Creek area. All seams are thin and uneconomic.

(e) Mt. John Mining Co.

There has been no production from this area, although a lease was held over 100 acres (0.4 sq. Km) by the above company.

(f) Conclusions

This area is of little interest.

(vii) Combend Area

(a) Location & Extent (Map 6)

This area is situated to the south of and adjoining the Steep Creek area. The area extends from Llandaff 3 miles (4.83 Km) west to Combend and covers an area of approximately 6 square miles (15.54 sq.Km).

(b) Access (Maps 2 & 6)

The main Swansea-St. Marys Road, i.e. the Tasman Highway, passes along the eastern boundary of the area.

(c) Geology (Map 6)

(d) Coal Seams

Three seams are mentioned by Reid (1922). He correlates one of his seams with the Delta seam, i.e. the Dalmayne seam. The seams are thin and banded, and of no economic value.

(e) Mt. John Mining Co.

There has been no production from this area, although a 100 acre (0.4 sq. Km) lease was held by the above company.

(f) This area is of little interest.

(viii) The Mount Paul Area

(a) Location and Extent (Map 6)

This area is situated at the northern end of Freycinet Peninsula, approximately 6 miles (9.66 Km) from Coles Bay. The area extends in a north to south direction from the northern slopes of Mt. Peter to the southern slopes of Mt. Paul, and in an easterly direction to the sea coast. The coal bearing portion is situated centrally within the area.

(b) Access (Maps 3 & 6)

The Coles Bay road passes 1 mile (1.6 Km) to the west of this area. A 4-wheel drive track 1 mile (1.6 Km) in length, winds from the Coles Bay road to the Mt. Paul adit.

(c) Geology (Map 6)

(d) Coal Occurrences

Coal is known to occur at only two localities, namely, the adit at Mt. Paul and on the south-western slopes of Mt. Peter. The seam in the adit has been correlated by Reid (1922) with the seam worked at the Dalmayne Colliery, i.e. this is Reid's Delta seam.

(e) Mt. Paul Adit

This adit was commenced by the Mt. Paul Coal Mining Syndicate and is the only developmental work so far carried out in the area. The adit extends for a stated 600 feet (182.9m) in a general northerly direction. Unfortunately, the portal has collapsed and thus an inspection of the seam was not possible. T. D. Hughes (1955) described the seam, in a memorandum to the Tasmanian Mines Department, as follows:

2" - Coal	
4" - Shale	
2' - Coal	
1" - Band	
2' - Coal	7 ft. Coal (2.13m)
½" - Band	
3' - Coal	
5" - Band Shale	
1' - Coal	
SHALE FLOOR	

The adit is stated to have been driven with the floor the 5" shale band and the roof in coal about the 1" band.

(f) Area of Triassic SST

Approximately 730 acres (2.95 sq.Km) of feldspathic sandstone was outlined in this area by Nye (Government Geologist) 1929.

(g) Conclusions

Only one seam of coal, the 7' (2.13m) seam of the Mt. Paul adit, has been located within the area. As there is approximately 1 square mile (2.59 sq. Km) of feldspathic sandstone in this area, there could be a considerable tonnage of coal present. Although isolated from the major coalfields north of the Douglas River, and relatively small in area, this area still warrants further investigation.

10. THE DALMAYNE COAL AREA

(a) Introduction

The investigations by Industrial and Mining Investigations have, in the main, been concentrated with the Dalmayne Coal area. Two boreholes (Dalmayne 1 & 2) were drilled within the coal bearing Triassic sediments, west of the "old" Dalmayne Colliery. Three significant seams were intersected in both bores. The top and middle seams are banded seams of coal, carbonaceous mudstone, mudstone and clay, the coal varying in quality from muddy-shaley to bright. The lower seam is of better quality and has an average thickness of 3.82 metres over the two drillholes.

(b) Location & Access (Maps 2, 4, 5 & 7)

The Dalmayne area is situated between the east coast and the eastern margin of the Fingal Tier, and extends from the township of Gray in the north to Seymour in the south. The area comprises approximately 78 square kilometres. The main occurrences of coal are at altitudes above 240 metres. Access to Borehole 1 is by unsealed road and 4-wheel drive track, a distance of approximately 7 kilometres from Gray. a 4-wheel drive track exists between Dalmayne No. 1 and No. 2. The township of Gray is approximately 7 kilometres from the railway at St. Marys.

(c) Topography (Maps 2 & 4)

The area is the most rugged in the East Coast district, streams cutting their valleys to depths of 200 metres or more in places. The Fingal Tier margin reaches an altitude of approximately 670 metres, the summit being approximately 7 to 8 kilometres from the sea coast. The topographical features of the area are the natural corollary to faulting. The various streams have worn deep and narrow gorges along lines of faulting and, where the direction of the stream is across the line of faulting, the upper portion of the stream has worn deep and narrow courses, but after crossing the fault the stream is more mature.

(d) Previous Reports

1901 - Twelvetrees - Report to the Secretary of Mines
1922 - Reid - Mineral Resources No. 7 "The Coal Resources of Tasmania" pages 53-60.

(e) Brief History of Mining and Drilling within the area

In 1915 a tunnel was driven into a major seam 13'7" (4.14m) in thickness, with an R.L. of 323.70 metres. The tunnel was driven for a distance of approximately 100 metres. This tunnel is situated about 4.83 Km

from the sea-coast and an aerial ropeway was erected to transport the coal to Picannini Point. The amount of coal produced at this time was insignificant, operations ceased after little development because of the destruction of the jetty at Picannini Point. This tunnel is accessible by 4-wheel drive vehicle. Production 1915-1917 - 1947 tons.

From 1939-1954 the Transport Commission reopened the above workings. Approximately 34,500 tons of coal, of good quality, was produced over this period. The coal was trucked out to the railway at St. Marys. The lack of a market plus the occurrence of faulting were the reasons for the closure of the mine in 1954.

From 1949-1952 the Mines Department drilled 9 bores around the perimeter of the colliery works. These bores were closely spaced and covered an area of approximately .09 square Km. The bores were drilled primarily to define the extent of the colliery seam, the complete Triassic succession not being intersected. Thus these bores are of little use for correlation purposes (see Figs 8 to 13).

(f) Geology (Maps 5 & 7 plus Appendix B)

The geological systems present are as previously outlined in Section 6 of this report.

Faulting on all scales is present within the area. The major faults of Reid (1922) occur to the east of the coal bearing area. Threader(1968) places the Cornwall Fault to the west of the Dalmayne Coalfield. Minor faulting was detected within the vicinity of the "old Dalmayne Colliery" by the Mines Department drilling of 1949-1952, five definite faults plus a probable fault between bores 3 & 4 being outlined. The cross sections of Dalmayne Bores No. 1 and No. 2 in association with Mines Department Bores 2, 3 and 4, also indicate the presence of faulting (see Figs 6 & 7).

The faulting is of Tertiary age and is a definite factor to be considered when planning the extraction of coal.

(g) Drilling Programme 1974

General. In May 1974 a kilometre grid, outlining eight drilling locations was set out within the area of Triassic sediments, west of the Dalmayne Colliery (see Maps 2, 4 and 5). Two of the eight initial drillholes proposed have been completed to date. Three major coal seams were intersected in both drillholes, the seams in Dalmayne No. 2 correlating well with the seams of Dalmayne No. 1 (see Sections 1 & 2). The top and middle seams contain little good quality coal. The lower seam is generally of good quality, although a 1.53 m3543 mudstone band occurs within the centre of this seam in Dalmayne No. 2. Details of the three major seams are as follows:

DALMAYNE No. 1	Drill Depth	Seam Thickness	Coal Thickness	% Coal
Seam 1	74.52-81.53M	7.01M	4.39M	62.62
Seam 2	94.49-99.18M	4.69M	2.81M	59.91
Seam 3	159.59-164.15M	4.56M	4.50M	98.68
DALMAYNE No. 2				
Seam 1	104.89-112.24M	7.35M	4.30M	58.50
Seam 2	127.45-131.66M	4.21M	2.32M	55.11
Seam 3	196.62-197.24M	4.62M	3.09M	66.88

Character of Coal. The character of the three major seams is generally consistent over the two drillholes. The top seam is a banded seam of coal (predominantly muddy and shaley with occasional bright streaks), mudstone, carbonaceous mudstone, carbonaceous clay and clay. The lower 1.20m of this seam in Dalmayne No. 1, and the lower 1.09m in Dalmayne No. 2, are of a higher quality coal.

The middle seam is a poor quality seam, banded and containing no good quality coal. Mudstone, clay and carbonaceous mudstones and clay occur with muddy and shaley coals.

The lower seam contains good quality coal, 4.50m in Dalmayne No. 1 and 3.09m in Dalmayne No. 2 (due to considerable core loss in Dalmayne No. 2 the figure of 3.09m is an approximation only). A carbonaceous mudstone and clay band of approximately 1.53m occurs within the lower seam of Dalmayne No. 2 between drill depths 194.76m and 196.29m.

Method of Sampling. The coal seams were split and half of the core taken for the sample. Only the coal sections were sampled, all stone partings and bands greater than 0.7mm in thickness were omitted from the samples.

Assays (particulars enclosed Fig 14a). As expected from the core sections, the lower section of seam 1 and seam 3 contain coal of reasonable quality. In Dalmayne No. 1 the ash content of seam 3 is higher than that expected from the core section, averaging 30.43% over the full thickness of the coal section (4.50m) and 28.2% over a thickness of 3.06m (i.e. samples 741674 and 741676 on the assay sheet).

In Dalmayne No. 2, due to core loss, only 1.82m of the 3.09m (approx.) of coal section was sampled. The average ash content over this thickness of 1.82m is 19.6%.

A table, outlining assay results of the coal regarded as being of good quality for an East Coast Tasmania steaming coal and comparing these results with analyses from the operating Yates Mine at Edingall, the Mt. Nicholas main seam (Hitit) and the Callide Mine, Qld. is outlined:

Hole No.	Seam No.	Section	BTU/lb	Vols	F.C.	Moist	Ash	Sulphur	S.G.
Dal. 1	1	80.28/81.53	10,193	28.8	40.1	5.4	27.7	0.42	1.47
Dal. 2	1	111.15/112.24	9,290	26.9	41.1	3.1	28.9	0.57	1.49
Dal. 1	3	159.59/161.14	-	21.7	43.4	3.9	31.0	0.23	1.56
"	3	161.14/162.53	-	23.3	38.4	3.3	35.0	0.30	1.56
"	3	162.59/164.15	10,753	24.1	47.1	3.5	25.3	0.33	1.49
Dal. 2	3	192.94/193.86	10,882	25.6	52.0	3.2	19.2	0.46	1.42
"	3	193.86/194.76	10,968	28.0	49.7	2.3	20.0	0.28	1.43
Yates Mine			10,070	23.7	49.6	4.8	22.3	0.30	
Mt. Nicholas (Closed Mine)			9,870	26.7	50.5	3.9	18.9	0.60	
Callide			10,020	25.7	51.1	9.7	13.5	0.30	

N.B. Due to incomplete combustion occurring on coals over 30% ash, no calorific values could be obtained for Dalmayne No. 1 between 159.59 and 162.53m.

This table shows that apart from the higher ash values, the analyses from the Dalmayne bores compare favourably with Callide coal. The ash content would probably be lowered by efficient washing.

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N.B.* At the Cornwall Coal Co. mine at Fingal, sections of coal with ash contents greater than 30% are encountered. The average ash content of the coal being marketed at the present time is from 19.5% to 21.0%. The historical average is 19.1% ash at a 1.6 S.G. cut point.

(h) Conclusions (from 1974 drilling programme plus Mines Dept. drilling)

(1) The top seam of boreholes Dalmayne No. 1 and No. 2 correlates with the main seam of Mines Dept. D.D.H. 4, but it is not possible at this time to state which seam (of the three main seams intersected in the drilling programme) corresponds with the seam mined at the Dalmayne Colliery and intersected by Mines Dept. bores 1, 2, 3, 5, 6, 7, 8 & 9. It would be necessary for a drillhole, sited within close proximity to the "colliery" workings and covering the complete sequence of coal seams, before correlation with the colliery seam can be determined.

(2) The variation in character of the Triassic coal seams is well illustrated by the intersections of the lower seam (seam 3) in the two Dalmayne boreholes. This seam in bore No. 1 contains 98.68% coal with an ash content of 30.43% (average). In bore No. 2 one Km to the south this seam contains only 66.88% coal with an ash content of 19.6%. The coal thickness varies from 4.50m in Dalmayne No. 1, to 309m in Dalmayne No. 2.

(3) It is probable that a considerable thickness of dolerite overlies the Triassic sediments to the west of survey grid-line Dalmayne No. 1, No. 2 and site "D". Thus the drilling of bores at sites "C" and "H" would prove costly. Dolerite scree is present at site "D".

(4) Of the two drillsites outlined to the east of grid-line Dalmayne No. 1, No. 2 and site "D", one at site "E" should contain the three major seams but, because of its R.L. (viz 259m) it is possible that only the lower seam (Seam 3) is present at site "F" (see Maps 2, 4 & 5 for grid particulars).

(5) Due to faulting and the great variation in thickness and character of the Triassic coal seams, considerable drilling, at considerable expense, will be necessary before any correlation of seams and determination of a tonnage figure can be given for this area.

(6) The general dip of the coal seams, as outlined in the colliery and drilling is 2° to 4° to the southeast. Thus the three seams intersected in the two drillholes should outcrop down-slope to the southeast of the present workings and drilling localities.

(i) Summary & Recommendations

The Dalmayne area has the potential for yielding a considerable tonnage of coal, but the proving of reserves will take considerable drilling time and expense. I would recommend, as the next stage of the investigation of this area, the drilling of a bore at co-ordinates 5,384,331N & 602747E (Map 4) to determine the character and thickness of the three major seams at an approximate distance of only 500m from Mines Dept. D.D.H. No. 9, and at a position directly south of the "old colliery" workings. Information from a bore at this locality

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should allow correlation of the colliery seam (the main seam of Mines Dept. No. 9) with the seams of Dalmayne Nos. 1 & 2.

11. GENERAL CONCLUSIONS ON COAL POTENTIAL E.L.5/61

(a) There are three areas within E.L.5/61 which have the potential for yielding a considerable tonnage of coal. They are, in what the writer believes their order of importance -

(i) that area from and including the Dalmayne Coalfield west towards the Fingal area, south towards the Douglas River area and northwest to include the northern slopes of the Fingal Tier (see Maps 5, 6 &7)

(ii) the northern slopes of the Nicholas Range, north of the old Mt. Nicholas and Cornwall workings (see Maps 5 & 7)

(iii) to a minor extent the Mt. Paul Coalfield (see Map 6)

(b) Due to the general ruggedness of the terrain (particularly (i) and (ii) above), faulting, the great variation in thickness and character of the individual coal seams, the presence of large areas of dolerite (possibly up to 304.78 metres in thickness) covering the Triassic succession, considerable drilling (at considerable expense) will be necessary before any correlation of seams and determinations of tonnage figures can be given for any particular area. It will probably be necessary to drill at 500 metre intervals for a $66\frac{2}{3}\%$ confidence level. This means that 9 boreholes would be needed to give a one square kilometre coverage.

(c) The drilling of widely spaced boreholes would merely serve to outline the presence - or otherwise - of coal seams, but would be useless for correlation and reserve determinations.

(d) The analyses from the lower section of seam No. 1 and from seam No. 3 of the Dalmayne drilling programme are typical of East Coast Tasmania steaming coals.

(e) Information from the Mines Department drilling programme between Fingal and the western boundary of E.L.5/61 suggests the seam mined by Cornwall Coal Co. at Fingal (Hitit seam) is the same seam as the Dalmayne colliery seam 12 miles (19.3 Km) to the E.S.E. The Hitit seam was the main seam worked at the Mt. Nicholas and Cornwall mines approximately 19.31 Km to the northwest of the Dalmayne area. Thus it is possible that the Hitit seam extends over a wide area.

(f) There is little information available on the frequency and magnitude of displacement of the faulting within the areas of interest. At this stage, one can do no more than keep in mind that exploration and mining costs would probably be adversely affected by faulting of the seams.

(g) The coal seams dip flatly to the southeast and the topography generally lends itself admirably to mining by self-draining adits.

(h) Due to the great variation in character of the coal seams within the areas of interest, any production from the areas would probably be in the form of several small mines, instead of a few large mines.

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12. RECOMMENDATIONS

It is recommended that drilling of the grid outlined in the Dalmayne area be continued.

Footnote:
The Cornwall Coal Company's mine at Fingal produces at the present time 100,000 tonnes of coal per year. It is expected that 300,000 tonnes will be produced within the next two to three years.

BIBLIOGRAPHY

REID (1922) Mineral Resources No. 7 "The Coal Resources of Tasmania"

THREADER (1968) "Interim Report on the Geology and Coal Resources of the Northeast Coalfields of Tasmania"

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Round 11 on 6.1.79

DETAILS OF COAL SAMPLES FROM DALMAYNE

BORE HOLES 1 and 2

B.H.	Seam	Drill Depth (m)	Thickness (m)	Coal Content (m)	%	% Ash	% Moisture	% Volatile matter	% Fixed Carbon	Specific Gravity	%S
1	1	74.52-74.93	0.41	0.41	100	61.3	6.0	15.3	17.4	1.97	
		75.04-78.03	2.989	1.21	40	60.5	3.6	14.9	21.0	1.90	
		78.03-79.05	1.02	0.50	40	51.5	4.0	20.3	24.2	1.77	
		79.05-80.28	1.23	1.07	88	37.8	4.1	22.0	36.1	1.63	
		80.28-81.53	1.25	1.20	96	27.7	3.4	28.8	40.1	1.47	0.42
	2	94.49-95.42	0.93	0.93	100	72.9	6.4	12.9	7.8	2.18	
		95.73-97.15	1.42	0.36	25	63.2	6.6	14.2	16.0	1.98	
		97.15-98.96	1.81	1.30	72	47.6	5.0	18.5	28.9	1.78	
		98.96-99.18	0.52	0.22	42	50.7	3.4	25.4	20.5	1.79	
	3	159.59-161.14	1.55	1.50	97	31.0	3.9	21.7	43.4	1.56	0.23
		161.14-162.53	1.39	1.39	100	35.0	3.3	23.3	38.4	1.56	0.30
		162.59-164.15	1.56	1.56	100	25.3	3.5	24.1	47.1	1.49	0.33
2	1	104.89-105.30	0.41	0.41	100	49.3	4.8	15.8	30.1	1.79	
		105.47-107.52	2.05	1.14	55	50.0	4.8	16.7	28.5	1.77	
		107.52-108.76	1.24	1.02	83	43.0	3.8	22.4	30.8	1.68	
		108.84-111.15	2.31	0.64	28	58.5	4.3	15.3	21.9	1.88	
		111.15-112,24	1.09	1.09	100	28.9	3.1	26.9	41.1	1.49	0.57
	2	127.45-129.12	1.67	0.67	40	57.3	6.4	15.0	21.3	1.90	
		129.21-130.44	1.23	0.78	63	44.2	4.9	19.7	31.2	1.71	
		130.44-131.66	1.22	0.87	71	35.8	4.0	23.2	37.0	1.60	
	3	192.94-193.86	0.92	0.92	100	19.2	3.2	25.6	52.0	1.42	0.46
		193.86-194.76	0.90	0.90	100	20.0	2.3	28.0	49.7	1.43	0.2[illegible]

Sampling by M. Edyvean for Industrial Mining & Investigations Pty Ltd.

Proximate analyses by Department of Mines, Launceston.

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* = better qual coal

DRILLING TARGET:— Triassic Coal Seams - Dalmayne Area

REMARKS:— Three major seams intersected

SURVEY DATA			ASSAY DATA										
DEPTH feet	Bearing mag.	Inclin. degs.	SAMPLE No.	FROM ft. m ins.	TO ft. m ins.	RECOVERY ft. m ins.	RECOVERY %	ASSAY RESULTS Ash	Moisture	Volatiles	Fixed C	S.G.	
		(	741665	74.52	74.93	0.41	Coal	61.3	6.0	15.3	17.4	1.97	
		(	66	75.04	78.03	1.21	"	60.5	3.6	14.9	21.0	1.90	
	SEAM 1	(	67	78.03	79.05	0.50	"	51.5	4.0	20.3	24.2	1.77	
		(	68	79.05	80.28	1.07	"	37.8	4.1	22.0	36.1	1.63	
		(	69	80.28	81.53	1.20	"	27.7	3.4	28.8	40.1	1.47	*
		(	741670	94.49	95.42	0.93	"	72.9	6.4	12.9	7.8	2.18	
		(	71	95.73	97.15	0.36	"	63.2	6.6	14.2	16.0	1.98	
	SEAM 2	(	72	97.15	98.96	1.30	"	47.6	5.0	18.5	28.9	1.78	
		(	73	98.96	99.18	0.22	"	50.7	3.4	25.4	20.5	1.79	
		(	74	159.59	161.14	1.50	"	31.0	3.9	21.7	43.4	1.56	*
	SEAM 3	(	75	161.14	162.53	1.39	"	35.0	3.3	23.3	38.4	1.56	*
		(	76	162.59	164.15	1.56	"	25.3	3.5	24.1	47.1	1.49	*

GEOLOGICAL LOG

Logged by:— M. Edyvean

FROM ft. ins. metres	TO ft. ins.	RECOVERY ft. ins.	%	DESCRIPTION	SECTION Core	SECTION Sample
	11.68	7.06	60.5	Dolerite boulders, fragments and clay		
11.68	16.15	4.17	93.3	Clay and Dolerite pebbles and fragments with light and dark grey mudstone fragments		
16.15	21.12	-	Nil	Probably Clay and Mudstone		
21.12	22.25	1.13	100	Light and dark grey Mudstone with softer clay bands. Minor carbonaceous material. Calcite in shear surfaces Dip = 3°		
22.25	27.56	4.48	84.4	Light grey Mudstone (sandy in part)- occasional carbonaceous material. Calcite present. Minor clay.		
27.56	28.84	1.28	100	Transition Zone: Mudstone to sandstone.		
28.84	41.15	12.31	100	Sandstone - minor coal occurrences, ie streaks, fine bands		
41.15	41.75	0.60)	100	Carbonaceous Mudstone grading towards a muddy Coal in part		)
41.75	41.97	0.22)		Sandy Mudstone bands present. Streaks of bright coal		)
41.97	42.65	0.68	100	Carbonaceous Sandy Mudstone		
42.65	42.91	0.26	100	Muddy Sandstone with good quality coal fragments		
42.91	43.80	0.89	100	Sandstone - minor coal fragments and streaks		
43.80	44.66	0.86	100	Transition Zone: Laminated Mudstone and Sandstone.		
44.66	51.75	7.09	100	Mudstone (sandy in part) light and darker grey - grading into a carbonaceous mudstone over last 53 cm. Occasional coal streaks (45.10m to 45.70m) Puggy zone 50.82m to 51.22m ~~Mudstone laminated in part.~~		

Continued over:—

INDUSTRIAL & MINING INVESTIGATIONS PTY. LIMITED

DIAMOND DRILL CORE RECORD

HOLE No.:— 1	MAP SHEET No. IV S Break o' Day 1:20000 DISTRICT GRAY EL5/61	LOCATION OF SITE:— DALMAYNE COAL AREA
R.L. OF SITE:— 416.4 metres	SITE SURVEY ON MAP No.:—	CORE SIZE:— HW-HQ=23.77m, NQ=260m
BEARING OF HOLE:— ---	AIR PHOTO No.:— T 594-57 Project 305	COMMENCED:— 17th June 1974
INCLINATION OF HOLE:— Vertical	DRILL:— F.30 Hydraulic	COMPLETED:— 29th July 1974
CO-ORDS. OF SITE:— 5385347N 602279 E	DRILLER:— A.D.D.	FINAL DEPTH:— 284 Metres

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DALMAYNE COAL AREA — GEOLOGICAL LOG — HOLE NO. 1 — Page:— 2

FROM ft. m ins.	TO ft. m ins.	RECOVERY ft. m ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
51.75	53.72	1.98	100	Carbonaceous Mudstone and Mudstone (carbon content varies) Sandy grains present, e.g. last 10 cms.		
53.72	57.25	3.42	96.9	Mudstone (sandy and laminated in part) Some carbonaceous material.		
57.25	59.0	1.75	100	Transition Zone: Mudstone and Sandstone.		
59.0	74.52	15.52	100	Sandstone (fine to medium grained) Minor coal bands and streaks (up to 7 cm) Minor mudstone.		
74.52	81.53	7.01	100	Banded Coal Seam. Coal carbonaceous mudstone, mudstone (altered to clay in part) Dip = 3° to 4° 74.52-76.09 - only minor mudstone, poor quality coal (all coal) ~~76.09-80.49 - poor coal and mudstone in approx. equal prop.~~ 80.49-81.53 - better quality coal with a brittle clay. calcite. ~~Coal varies in quality from muddy? shaly to bright~~ (This seam is probably the seam mined at Dalmayne Colliery)		DB SEAM -
81.53	82.55	1.02	100	Mudstone (carbonaceous in first 10 cm) grading into muddy sandstone		
82.55	89.67	7.12	100	Sandstone - minor mudstone and occasional fine bands and streaks of coal. Sandstone coarser from 95.12 m		
89.67	89.82	0.15	100	Coal - 10 cm bright good quality. Calcite present.		
89.82	90.12	0.30	100	Sandy Mudstone (dark grey) grading into soft and crumbly light green-grey mudstone.		
90.12	90.52	0.40	100	Sandy mudstone (as above) with carbonaceous material.		
90.52	94.49	3.97	100	Banded Zone: Grey sandstone and dark grey sandy mudstone (with some carbonaceous material) Sandstone content ~~increases with depth - little mudstone in last 30 cm~~		
94.49	99.18	4.69	100	Banded Coal Seam - predominantly poor quality coal. Coal (varying in quality from muddy? shaly to bright), ~~carbonaceous mudstone, carbonaceous clay and mudstone (altered to clay in part) Calcite present Dip = 3° to 4°~~		
99.18	99.25	0.07	100	Carbonsceous Sandy Mudstone		
99.25	100.35	1.10	100	Transition Zone - Mudstone and Sandstone		
100.35	134.18	33.83	100	Sandstone - medium to coarse grained - with minor find bands and streaks of coal. Minor bands and fragments of mudstone, some with carbonaceous material.		
134.18	134.43	0.25	100	Mudstone - carbonaceous mudstone - muddy coal for last 8 cm		
134.43	159.59	25.16	100	Sandstone - as for 100.35m to 134.18m		

Continued over

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	ASSAY RESULTS

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DALMAYNE COAL AREA — GEOLOGICAL LOG — HOLE NO 1 — Page — 3

FROM ft m ins	TO ft m ins	RECOVERY ft m ins	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
159.59	164.15	3.84	84.2	Coal - good quality seam. Small band of sandy mudstone to clay from 162.53 to 162.59m Some bright coal and calcite plus occasional stone bands. Some fine powdery coal washed away.		
164.15	164.44	0.29	100	Mudstone with occasional coal fragments. First four cm. carbonaceous - gradation from coal zone.		
164.44	165.01	0.57	100	Transition Zone: Mudstone, sandy mudstone and sandstone		
165.01	183.77	18.76	100	Sandstone (medium to coarse grained) Occasional find bands and streaks of coal. Minor occurrences of mudstone. Sandstone becomes coarser with depth.		
183.77	184.02	0.25	100	Coal, Carbonaceous Mudstone - Muddy Coal and Sandstone		
184.02	199.61	15.59	100	Sandstone Occasional coal flecks and fine bands up to 1.5cm in thickness. Mudstone fragements present, e.g. first 10 cm of core.		
199.61	201.41	1.80	100	Laminated Mudstone		
201.41	202.23	0.84	100	Banded and laminated Mudstone, Sandy Mudstone and Sandstone streaks of carbonaceous material. Dip ← 3°		
202.	202.95	0.72	100	Coal - muddy with sandstone streaks.		
202.95	203.70	0.75	100	Sandstone - with minor fine bands of carbonaceous mudstone in first 32 cm. Grading into sandy mudstone.		
203.70	205.18	1.48	100	As for 201.41 to 202.23, though mudstone predominant. Plant impressions.		
205.18	206.07	0.89	100	Transition Zone - Sandstone & Muddy Sandstone - laminated last 30 cm with carbonaceous streaks.		
206.07	209.48	2.81	100	Sandstone - medium grained - coal streaks & fine bands.		
209.48	210.91	1.43	100	Muddy Coal - Carbonaceous Mudstone with bands of mudstone and clay pugs. First 14cm = better quality coal. Sandstone fragments and bands.		
210.91	213.98	3.07	100	Mudstone (first metre laminated) with minor fine grained		
213.98	215.54			sandstone. Occasional fine bands and streaks of coal and carbonaceous mudstone. Calcite present. Mudstone grades into dark grey sandy mudstone with carbonaceous material over last 67 cm.		
215.54	225.56	10.2	100	Coarse grey Sandstone (brown tinge for 1st metre). First 40 cm is laminated sandstone and carbonaceous mudstone - transition from previous zone. Coal and carbonaceous mudstone present as fine bands and streaks. Mudstone band 217.77m-218.02m. Sandstone is sofr and crumbly in part e.g. 220.03m-225.56m.		

Continued over

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	ASSAY RESULTS

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DALMAYNE COAL AREA — GEOLOGICAL LOG — Page:— 4

FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
225.56	227.13	1.57	100	Mudstone grading into a carbonaceous Mudstone to Muddy Coal for last 14 cm.		
227.13	228.60	1.47	100	Sandstone with fine bands of carbonaceous mudstone & coal. With depth, sandstone becomes coarser, mudstone decreases in content, coal more common. First 70 cm-transition from previous zone.		
228.60	231.44	2.84	100	Sandstone - No coal bands.		
231.44	232.54	1.10	100	Banded Coal, Sandstone, Carbonaceous Mudstone First 9 cm - bright coal. Sandstone bands increase with depth. Coal varies considerably in quality.		
232.54	232.76	0.20	100	Sandstone with carbonaceous Mudstone (Muddy coal?) bands and occasional fine coal bands, e.g. last 5cm - laminated.		
232.76	247.19	14.43	100	Sandstone (brown tinge for first few metres). Fractures contain pug up to 236.27m. Coal bands (up to 50 cm) and streaks present. Mudstone bands and fragments 237.39 to 238.47m. Sandstone is medium to coarse grained.		
247.19	249.05	1.86	100	Very coarse grey and white Sandstone with brown and grey mudstone fragments, coal bands and fragments.		
249.05	251.48	2.43	100	Sandstone - (finer grained than above) with coarser zone in first metre.		
251.48	252.18	0.70	100	COAL - calcite present		
252.18	254.67	2.49	100	Mudstone and Sandy Mudstone - laminated in part) Minor carbonaceous mudstone and coal occurrences e.g. 254.23-254.35m.		
254.67	256.78	2.11	100	Sandstone - coarser with depth. Fine bands of coal present e.g. in last 6.5 cm (laminated) Minor carbonaceous mudstone bandsandy at base from 255.36-255.61m.		
256.78	256.94	0.16	100	Mudstone - some carbonaceous material and sand grain bands dominate last 9 cm of core.		
256.94	257.0	0.06	100	Coal - bright for 3 cm. Sandstone & mudstone last 3cm. Calcite.		
257.0	259.23	2.23	100	Mudstone (light & dark grey) Sheared and fractured with pug in fractures.		
259.23	260.03	0.50	62.5	FAULTING - 30 cm core lost. Fault visible 259.53 to 259.63		
260.03	260.60	0.57	100	(SST fragments). Mudstone laminated and sandy in part e.g. 258.60 to 259.02. Carbonaceous mudstone present e.g. 260.03 to 260.60. Last 30cm contains sandstone bands.		
260.60	260.89	0.29	100	Light grey fine grained Sandstone - fractures present.		

Continued over

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	ASSAY RESULTS									

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BALMAYNE COAL AREA — GEOLOGICAL LOG — Page:— 5

FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
260.89	261.76	0.87	100	Mudstone - grading into Carbonaceous Mudstone and poor quality muddy coal with sandstone bands and grains. Occasional streaks of bright coal. First 22cm contains little carbonaceous material.		
261.76	261.82	0.06	100	Sandstone, Mudstone & Carbonaceous Material grading into conglomerate band (fragments of mudstone, SST & calcite)		
261.82	261.95	0.13	100	Muddy Sandstone with mudstone fragements and calcite.		
261.95	263.43	1.48	100	Mudstone - first 5cm carbonaceous - carbonaceous material present throughout core. Core fractured and shattered with laminations present.		
263.43	264.46	1.03	100	Laminated transition zone from Mudstone to Sandstone. Carbonaceous material present.		
264.46	264.69	0.23	100	Sandstone - minor coal streaks. Sandy mudstone fragments in last 4cm.		
264.69	265.07	0.38	100	Carbonaceous Mudstone and Mudstone		
265.07	265.43	0.36	100	Sandstone and calcite. Crystals present. Minor carbonaceous mudstone and Muddy Coal fragments.		
265.	265.50	0.07	100	Muddy Coal and Sandstone - shale-like.		
265.50	269.75	4.25	100	Mudstone - light to dark grey. Laminated in part. Some sandy zones, pug, and carbonaceous material. Coal present e.g. 267.12 to 267.22m. Calcite present. Faulting observed e.g. 267.74 to 268.18 core shattered.		
269.75	269.96	0.21	100	Darker grey Mudstone with carbonaceous matter and fine coal bands e.g. first 2cm = bright coal.		
269.96	270.92	0.96	100	Fault Zone. Sheared fragmentary zone of Sandy Mudstone, Sandstone, coal, pug and sand. Lst 9cm = coal (2cm bright) and sand grains. Fault contact at = 60° dip. Calcite present BRECCIATED.		
270.92	271.56	0.64	100	Light grey fractured laminated Mudstone with sandy zones & calcite.		
271.56	272.42	0.86	100	As for 269.75 to 269.86m. First 20cm fragmentary. 271.93 to 271.98m = 3 cm of Coal, 2cm of muddy coal. Calcite present. Sandstone gradation over last 14 cm - laminated.		
272.	272.94	0.52	100	Coarse white-grey Sandstone with streaks and fine bands of coal and carbonaceous material. Calcite present.		
272.94	273.50	0.56	100	Mudstone cf 271.56 to 272.43 - No coal.		
273.50	273.65	0.15	100	Muddy Coal - Carbonaceous Mudstone- Mudstone. Calcite present. Streaks of bright coal.		

Continued over

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	ASSAY RESULTS

Index Page:—

.024

518025

DALMAYNE COAL AREA — GEOLOGICAL LOG — Page:— 6

FROM ft. m ins.	TO ft. m ins.	RECOVERY ft. m ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
273.65	274.05	0.40	100	Zone of Mudstone, Muddy Sandstone, Carbonaceous Mudstone, Coal, Clay, Calcite and pug. Fault visible = 60° Dip. BRECCIATED.		
274.05	274.32	0.27	100	Coarse Sandstone with mudstone fragments and calcite. Very coarse at base.		
274.32	274.59	0.27	100	Light grey sandy Mudstone - Quartz fragment.		
274.59	282.05	6.26		Dark grey Mudstone exhibiting considerable shearing and faulting. Calcite common. Quartz fragment from 279.17 to 279.20m. Pyrite? Shear surfaces show dip of approx. 60°.		
282.05	284.0	1.15		Green and grey Mudstone (sandy in part) with abundant shell fragments. Clay and Pyrite present. Shear surface dip of 60°.		
				HOLE TERMINATED		

Continued over

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	ASSAY RESULTS

025

5180200

DRILLING TARGET:— TRIASSIC COAL SEAMS - DALMAYNE AREA

REMARKS:— THREE MAJOR SEAMS - LOWEST SEAM OF GOOD QUALITY

SURVEY DATA			ASSAY DATA										
DEPTH feet	Bearing mag.	Inclin. degs.	SAMPLE No.	FROM ft. m ins.	TO ft. m ins.	RECOVERY ft. m ins.	RECOVERY %	ASSAY RESULTS Ash	Moisture	Vols	Fixed C	S.G.	
			741677	104.89	105.30	0.41	Coal	49.3	4.8	15.8	30.1	1.79	
			78	105.47	107.52	1.14	"	50.0	4.8	16.7	28.5	1.77	
SEAM 1			79	107.52	108.76	1.02	"	43.0	3.8	22.4	30.8	1.68	
			741680	108.84	111.15	0.64	"	58.5	4.3	15.3	21.9	1.88	
			81	111.15	112.24	1.09	"	28.9	3.1	26.9	41.1	1.49	*
			82	127.45	129.12	0.67	"	57.3	6.4	15.0	21.3	1.90	
SEAM 2			83	129.21	130.44	0.78	"	44.2	4.9	19.7	31.2	1.71	
			84	130.44	131.66	0.87	"	35.8	4.0	23.2	37.0	1.60	
SEAM 3			85	~~192.94~~	~~193.86~~	~~0.92~~	"	~~19.2~~	~~3.2~~	~~25.6~~	~~52.0~~	~~1.42~~	*
			86	193.86	194.76	0.90	"	20.0	2.3	28.0	49.7	1.43	*
					* better quality coal								

GEOLOGICAL LOG Logged by:—

FROM ft. m ins.	TO ft. m ins.	RECOVERY ft. m ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
[redacted]	6.40			Dolerite biykdersm fragnebts abd ckat,		
6.40	9.75	3.71	38.1			
9.75	13.82	1.02	25.1	Fragmentary Dolerite & Hard Mudstone?(Chert, slate?) Water worn gravel. Occasional dark grey plastic mud ~~with pebbles, e.g. 13.72m to 13.82m~~		
13.82	14.69	0.71	81.1	Mudstone and Carbonaceous Mudstone (clay in part) Calcite present. Hard Mudstone for last 26cm (only 10cm recovered		
14.69	15.28	0.59	100	Carbonaceous Mudstone - grading towards Muddy Coal?		
15.28	23.63	8.35	100	Carbonaceous Mudstone and minor grey mudstone (light & dark) Calcite present. Sand grains present e.g. 19.62 to 22.10m. ~~Occasional streaks and fine bands of bright coal.~~ Carbonaceous Mudstone grades towards a Muddy Coal in part.		
23.63	24.40	0.76	100	Carbonaceous Mudstone - Muddy Coal, with some bright coal bands and calcite.		
24.40	25.91	0.91	100	Transition Zone:Mudstone and Sandy Mudstone.		
2[redacted]91	33.56	7.65	100	Sandstone - occasional fragments and streaks of coal. Quartz, calcite and other rock fragments present.		
33.56	37.12	3.52	100	"Conglomerate" Sandstone with rock fragments & pebbles. Coal fragments present. Calcite present. Coal seam ~~from 36.70m to 36.83m. First few cm of zone is "gritty"~~		
37.12	38.59	1.47	100	Sandy Mudstone (soft and crumbly for first 15cm) with minor coal bands and streaks e.g. 38.29m to 38.41m.		

Continued over:—

INDUSTRIAL & MINING INVESTIGATIONS PTY. LIMITED

DIAMOND DRILL CORE RECORD

HOLE No.:— 2	MAP SHEET No. IV S Break 'O Day 1:20000	DISTRICT EL5/61 Gray	LOCATION OF SITE:— DALMAYNE COAL AREA
R.L. OF SITE:— 412.1 metres	SITE SURVEY ON MAP No.:—		CORE SIZE:— HW-HQ = 9.45m NQ = 199.50m
BEARING OF HOLE:— -	AIR PHOTO No.:— T 594-57 Project 305		COMMENCED:— 5th August 1974
INCLINATION OF HOLE:— Vertical	DRILL:— F.30 Hydraulic		COMPLETED:— 23rd August 1974
CO ORDS OF SITE:— 5384347N 602247E	DRILLER:— A.D.D.		FINAL DEPTH:— 199.95 metres

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026

518027

DALMAYNE COAL AREA — GEOLOGICAL LOG — HOLE NO. 2 — Page:—2

FROM ft. m ins.	TO ft. m ins.	RECOVERY ft. m ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
38.59	45.09	6.50	100	Mudstone - with minor sandy Mudstone, muddy Sandstone and fine grained Sandstone. Mudstone light to dark grey (come carbon present) laminated in part. Carbonaceous Mudstone and coal occurrences e.g. 38.71m-38.94m 41.02m - 41.30m 41.37m- 41.86m Laminated and banded zone of light grey sandy mudstone - muddy sandstone with darker grey mudstone from 41.86m to 44.55m. Occasional fine bands of coal - some light Mudstone hard and brittle in part.		
45.09	45.36	0.27	100	Coal (22cm) and Sandy Mudstone to Muddy Sandstone		
45.36	50.40	5.04	100	Mudstone - light and dark grey, laminated and sandy in part. Occasional carbon content present in darker mudstone. Some pug. Occasional fine bands and streaks of coal - some bright.		
50.40	50.55	0.15	100	Coal		
50.55	54.0					
	54.20	3.65	100	Mudstone (grey to greenish grey). First few cm is a transition zone from coal.		
54.20	58.01	3.81	100	Transition Zone: laminated - Mudstone, Sandy Mudstone and fine sandstone.		
58.01	60.62	2.61	100	Sandstone (fine) - coarser with depth - occasional streaks of carbonaceous material.		
60.62	70.18	9.56	100	Light and dark grey Mudstone (laminated) with minor fine Sandstone occurrences. Some carbonaceous material and fine bands of bright coal. Coarser sandstone with mudstone and fine bands of bright coal from 64.47 to 65.14m.		
70.18	72.51	2.33	100	Sandstone - occasional coal streaks & mudstone fragments.		
72.51	72.64	0.13	100	Laminated Zone - Sandstone and Carbonaceous Mudstone		
72.64	72.79	0.15	100	Carbonaceous Mudstone - Muddy Coal		
72.79	73.01	0.22	100	Coal - some bright.		
73.01	73.14	0.13	100	Banded Zone of Coal (6cm) Carbonaceous Mudstone & Mudstone		
73.14	74.73	1.59	100	Laminated Mudstone and Sandy Mudstone occasional streaks of carbonaceous material and muddy coal.		
74.73	75.04	0.31	100	Coal, Carbonaceous Mudstone - Muddy Coal and Clay		
75.04	75.40	0.36	100	Laminated Mudstone		
75.40	78.63	3.23	100	Transition Zone - Mudstone (little present) Sandy Mudstone and Sandstone (increasing content with depth)		

Continued over

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	ASSAY RESULTS

DALMAYNE COAL AREA — GEOLOGICAL LOG — Page:— 3

FROM ft. m ins.	TO ft. m ins.	RECOVERY ft. ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
76.83	78.35	1.52	100	Sandstone - with mudstone fragments & carbonaceous flecks.		
78.35	78.64	0.29	100	Banded Zone: Carbonaceous Mudstone - Muddy Coal & Mudstone		
78.64	84.38	5.74	100	Light and dark grey laminated Mudstone and Sandy Mudstone grading to fine sandstone. Minor carbonaceous matterial ~~within dark laminated mudstone e.g. 83.71m to 82.24m~~ Sandstone bands in last 14 cm		
84.38	84.88	0.50	100	Laminated Zone: Mudstone, Sandy Mudstone, Carbonaceous Mudstone and Coal. (bright streaks). Fragments of mudstone common.		
84.88	87.57	2.69	100	Mudstone and Laminated Mudstone - occasional carbonaceous material. Mudstone sandy in part, grading to sandy muddy sandstone ~~e.g. 87.50m to 87.57m~~		
87.57	89.99	2.42	100	Transition Zone: Laminated - Mudstone & Muddy Sandstone.		
89.99	104.89	14.90	100	Fine to coarse grained grey Sandstone with occasional mudstone (some laminated) Occasional streaks and fragments of coal. Fragments of mudstone. ~~Sandstone, whiter, with numerous streaks and fine bands of~~ carbonaceous material and coal from 100.13m to 104.89m.		
104.89	112.24	7.35	100	Banded Coal Seam (mainly poor quality coal) shaly. Coal (varying in quality from muddy to bright) Carbonaceous ~~Mudstone and Mudstone (altered to clay in part)~~ Good quality Coal 111.18m to 112.24m. Calcite present Dip =2-4°		DB.
112.24	115.13	2.89	100	Mudstone (carbonaceous material in first few cm) grading to Muddy Sandstone. Flecks of carbonaceous material.		
115.83	127.04	11.21	100	Fine to medium grained Sandstone. Streaks and flecks of ~~carbonaceous material and coal. Fault from 124.84m-125.84m. (brecciated sandstone)~~		
127.04	131.66	4.62	100	Banded Coal Seam (mainly poor quality coal) ~~Coal (varying in quality from muddy? shaly to bright) Carbonaceous Mudstone + mudstone to clay (with some carbonaceous~~ material) Calcite present Dip = 2°-4°		
131.66	132.63	0.97	100	Mudstone - carbonaceous with bright coal bands on transition from coal.		
132.63	192.62	59.99	100	Sandstone predominantly medium to coarse grained. Occasional mudstone bands and fragments - some with carbonaceous material/ ~~Occasional streaks and fine bands of bright coal. Sandstone and soft brown carbonaceous mudstone (lignite?)~~ from 185.32m-185.44m with pyrite cubes. Mudstone bands up to 65cm		
192.62	192.94	0.05	15.63	COAL - soft, crumbly - little recovered		
192.94	194.76	1.62	89.0	COAL - good quality - fragmentary in part. Dip= 2°-4°		
194.76	196.29	0.15	9.8	Mudstone (with carbonaceous material) and clay .../		

Continued over

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	ASSAY RESULTS

28

518029

DALMAYNE COAL AREA — GEOLOGICAL LOG — Page:— 4

FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
				Occasional coal fragments. Considerable core lost - probably clay.		
196.29	197.24	0.04	4.2	COAL water return indicated the presence of good quality coal throughout.		
197.24	197.47	0.23	100	Mudstone - carbonaceous on transition from coal zone.		
197.47	199.95	2.48	100	Sandstone - grading from fine to coarse with streaks of carbonaceous material.		
				HOLE TERMINATED		

Continued over

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	ASSAY RESULTS

Index Page:—

map 1

TASMANIA

1:500000

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E.L. 10/76 10 S.K.M.
C.R.A. EXPL. P/L
29 9 77

E.L. 42/71 53 S.K.M.
RENISON LTD.
23 9 77

S.P.L. 132 11 S.K.M.
E.Z. CO. OF A'SIA LTD.
29 11 77

E.L. 5/63 334 S.K.M.
COMSTAFF P/L
30 12 77

S.P.L. 3 20 S.K.M.
E.Z. CO. OF A'SIA LTD.
6 1 78

E.L. 4/73 13.5 S.K.M.
ASARCO AUST. P/L
6 9 77

E.L. 1/75 102 S.K.M.
AUST. & N.Z. EXPL. CO.
8 9 77

E.L. 3/76 182S.K.M.
AUST. & N.Z. EXPL. CO.
110 77

E.L. 2/63 75 S.K.M.
ABER - FOYLE LTD.
22 1 78

E.L. 9/66 67 S.K.M.
MT. LYELL M & R CO. LTD.
5 8 77

E.L. 41/71 120 S.K.M.
MT. LYELL M & R CO. LTD.
4 8 77

E.L. 10/69 132 S.K.M.
MT. LYELL M & R CO. LTD.
5 12 77

E.L. 15/76 143 S.K.M.
C.S.R. LTD.
2 2 78

E.L. 21/76 144 S.K.M.
MT. LYELL M & R CO. LTD.
1 9 77

E.L. 5/75 517 S.K.M.
28 12 77

E.L. 6/77 452 S.K.M.
E.Z. CO. OF A'SIA LTD.
1 12 77

E.L. 17/75 46 S.K.M.
C.C. J. BLACKLOW
17 11 77

E.L. 27/76 187 S.K.M.
KIBUKA MINES P/L
7 9 77

E.L. 20/70 31 S.K.M.
BALLARAT CLAY CO. P/L
KAOLIN ONLY
2 10 77
SHOWN

E.L. 28/76 46 S.K.M.
L.W. MORRIS
22 12 77

E.L. 20/70 66 S.K.M.
COMALCO LTD.
8 10 77

E.L. 25/76 COMALCO 12 S.K.M.

S.P.L. 772 14 S.K.M.
B.A. FARQUHAR
PENDING

E.L. 9/77 35 S.K.M.
J.J.R. P/L
PENDING

E.L. PENDING
MINERAL HOLDINGS P/L

E.L. 21/70 109S.K.M.
BALLARAT CLAY CO. P/L
KAOLIN ONLY
2 10 77
BDRY. SHOWN

E.L. 9/70 76 S.K.M.
HELLYER MG. & EXPL. P/L
9 9 77

E.L. 31/76 14 S.K.M.
H.G. RAYNER
29 9 77

E.L. 4/76 3 S.K.M.
J.C. VAN MOORT
9 9 77

E.L. 5/61 775 S.K.M.
INDUSTRIAL & MINING INVESTIGATIONS P/L
24 2 78
COAL & LIMESTONE ONLY

PART OF E.L. 5/61

E.L. 19/74 24S.K.M.
LOUISA MG. CORP. N.L.
2 5 77

E.L. 7/78 28 S.K.M.
LOUISA MG. CORP. N.L.
10 77

E.L. 14/76 18 S.K.M.
LOUISA MG. CORP. N.L.
28 11 77

S.P.L. 137 83 S.K.M.
LOUISA MG. CORP. N.L.
19 1 78

S.P.L. 146 98 S.K.M.
J.D. CLARK
16 1 78

E.L. 1/77 K. ELLINGS PENDING

E.L. 17/77 21 S.K.M.
ALLSTATE EXPL. P/L
12 1 78

E.L. 4/74 302 S.K.M.
ENDEAVOUR OIL CO. N.L.

E.L. 1/76 361 S.K.M.
INDUSTRIAL & MG. INVEST. P/L
23 2 78

E.L. 1/74 105 S.K.M.
COMINCO EXPL. P/L
30 11 77

S.P.L. 762
100 S.K.M.
J.D. WARE
7 6 77

E.L. 12/72 94 S.K.M.
E.Z. CO. OF A'SIA LTD.
25 9 77

E.L. 20/70 107 S.K.M.
E.L. 43/70 204 S.K.M.
MINERAL HOLDINGS AUST. P/L
15 10 77

E.L. 4/77 147 S.K.M.
COMALCO LTD.
1 12 77

S.P.L. S.K.M.
NORTHERN DEVELOPMENTS (TAS) P/L
PENDING

E.L. 15/73 65 S.K.M.
COMINCO EXPL. P/L
25 12 77

E.L. 1/68 175 S.K.M.
COMSTAFF P/L
30 12 77

PART OF E.L. 5/63
COMSTAFF P/L

E.L. PENDING
PENZOIL AUST. LTD.

E.L. 18/76 44 S.K.M.
B.H.P. CO. LTD.
4 8 77

E.L. 1/77 5000 S.K.M.
C.R.A. EXPLORATION P/L
28 9 77

S.P.L. 762
100 S.K.M.
J.D. WARE
7 6 77

E.L. 12/72 94 S.K.M.
E.Z. CO. OF A'SIA LTD.
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NORTHERN DEVELOPMENTS (TAS) P/L
PENDING

E.L. 15/73 65 S.K.M.
COMINCO EXPL. P/L
25 12 77

E.L. 1/68 175 S.K.M.
COMSTAFF P/L
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PART OF E.L. 5/63
COMSTAFF P/L

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PENZOIL AUST. LTD.

E.L. 1/63 47 S.K.M.
CLEVELAND TIN N.L.
11 8 77

E.L. 1/73 44 S.K.M.
M.P. MUNDAY
11 1 78

E.L. 22/74 37 S.K.M.
COMINCO EXPL. P/L
26 8 77

E.L. 53/70 24 S.K.M.
VALLEY EXPL. HOLDINGS P/L
10 12 77

E.L. 18/73 21 S.K.M.
RENISON LTD.
27 1 78

E.L. 22/73 76 S.K.M.
COMINCO EXPL. P/L
17 12 77

E.L. 11/76 88 S.K.M.
RENISON LTD.
22 10 77

E.L. 47/71 24 S.K.M.
GIPPSLAND MINERALS N.L.
21 12 77

S.P.L. 129 46 S.K.M.
MT. LYELL M & R CO. LTD.
18 1 78

E.L. 5/76 20 S.K.M.
S.R.M. HARVEY
10 11 77

E.L. 13/76 22 S.K.M.
COMINCO EXPL. P/L
20 10 77

E.L. 2/74 16 S.K.M.
ELISNA P/L
28 12 77

E.L. 16/75 25 S.K.M.
ELISNA P/L
1 9 77

E.L. 1/71 57 S.K.M.
COMALCO LTD.
6 1 78

E.L. 1/76 264 S.K.M.
E.Z. - GEOPEKO
23 6 77

E.L. 2/76 195 S.K.M.
COMALCO LTD.
29 9 77

E.L. 7/73 445 S.K.M.
ASARCO AUST. P/L

E.L. 10/74 143S.K.M.
UNION OIL DEV. CORP.
12 1 78

E.L. 17/68 75 S.K.M.
TASMINEX N.L.

E.L. 17/76 220 S.K.M.
COMALCO LTD.
16 1 78

E.L. 7/74 486 S.K.M.
COMALCO LTD.
18 1 78

E.L. 14/74 7 S.K.M.
R.W. CARTER
30 12 77

E.L. 2/70 127 S.K.M.
ABMINCO N.L.
30 12 77

S.P.L. PENDING
E.Z. CO. OF AUST. LTD.

E.L. 5/77 33 S.K.M.
KIBUKA MINES P/L
7 7 77

E.L. 10/76 10 S.K.M.
C.R.A. EXPL. P/L
29 9 77

E.L. 42/71 53 S.K.M.
RENISON LTD.
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S.P.L. 132 11 S.K.M.
E.Z. CO. OF A'SIA LTD.
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E.L. 5/63 334 S.K.M.
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S.P.L. 3 20 S.K.M.
E.Z. CO. OF A'SIA LTD.
6 1 78

E.L. 4/73 13.5 S.K.M.
ASARCO AUST. P/L
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E.L. 1/75 102 S.K.M.
AUST. & N.Z. EXPL. CO.
8 9 77

E.L. 3/76 182S.K.M.
AUST. & N.Z. EXPL. CO.
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E.L. 2/63 75 S.K.M.
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MT. LYELL M & R CO. LTD.
5 8 77

E.L. 41/71 120 S.K.M.
MT. LYELL M & R CO. LTD.
4 8 77

E.L. 10/69 132 S.K.M.
MT. LYELL M & R CO. LTD.
5 12 77

E.L. 15/76 143 S.K.M.
C.S.R. LTD.
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E.L. 21/76 144 S.K.M.
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E.L. 5/75 517 S.K.M.
28 12 77

E.L. 6/77 452 S.K.M.
E.Z. CO. OF A'SIA LTD.
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L.W. MORRIS
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E.L. 20/70 66 S.K.M.
COMALCO LTD.
8 10 77

E.L. 25/76 COMALCO 12 S.K.M.

S.P.L. 772 14 S.K.M.
B.A. FARQUHAR
PENDING

E.L. 9/77 35 S.K.M.
J.J.R. P/L
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2 10 77
BDRY. SHOWN

E.L. 9/70 76 S.K.M.
HELLYER MG. & EXPL. P/L
9 9 77

E.L. 31/76 14 S.K.M.
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29 9 77

E.L. 4/76 3 S.K.M.
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9 9 77

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E.L. 7/78 28 S.K.M.
LOUISA MG. CORP. N.L.
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E.L. 14/76 18 S.K.M.
LOUISA MG. CORP. N.L.
28 11 77

S.P.L. 137 83 S.K.M.
LOUISA MG. CORP. N.L.
19 1 78

S.P.L. 146 98 S.K.M.
J.D. CLARK
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E.L. 1/77 K. ELLINGS PENDING

E.L. 17/77 21 S.K.M.
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E.L. 4/74 302 S.K.M.
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E.L. 1/76 361 S.K.M.
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E.L. 1/74 105 S.K.M.
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100 S.K.M.
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E.L. 20/70 107 S.K.M.
E.L. 43/70 204 S.K.M.
MINERAL HOLDINGS AUST. P/L
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E.L. 4/77 147 S.K.M.
COMALCO LTD.
1 12 77

S.P.L. S.K.M.
NORTHERN DEVELOPMENTS (TAS) P/L
PENDING

E.L. 15/73 65 S.K.M.
COMINCO EXPL. P/L
25 12 77

E.L. 1/68 175 S.K.M.
COMSTAFF P/L
30 12 77

PART OF E.L. 5/63
COMSTAFF P/L

E.L. PENDING
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B.H.P. CO. LTD.
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E.L. 1/77 5000 S.K.M.
C.R.A. EXPLORATION P/L
28 9 77

518031 Map No. 2 . 2041

Outlining Part I of E.L. 5/61 with IMI P/L. Drilling grid

TASMANIA 1 : 100 000
TOPOGRAPHIC SURVEY

BREAK O'DAY

REFER TO THIS MAP AS: SHEET 8514 (EDITION 1) Outlining with I.M.I.

ST HELENS 30 km | SCAMANDER 5 km | FINGAL 16 km | FINGAL 4 km | ROYAL GEORGE 9 km | SWANSEA 17 km | COLES BAY 18 km

TASMAN SEA | BAY | MACLEAN

a TASMAP publication

PRODUCED by the Survey Branch, Lands Department, Hobart, 1975.
NOMENCLATURE. Topographic names on this map have been approved by the Nomenclature Board of Tasmania
MAP ACCURACY. the average accuracy of this map is ± 25 metres in the horizontal position of well defined detail and ± 5 metres in elevation
MAP RELIABILITY. Topographic information shown on this map is correct to 1975.
ROAD CLASSIFICATION. Roads are classified according to their intended function as part of the national road system.
The representation of a road or track on this map is no evidence of the existence of a right of way.

GRID REFERENCE

TO GIVE A UNIQUE REFERENCE ON THIS SHEET TO NEAREST 100 METRES		
IGNORE the SMALLER figures of any grid number; these are for finding the full co-ordinates. Use ONLY the LARGER figures of the grid number, e.g. 584000		
SAMPLE POINT: 778 △ MOUNT ST JOHN		
1. Quote this 1 : 100 000 map sheet:	8514	
2. Locate first VERTICAL grid line to LEFT of point and read LARGE figures labelling the line either in the top or bottom margin or on the line itself:		90
3. Estimate tenths from grid line to point:		2
4. Locate first HORIZONTAL grid line BELOW point and read LARGE figures labelling the line in either the left or right margin, or on the line itself:		73
5. Estimate tenths from grid line to point:		9
SAMPLE REFERENCE:		8514-902739

CROWN COPYRIGHT RESERVED.

SCALE 1 : 100000

Kilometres 2 1 0 2 4 6 8 10 12 Kilometres

5 cm

S/1834/75

BLACK NUMBERED GRID LINES ARE 1000 METRE INTERVALS OF THE AUSTRALIAN MAP GRID, ZONE 55
GRID VALUES ARE SHOWN IN FULL ONLY AT THE SOUTH WEST CORNER OF THE MAP
HORIZONTAL DATUM: AUSTRALIAN GEODETIC DATUM 1966
VERTICAL DATUM: AUSTRALIAN HEIGHT DATUM
TRANSVERSE MERCATOR PROJECTION
CONTOUR INTERVAL 20 METRES
ELEVATIONS IN METRES
Issued by authority of the Minister for Lands and Works, Tasmania.

Built-up area; National route marker
Principal road and highway; Cutting
Secondary road; Embankment
Minor road; Road bridge
Vehicular track
Road distance in kilometres
Railway, multiple track; Station; Railway bridge
Railway, single track; Railway tunnel
Light railway or tramway
Power transmission line
Fence; Levee or bank
Mine; Windmill; Yard; Quarry
Building/s; Church; Ruin; Drive-in theatre
Trig station; Bench mark; Spot elevation
Cliff; Contour with value; Depression contour
Forest, dense
Forest, medium
Pine plantation
Orchard
Windbreak
Lake, perennial; Stream, perennial
Lake, intermittent; Stream, intermittent
Lake, mainly dry; Stream, mainly dry
Swamp, perennial; intermittent
Land subject to inundation;
Bore or well; Spring; Tank or small dam
Breakwater; Pier; Wharf
Wreck, exposed; Lighthouse
Rock, bare or awash; Foreshore flat; Sand
Reef; Rock ledge

GN TN MN
GRID CONVERGENCE 0.8°
GRID/MAGNETIC ANGLE 14.6°

TRUE NORTH, GRID NORTH AND MAGNETIC NORTH ARE SHOWN DIAGRAMMATICALLY FOR THE CENTRE OF THE MAP. MAGNETIC NORTH IS CORRECT FOR 1975 AND MOVES EASTERLY BY 0.1° IN ABOUT TWO YEARS.

INDEX TO ADJOINING MAPS

FORESTER 8415 | GEORGES BAY 8515 | ST PAULS 8414 | BREAK O'DAY 8514 | LITTLE SWANPORT 8413 | FREYCINET 8513 | SEA | TASMAN

BREAK O'DAY
SHEET 8514
TASMANIA
EDITION 1

MERCURY-WALCH

2042

518032 Map No. 3 Outlining Part 2 E.L. 5/61

TASMANIA 1:100000
TOPOGRAPHIC SURVEY

FREYCINET

REFER TO THIS MAP AS: SHEET 8513 EDITION 3 1977

EP FP
EN FN

ROYAL GEORGE 35 km
BICHENO 25 km
BICHENO 20 km

Cranbrook
Cranbrook House
Glen Gala
Craigie Knowe
Freestone Creek
Swan River
Bluestone Creek
Bluemans Creek
Bluemans Valley
Lake Leake Road
Spring Vale
Black Swamp Creek
Orange Road
Plains Swamp
Crossing Road
The Springs
Riverdale
Belmont
Belbrook Road
Pump House
Didos Hill
Doctors Hill
Heil Hill
Eel Hole Marsh
Brady's Hill
Brookdale
Redcliff
Redbank
Cambria
Waterloo Point
Swansea
Meredith River
Sharwil
Sugarloaf
Salvator Creek
Duncombes Lookout
Maysons Bluff
Kennedy Beach
Clarewell Beach
Piermont Beach
Piermont Point
Corrie Beach
Webber Point
Slopes Spray Creek
Quarry
Baldys
Tasman Highway
Bloodsucker Creek
Opening Bridge
Saltpan Creek
Sandy Beach
Haystack Rock
The Bulwarks
Dwarf Point
Triplehenner Lagoon
Kelvedon
Pine Flat
Shelly Point
Rocky Hills
Tirzah Beach
Mayfield Bay
Mayfield Point
Little Christmas Island
Mayfield
Buxton Point
Horrels Pt.
Penguite Pt.
Kullaroo
Lisdillon
Lisdillon Lagoon
Boags Point
Lisdillon Beach
Mitchells Road
Little Swanport
Seaford Point
Drakeys Bay
Penguin Rock
Stumblow Hill
Maddens Cove
Point Bailly
Square Bay
Fish Point
Rocklins Hill
Grindstone Point
Middle Bluff

Sherbourne Bay
Bulls Head
SANCTUARY
Watsons Bay
Sabinas Island
Cockatoo Islands
Grassy Point
MOULTING LAGOON
Amended E.L. 5/61 Boundary
White Rock Bay
Campbells Beach
Breakfast Point
The Long Point
Barnarys Bluff
Barney Wards Bay
Big Pyschbowl
Little Pyschbowl
Barney Wards Lagoon
Cherry Tree Lagoons
Borkstand Point
The Junction
Little Bay
Sun Tree Hole
King Bay
Haystack Point
The Point
Reedy Backhole
Bayles Backwater
Woolshed Point
Pelican Rocks
Pelican Island
Pelican Point
Meredith
Pelican Bay
Great Swanport
Shepherds Hut Lagoon
Swanwick Bay
Swanwick
Point Bagot
Mt Paul
Friendly Beaches
Friendly Point
Old Mine Workings
The Boot
Mt Graham
Mt Gracey
Bluestone Bay
Little Bluestone
The Nuggets
CAPE TOURVILLE
Coles Bay
Picnic Island
Hepburn Point
Corp Bay
Sleepy Bay
The Chateau
Honeymoon Bay
Parsons Cove
The Fisheries
Mt Parsons
HAZARDS
Mt Dove
Mt Amos
Mt Mayson
FREYCINET
Hankinson Cove
Fleurieu Point
Lamgana Lookout
THOUIN BAY
Wineglass Bay
Hazards Lagoon
Refuge Island
PROMISE BAY
Lemon Bight
Lemon Rock
Quartzite Ridge
CAPE FORESTIER
NATIONAL
Long Rock Ridge
Half Lemon Rock
Barrel O'Tar Cliff
Lalal Rock
FREYCINET
PENINSULA
Mt Freycinet
PARK
Gates Bluff
Coates Corner
Weatherhead Point
Bryans Lagoon
Gleaner Reef
Baldy Bluff
The Hump
Slaughterhouse Bay
CAPE DEGERANDO
Cum And Gell
Joes Bight
Point Geographe
Passage Rock
SCHOUTEN PASSAGE
Sandspit Point
Black Reef
Crockett's Bay
Murrays Bay
Black Patch Bay
Masons Downfall
Sandstone Bluff
SCHOUTEN
NATIONAL
PARK
Beaut Hill
ISLAND
Mt Storey
Mt Dandarus
Trumpeter Bay
CAPE BAUDIN
CAPE FAURE
Sarah Ann Bay
Little Sarah Bay
Chain Locker Bay
Chicken Point
Hen and Chicken Bay
CAPE SONNERAT
Eastern Rock
Tailleter Rocks
Ile des Phoques

GREAT OYSTER BAY
THOUIN BAY
PROMISE BAY
SCHOUTEN PASSAGE
TASMAN SEA

SCALE 1:100000

Kilometres 2 1 0 2 4 6 8 10 12 Kilometres

5 cm

BLACK NUMBERED GRID LINES ARE 1000 METRE INTERVALS OF THE AUSTRALIAN MAP GRID, ZONE 55
GRID VALUES ARE SHOWN IN FULL ONLY AT THE SOUTH WEST CORNER OF THE MAP
HORIZONTAL DATUM: AUSTRALIAN GEODETIC DATUM 1966
VERTICAL DATUM: AUSTRALIAN HEIGHT DATUM
TRANSVERSE MERCATOR PROJECTION
CONTOUR INTERVAL 20 METRES
ELEVATIONS IN METRES

Built-up area; National route marker
Principal road and highway; Cutting
Secondary road; Embankment
Minor road; Road bridge
Vehicular track
Road distance in kilometres
Railway, multiple track; Station; Railway bridge
Railway, single track; Railway tunnel
Light railway or tramway
Power transmission line
Fence; Levee or bank
Mine; Windmill; Yard; Quarry
Building/s; Church; Ruin; Drive-in theatre
Trig station, Bench mark, Spot elevation
Cliff; Contour with value; Depression contour
Forest, dense
Forest, medium
Pine plantation
Orchard
Windbreak
Lake, perennial; Stream, perennial
Lake, intermittent; Stream, intermittent
Lake, mainly dry; Stream, mainly dry
Swamp, perennial; intermittent
Land subject to inundation
Bore or well; Spring; Tank or small dam
Breakwater; Pier; Wharf
Wreck, exposed; Lighthouse
Rock, bare or awash; Foreshore flat; Sand
Reef; Rock ledge

GN TN MN
GRID CONVERGENCE 0.8°
GRID/MAGNETIC ANGLE 14.8°

TRUE NORTH GRID NORTH AND MAGNETIC NORTH ARE SHOWN DIAGRAMMATICALLY FOR THE CENTRE OF THE MAP. MAGNETIC NORTH IS CORRECT FOR 1977 AND MOVES EASTERLY BY 0.1° IN ABOUT THREE YEARS

INDEX TO ADJOINING MAPS

ST PAULS 8414 | BREAK O'DAY 8514 | SEA
LITTLE SWANPORT 8413 | FREYCINET 8513 | TASMAN
PROSSER 8412 | MARIA 8512

PART OF 1:250 000 SERIES
SK55-6 OATLANDS

SHEET 8513
FREYCINET
TASMANIA
EDITION 3 1977

a TASMAP publication

S/1771/77

MERCURY-WALCH

PRODUCED by the Survey Branch, Lands Department, Hobart, 1977
NOMENCLATURE: Topographic names on this map have been approved by the Nomenclature Board of Tasmania
MAP ACCURACY: The average accuracy of this map is ±15 metres in the horizontal position of well defined detail and ±5 metres in elevation.
MAP RELIABILITY: Topographic information shown on this map is correct to 1977
ROAD CLASSIFICATION: Roads are classified according to their intended function as part of the national road system.
The representation of a road or track on this map is no evidence of the existence of a right of way.

UNIVERSAL GRID REFERENCE
BEFORE GIVING A GRID REFERENCE, CIVILIAN USERS SHOULD STATE THE NUMBER AND NAME OF THIS MAP:
8513: FREYCINET

GRID ZONE DESIGNATION: 55G	TO GIVE A STANDARD REFERENCE ON THIS SHEET TO NEAREST 100 METRES
100000 METRE SQUARE IDENTIFICATION: EP FP / EN FN; 500 000	SAMPLE POINT: 485 △ MT DOVE
IGNORE the SMALLER figures of any grid number, these are for finding the full co-ordinates. Use ONLY the LARGER figures of the grid number, example: 583000	1 Read letters identifying 100 000 metre square in which the point lies: FP 2 Locate first VERTICAL grid line to LEFT of point and read LARGE figures labelling the line in either the top or bottom margin, or on the line itself: 07 3 Estimate tenths from grid line to point: 8 4 Locate first HORIZONTAL grid line BELOW point and read LARGE figures labelling the line in either the left or right margin, or on the line itself: 32 5 Estimate tenths from grid line to point: 4 SAMPLE REFERENCE: FP079324 If reporting beyond 18° in any direction, prefix Grid Zone Designation, as: 55GFP079324

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2043

Drilling IMI drilling grid
+ Mines Dept Drilling

Map. No. 4.

5 cm

AUSTRALIA 1:50 000

CAUTION:-
This map has been checked [illegible] but errors may be revealed on a completed map. Any errors should be notified to the Surveyor General, Hobart

BREAK-O'DAY IV

CONTOUR INTERVAL 20 Metres

518033

SHEET No 8514 - IV

Amended E.L.5/61 Boundary 1-7-77

M.D.13

MT. NICHOLAS

Cornwall

Mt Nicholas

MAIN ROAD

ESK

BREAK O'DAY

St Marys

ST PATRICKS HEAD

Amended E.L.5/61 Boundary 1-7-77

TASMAN HIGHWAY

RIVER

Gray

Amended E.L.5/61 Boundary 1-7-77

Delaware Adit

ELEPHANT PASS

RIVER

ST PAULS

MT. PUNTER

MT. PUZZLER

o Proposed Bore

PROVISIONAL EDITION Produced by Lands Dept Hobart CROWN COPYRIGHT RESERVED



5 cm

LEGEND

SEDIMENTARY

REGENT	Alluvium	
TRIASSIC	Sandstones and Shales	
PERMIAN	Limestones and Mudstones	
SILURIAN	Slates	

IGNEOUS

JURASSIC	Diabase	
DEVONIAN	Granite	

CHARACTERISTICS

- Main Roads
- Roads
- Tracks
- Contours
- Geological Boundaries
- Railways
- Tunnels
- Strike and Dip of Strata
- Fault
- Bore Hole
- Coal Outcrops
- Mines Dept Bore 13 (Approx. location)
- Former Mining Property

SCALE

CHAINS 80 40 0 1 2 3 MILES

METRES 1000 0 1 2 3 4 5 KILOMETRES

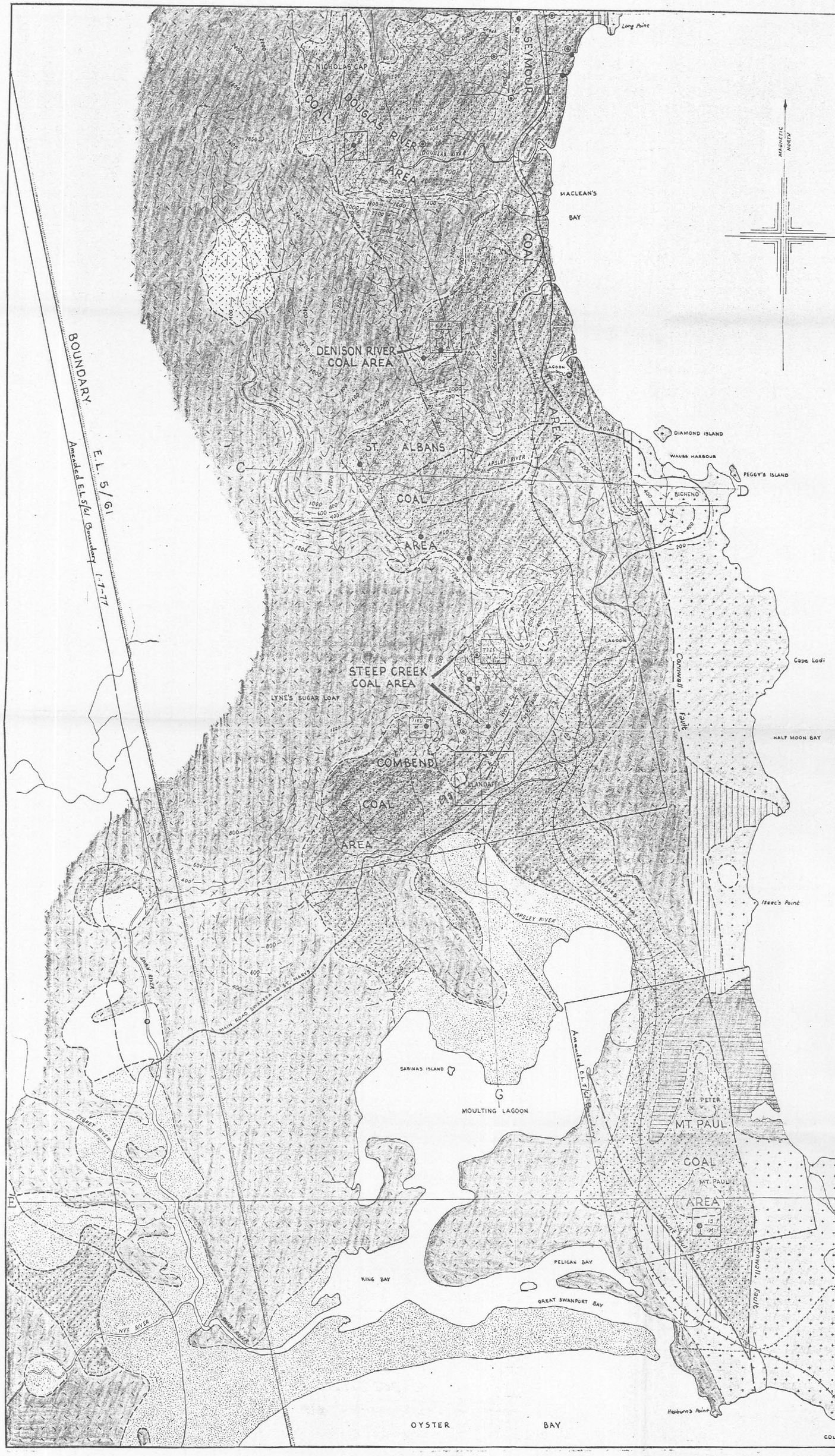
1 : 80,000

INDUSTRIAL AND MINING INVESTIGATIONS PTY. LIMITED

GEOLOGICAL SKETCH MAP OF MOUNT NICHOLAS - DALMAYNE FINGAL COALFIELD

Drawn by : G. Lihou	Date : 25·7·75
Author : Reid et al 1922	Drawing No MAP No 5

518034 P 2044



LEGEND

SEDIMENTARY

REGENT	Alluvium	
TRIASSIC	Sandstones and Shales	
PERMIAN	Limestones and Mudstones	
SILURIAN	Slates	

IGNEOUS

JURASSIC	Diabase	
DEVONIAN	Granite	

CHARACTERISTICS

- Main Roads
- Roads
- Tracks
- Contours
- Geological Boundaries
- Tunnel
- Strike and Dip of Strata
- Fault
- Shaft
- Bore Hole
- Coal Outcrops
- "Old" Mining Properties

5 cm

SCALE

CHAINS 80 40 0 1 2 3 MILES

METRES 1000 0 1 2 3 4 5 KILOMETRES

1 : 80 000

INDUSTRIAL AND MINING INVESTIGATIONS PTY. LIMITED

GEOLOGICAL SKETCH MAP OF SEYMOUR-DOUGLAS-DENISON MT. PAUL COALFIELD

Drawn by: G. Lihou	Date: 22 . 7 . 75
Author: Reid et al 1922	Drawing No MAP No 6

518035 2045



LEGEND

QUATERNARY	*Recent Alluvium*	
	Dolerite Talus	
	Terrace deposits	
TRIASSIC	*Sandstone Coal Measures*	
	Ross Sandstone	
PERMIAN	*Ferntree Mudstone*	
	Berriedale Limestone	
	Undifferentiated	
SILURIAN	*Mathinna Group sandstone, slate etc*	

IGNEOUS ROCKS

TERTIARY	*Basalt*
JURASSIC	*Dolerite*
DEVONIAN	*Granite*

- *Fault*
- *Fault inferred*
- *Geological boundary*
- *Boreholes*
- *Road*
- *Railway*
- A — A' *Section Line*
- *Coal workings*
- AVOCA *Township*
- DUNCAN *Coal mine*
- ① *Recommended drilling site*

1 : 200,000

SCALE

MILES 0 1 2 3 MILES

KILOMETRES 0 1 2 3 4 5 KILOMETRES

INDUSTRIAL AND MINING INVESTIGATIONS PTY. LIMITED

GEOLOGICAL MAP
NORTH EAST
TASMANIA COALFIELDS

Drawn by : G. Lihou	Date : 1 . 8 . 75
Author : Threader 1968, Edyvean 1974	Drawing Nº : MAP Nº 7

518036 2046

75-1101

Map No. 8

MT NICHOLAS

DEPARTMENT OF MINES TASMANIA J.G. SYMONS DIRECTOR OF MINES

5 cm

SCALE 4 INCHES TO ONE MILE

EXEMPT FROM THE MINING ACT 1929
S.R. 1966 NO. 70

EXEMPT FROM THE MINING ACT 1929
S.R. 1971 NO. 196

180 S.M.

CONSOLIDATED LEASE No 10662 M 750Ac.

E.L. 5/81 775 SKM.
INDUST. & MG. INVESTIG. P/L.
24 2 78
COAL & LIMESTONE ONLY

Timber Rights Res^d to Lessee

Timber Rights Res^d to Lessee
CORNWALL COAL CO. N.L.

CORNWALL SPECIAL COAL CO. N.L. No G 750 M LEASE 1097 Ac.

CORNWALL COAL CO. N.L. M.L.

Coal Co. Lease

Mount Nicholas Coal Co. Lim. Pur.

Granted to Michael Bates.

Granted to Donald Cameron.

Granted to Askin Morrison.

Granted to Frederick Louis Stieglitz.

Granted to Fred^k L. Stieglitz.

Granted to Thos Ransom.

Granted to John Ward Gleadow.

Granted to William Talbot.

Granted to Gamaliel Butler.

R. V. Legge Pur.

Lot 29 640 acres R. V. Legge Pur.

Lot 28 650 acres R. V. Legge Pur.

1500 acres R. V. Legge.

Henry Lohrey Pur.

Lot 983 248 acres. John Ward Gleadow. Pur.

Lot 984 250 acres. John Ward Gleadow. Pur.

Lot 985 251 acres John Ward Gleadow. Pur.

Lot 1508 62.0.38 Thomas P. Cowle Pur.

Lot 1509 115.2.0 Thomas P. Cowle Jr Pur.

Lot 1510 71.1.0 J. W. Gleadow Pur.

Lot 1511 67¼ac. Thomas P. Cowle Jr Pur.

Lot 1512 70¾ac. Thomas P. Cowle Jr Pur.

Lot 1513 70.2.32 Thomas P. Cowle Jr Pur.

Lot 1514 70¾ac. Thomas P. Cowle Jr Pur.

Lot 1515 62¼ac. Thomas P. Cowle Jr Pur.

Lot 118 640 acres.

Lot 6 360 acres. A. Smith Pur.

MT DURHAM

MT NICHOLAS RANGE

BREAK O' DAY RIVER

FINGAL RAILWAY

ST MARY'S BRANCH

FROM CORNERS TO ST MARY ROAD

Bushrangers Marsh

Lot 1520 53 ac. M. Steel Pur.

620 ac. Scenic Reserve

Gaz. 18-5-55

MAP 8
2047

FOR SECTIONS SOUTH EAST AND ADJOINING SEE SEYMOUR MAP

MT NICHOLAS
COUNTY OF CORNWALL

MAP 8 518037 2047

FINCAL

75-1101.
Map. No. 9.

I. G. SYMONS
Director of Mines

Scale 20 Chains to One Inch

5 cm

720 . 0 . 0
Granted to
Wm Talbot

Lot 178 640 ac
Granted to
J. W. Gleadow

1000 . 0 . 0
Granted to
J. W. Gleadow

Granted to
F. L. Stieglitz

340 ac:
Grant to
F. L.
Stieglitz

1000 ac:
R. V. Legge
Pur.

1500 ac:
R. V. Legge Pur.

600 ac:
Claimed
Thomas Ransom
MICKS CK.

R. V. Legge
Purch.
29. 640 ac:

Break O'Day River

Bushrangers Marsh

FRODSLEY

Grant to
William Talbot
780 ac:

800 ac:
Grant to
F. L. Stieglitz

2000 ac:
Grant to F. L. Stieglitz

E. & N. Ry Boundary (Approximate)

R. V. Legge
Pur.
179. 640 ac:

R. V. Legge
Purch.
294. 644 ac:

3000 ac:

St Mary's Railway

Fingal and

William Talbot

1977 ac: Grant to
161P 763 ac.
M
J. W. Gleadow
J. Brodribb

Cardiff Ck

64. 640 ac:
F. L. Stieglitz Pur.

3030 320
M.

498 . 2 . 16
W. V. Legge
Pur.

E.L. 5/81
775 S.K.M.
INDUSTRIAL & MG. INVESTIGATIONS P/L.
24/2/78
COAL & LIMESTONE ONLY

1446M. 1281M. 20 40 ac: 1269M. 100 ac:

1268M. 300 ac:

1239M. 320 ac:

Sadlers Creek

180 S.M.
EXEMPT FROM THE MINING
ACT 1929
S.R. 1971 NO. 198

South Esk River

Road to Mathinna

To Mangana

819 ac:
William Talbot
Pur.

747 ac:
R. G. Talbot
Pur.

Fingal

Rivulet

Reservoir

Fingal Municipal Council Water Supply

CONS. LEASE 103M 1657.
68
CORNWALL COAL CO. NO. L1A.
M.L.

99 . 1 . 39
M. C. Saunders
Pur.

150.
3 3
L. M. Saunders
Pur.

SEE FINGAL 1:20000 MINERAL CHART
FOR AREA WITHIN LINES

42 M 200
CORNWALL COAL CO. NO. L1A
M.L.

Marathon Ck.

8611 20

TOWN OF
FINGAL

315 ac:
John Gatty
Pur.

160 ac:

Lot 3230. 768 ac:

60 . 1 . 5
J. C. Lattin
840M Pur.

100 . 0 . 0
M. F. Lattin
Pur.

21.697 AC.

EXEMPT FROM THE MG. ACT 1929

S.R. 1964 NO 167

MAP 9.
2048

Cornwall Coal Co. Leases.

E.L. 5/61

FINCAL

518038

MAP-9.
2048

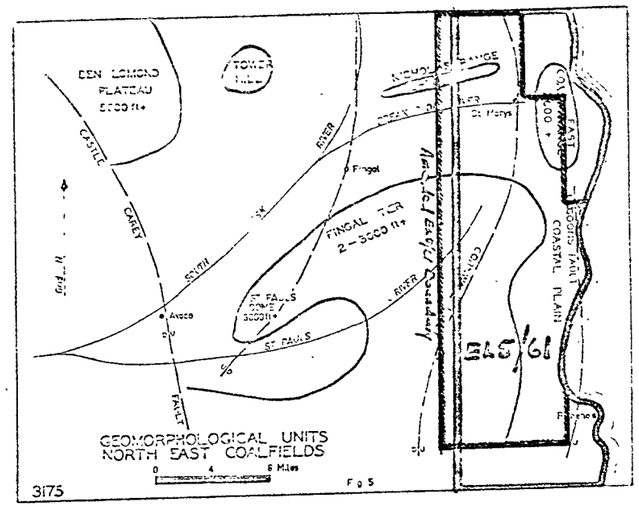
75-1101

Industrial & Mining Investigations Pty Limited

GEOMORPHOLOGICAL UNITS - N.E. COALFIELDS

(after Threader 1968)

Fig. 1

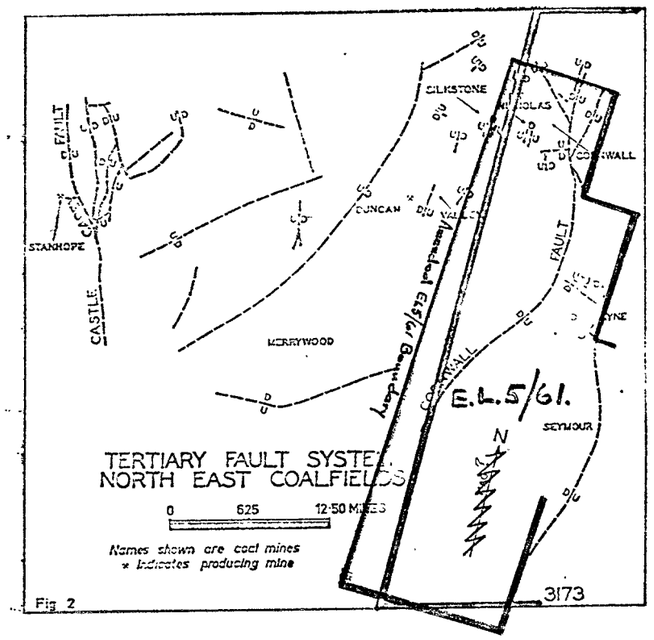


Industrial & Mining Investigations Pty Limited

TERTIARY FAULT SYSTEM - N.E. COALFIELDS

(after Threader 1968)

Fig.2



5 cm

FIG 1-2.

518039

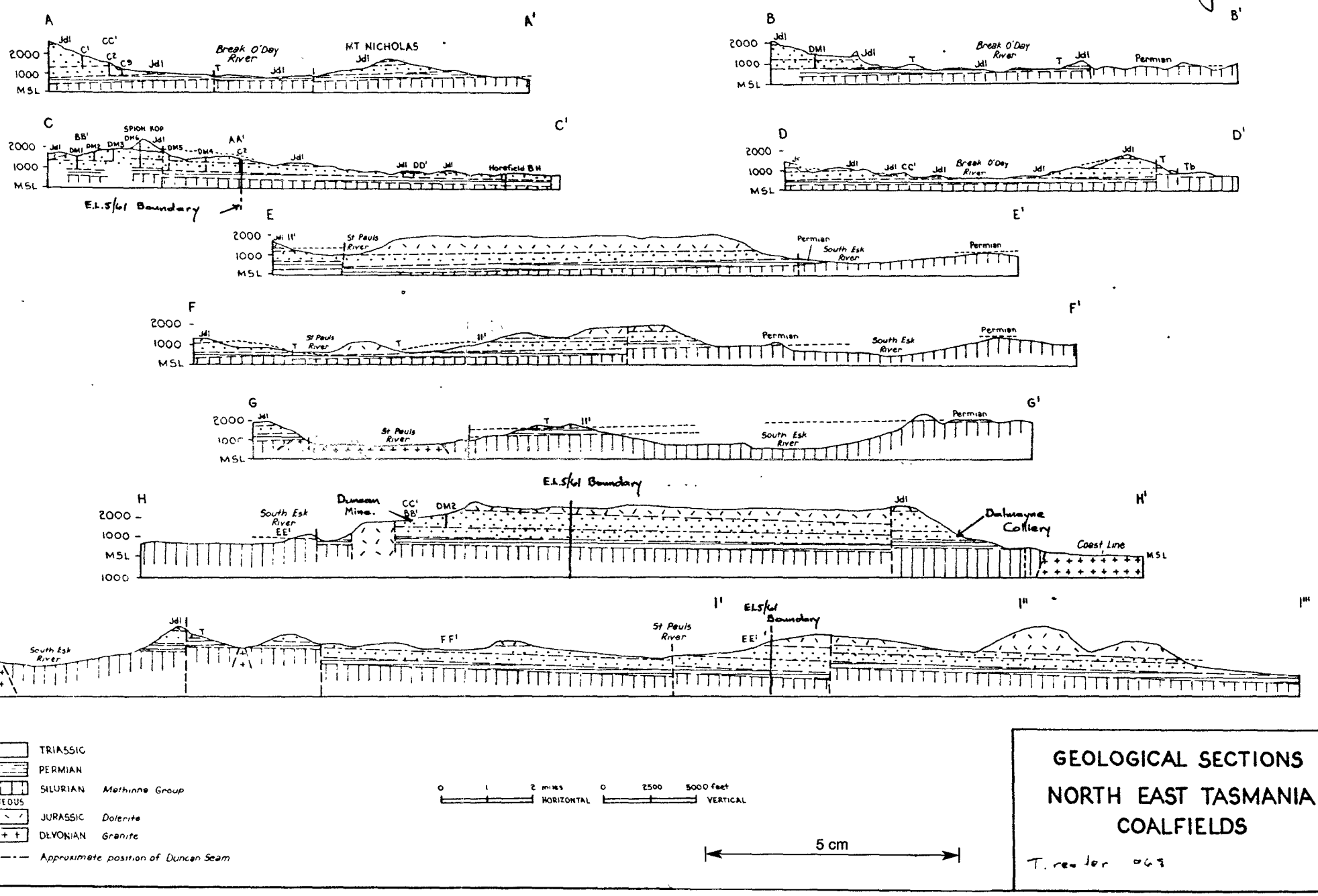
2026

518040

75-1101

FIG. 3

Fig 3

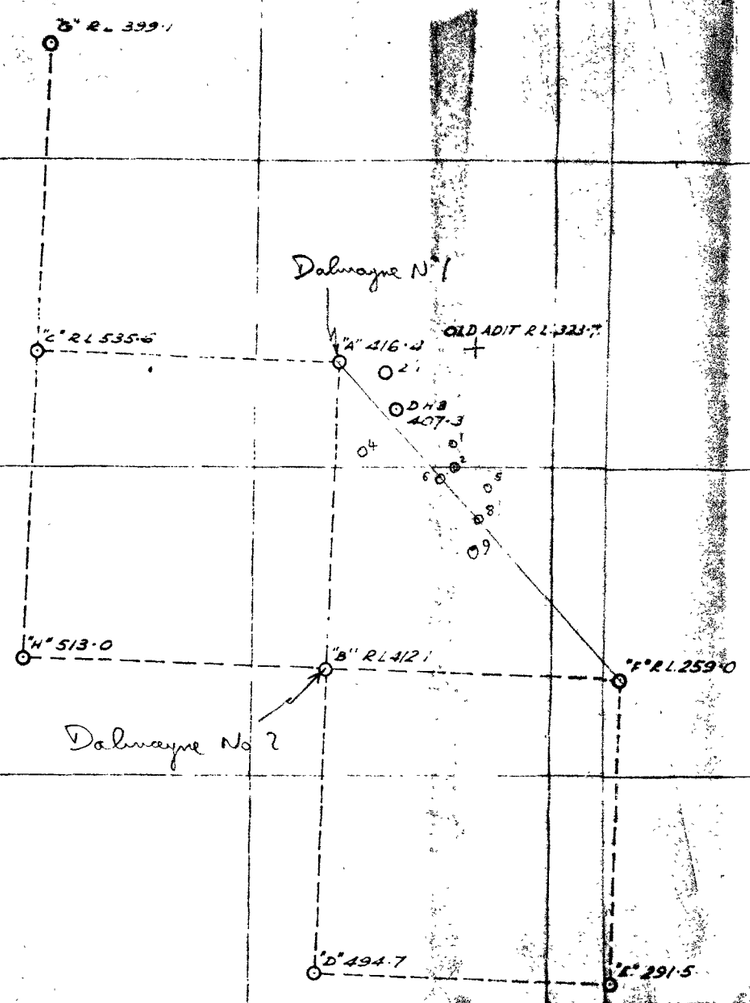


GEOLOGICAL SECTIONS
NORTH EAST TASMANIA
COALFIELDS

T. reu ler 063

2027

FIG 4 75-1101



"G" { 5 386 379 N
601 311 E

5386 000

"C" { 5 385 379 N
601 279 E
"A" { 5 385 347 N
602 279 E
ADIT { 5 385 391 N
602 733 E
2/1 { 5 385 315 N
602 434 E
D.H.3 { 5 385 192 N
602 473 E

5 385 000

"H" { 5 384 379 N
601 248 E
"B" { 5 384 347 N
602 247 E
"F" { 5 384 315 N
603 247 E

5 384 000

"D" { 5 383 348 N
602 215 E
"E" { 5 383 316 N
603 215 E.

5 383 000

601 000 602 000 603 000 604 000

NOTES : BASIS OF CO-ORDINATES } 5389840 N } RL 403·5 ± 1m.
TOP OF ELEPHANT PASS } 603180 E }
: GRID BEARING TO CAPE TOURVILLE LIGHT 171°55'20"
: ϕ 41° 38' 11" S GRID CONVERGENCE + 0° 49' 23"
: λ 148° 42' 20" E

5 382 000

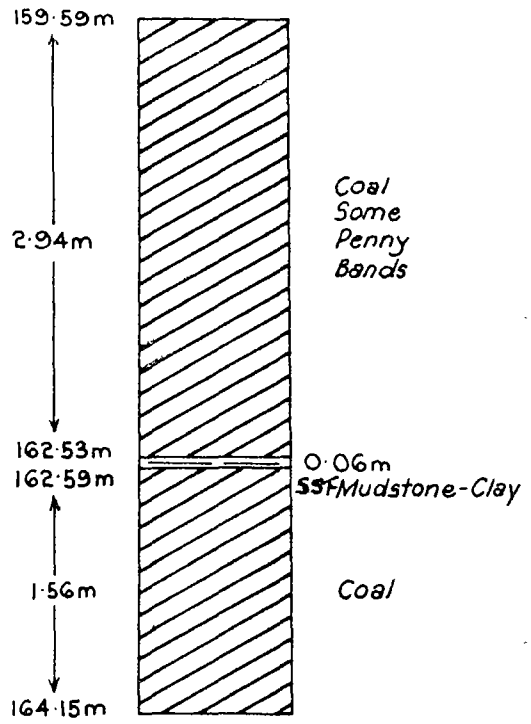
518041 5 cm 2028

INDUSTRIAL & MINING INVESTIGATIONS. P.L. MINING GRID IN THE VICINITY OF GREY.	G.I. FISHER & ASSOCIATES LAND, MINING & ENGINEERING SURVEYORS LAUNCESTON 314207	G. I. Fisher. REGISTERED SURVEYOR	SCALE 1:20,000 · DRAWN D.V.J. · DATE 11-9-74 · N° 238-2

75-1101

Fig 5

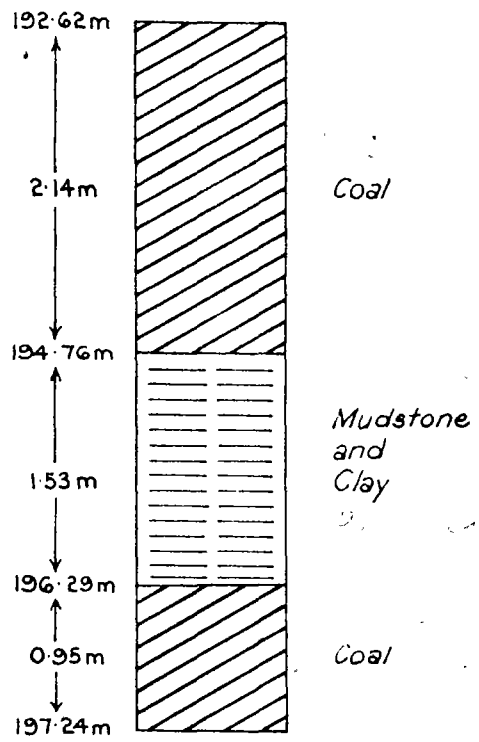
DALMAYNE Nº 1



THICKNESS OF COAL 4·50m

THICKNESS OF SEAM 4·56m

DALMAYNE Nº 2



THICKNESS OF COAL 3·09m

THICKNESS OF SEAM 4·62m

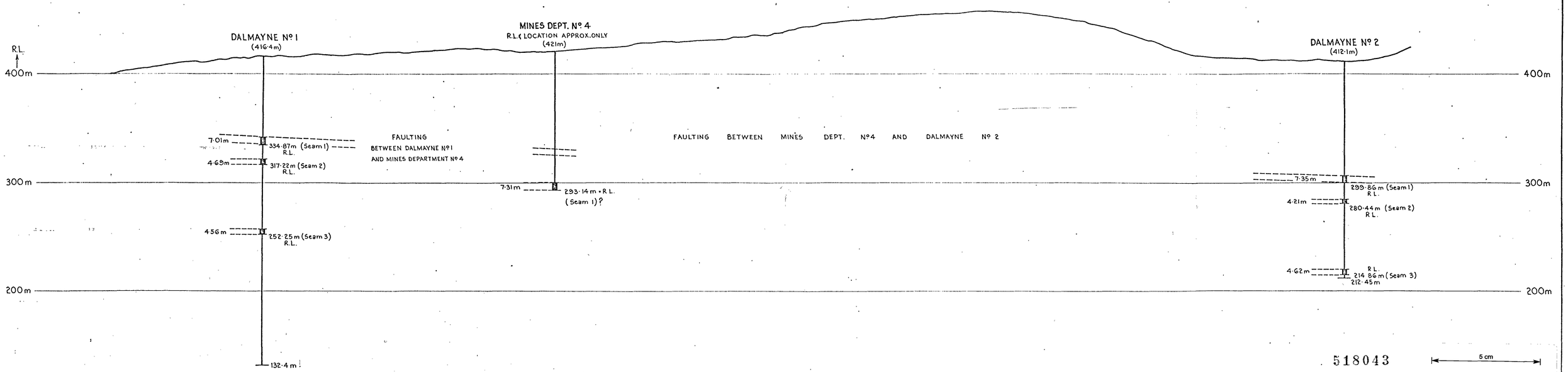
5 cm

INDUSTRIAL AND MINING INVESTIGATIONS PTY. LIMITED

COAL SECTIONS - SEAM Nº3
DALMAYNE AREA 1974

Drawn by: G. Lihou	Date: August, 1974
Author: M.D. Edyvean	Drawing Nº: Fig. 5

518042 2029



518043

5 cm

SCALE : 1cm = 20 metres

DIFFERENCE IN R.L. BETWEEN DRILLHOLES

SEAM 1	334·87m − 299·86m	=	35·01m
SEAM 2	317·22m − 280·44m	=	36·78m
SEAM 3	252·25m − 214·86m	=	37·39m

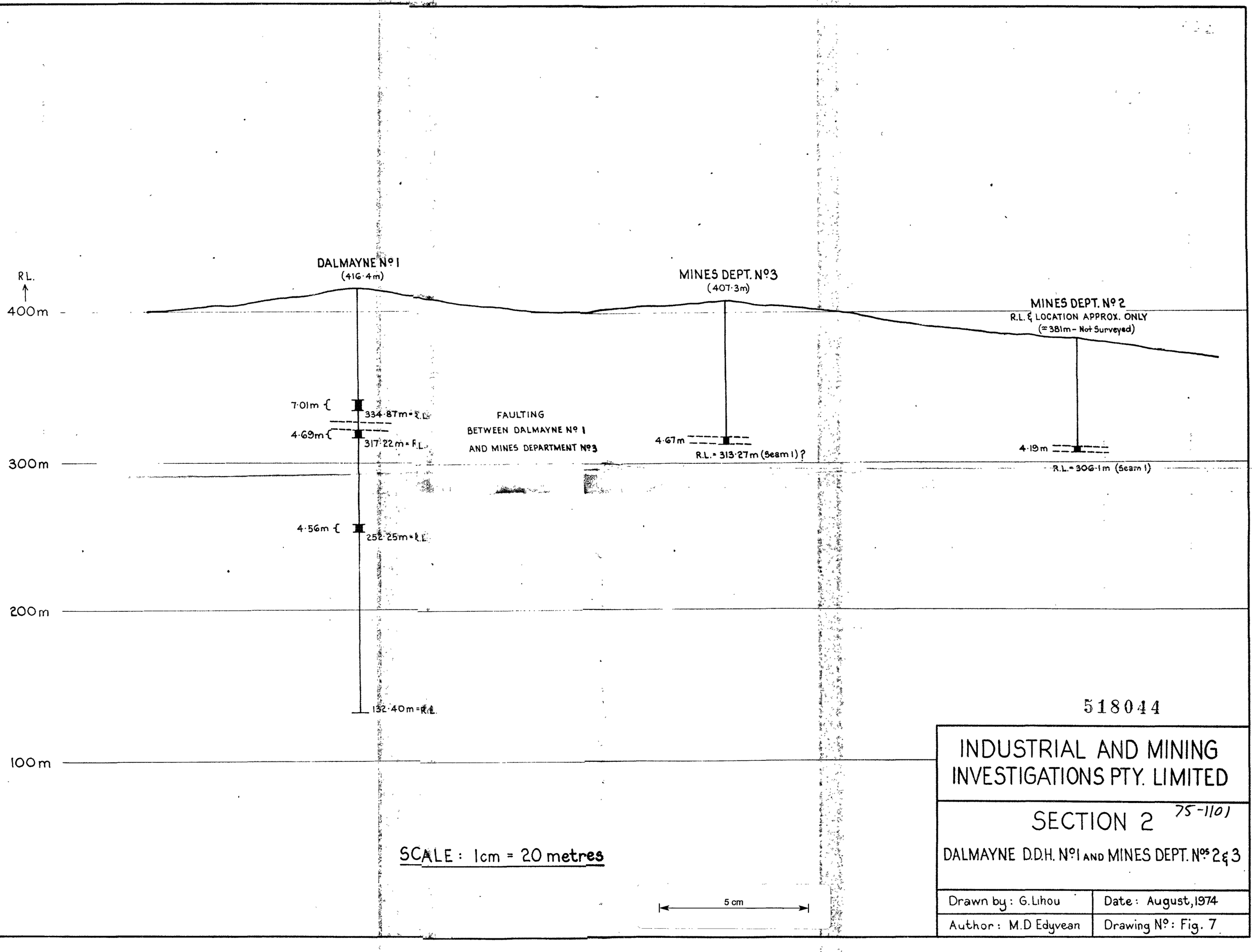
INDUSTRIAL AND MINING INVESTIGATIONS PTY. LIMITED

SECTION 1 75-10A

DALMAYNE D.D.H. Nos 1 & 2 AND MINES DEPT. Nº 4

Drawn by : G. Lihou	Date : August, 1974
Author : M.D. Edyvean	Drawing Nº : Fig. 6

2030



518044

INDUSTRIAL AND MINING INVESTIGATIONS PTY. LIMITED

SECTION 2 75-1101

DALMAYNE D.D.H. Nº 1 AND MINES DEPT. Nºs 2 & 3

Drawn by : G. Lihou	Date : August, 1974
Author : M.D Edyvean	Drawing Nº : Fig. 7

2031

Fig 8

CONTOUR PLAN

DALMAYNE COALFIELD

SCALE

0 100 200 300 400 500 FT.

1 IN. = 100 FT.

5 cm

N.B. CONTOUR INTERVALS OF 10'.

1: 1200

Keith A Beaton A.O.S.M.
TECHNICAL & ADMINISTRATIVE ASST
OCT. 1949

TO GRAY
BANTICK'S PROSPECT

TO MINE

CREEK

ROAD

CREEK

TO GRAY

DATUM 1190

29M 38

20 ac.

COAL OUTCROP

DALMAYNE No. 1

29M 4/4

80 ac.

DALMAYNE COLLIERY TUNNEL

THE TRANSPORT COMMISSION

M. L.

FAULT

BLOCK "A"

FAULT

THE TRANSPORT COMMISSION

M. L.

N° 3 BORE

N° 1 BORE

BLOCK "B"

COAL SERIES FAULTED BETWEEN BORES 3&4

COAL SERIES AT LOWER HORIZON THAN BLOCK A

COAL SERIES AT LOWER HORIZON THAN BLOCK A

FAULT

N° 2 BORE

PROBABLE SMALL FAULTED BLOCK

N° 4 BORE

N° 6 BORE

N° 5 BORE

N° 8 BORE

N° 7 BORE

N° 9 BORE

1200'
1250'
1300'
1350'
1400'
1050'
1100'
1150'

N

DEPT OF MINES
1125-49

518045

Fig 8.

2032

75-1101

75-1101

Fig 9a.

SECTIONS

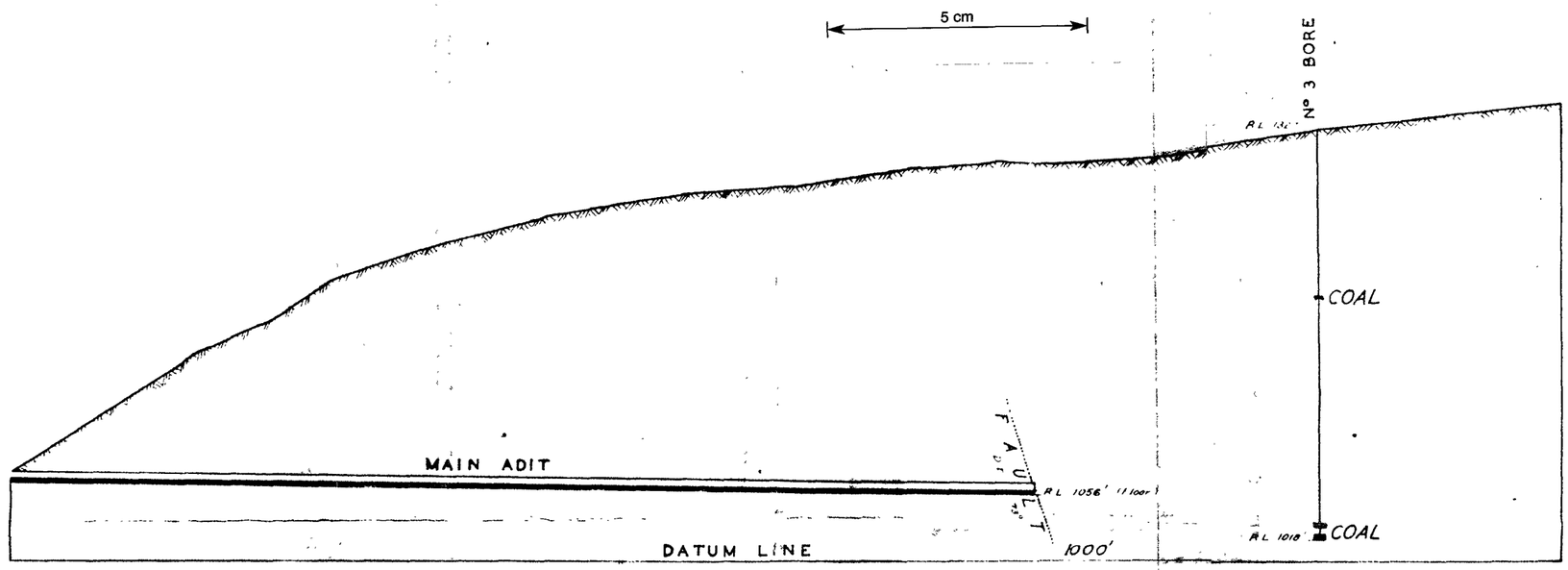
DALMAYNE COALFIELD

HORIZ. & VERT. SCALE

0 100 200 300 FT.

1 IN. = 100 FT.

5 cm

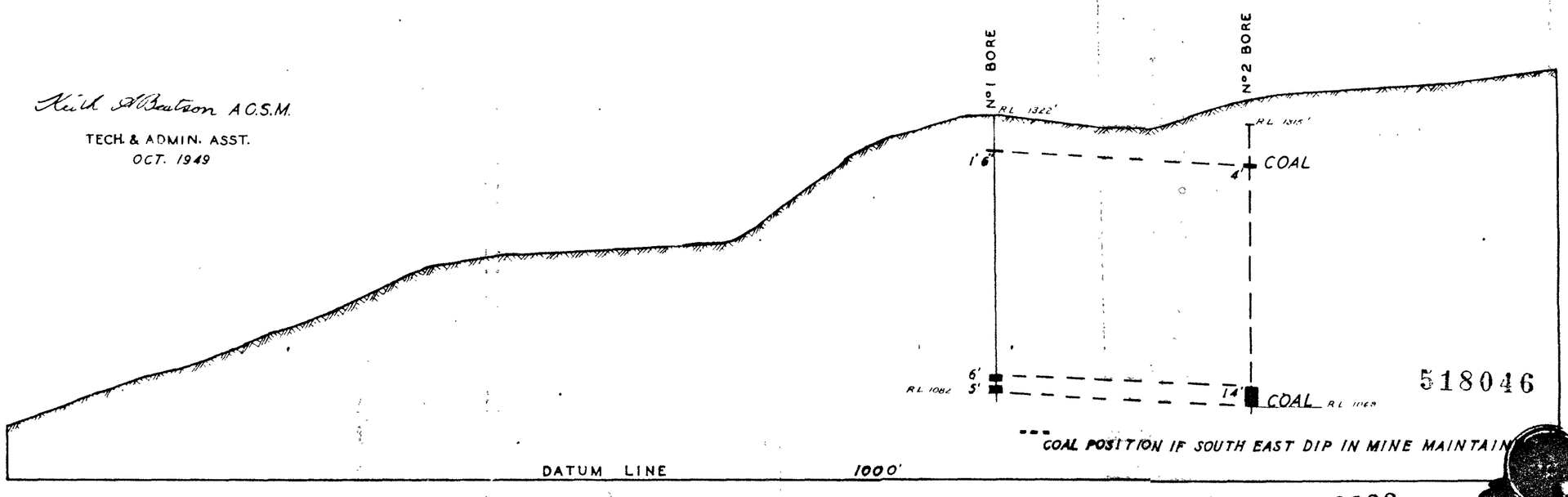


SECTION ALONG LINE OF MAIN ADIT TO Nº3 BORE

Keith A Beatson A.C.S.M.

TECH. & ADMIN. ASST.

OCT. 1949



518046

2033

SECTION PARALLEL TO MAIN ADIT THROUGH Nº1 BORE

DEPT OF MINES

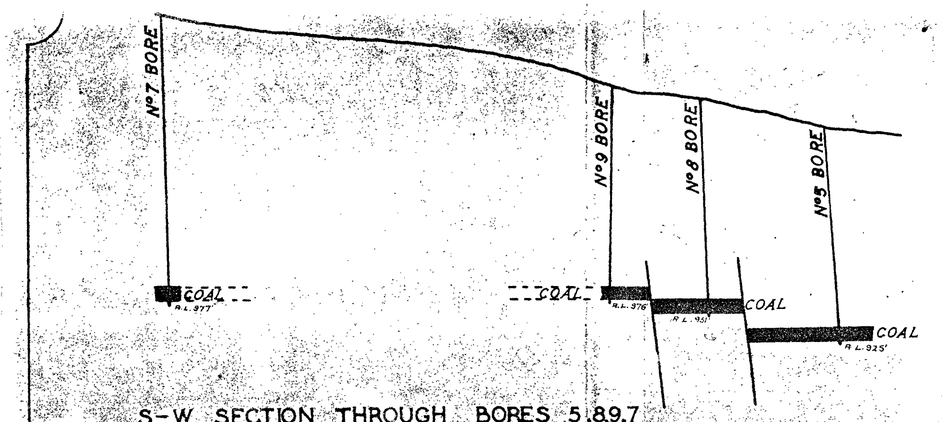
1125A 19

75-1101 2034
518047

Fig 9b.

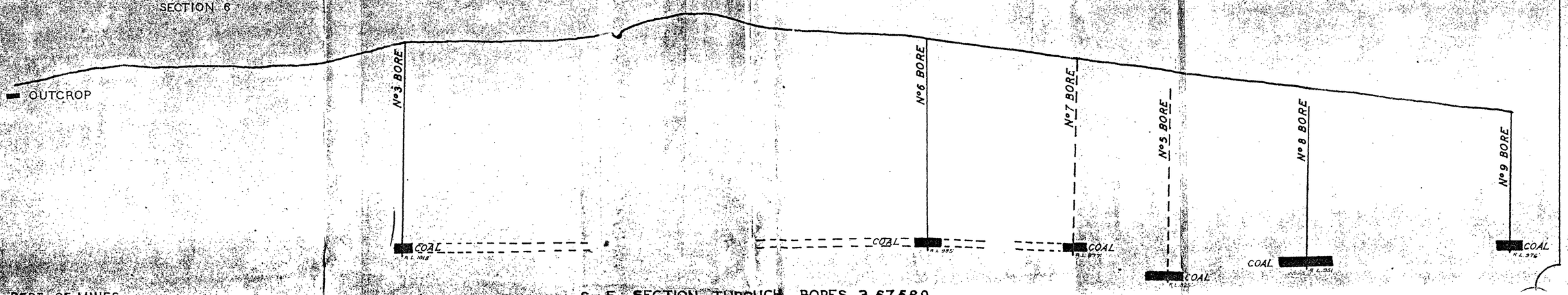
BORE SECTIONS - DALMAYNE COALFIELD

SCALE
0 100 200 300 FT
5 cm



S-W SECTION THROUGH BORES 5,8,9,7

SECTION 6



S-E SECTION THROUGH BORES 3,6,7,5,8,9

DEPT OF MINES
1290 49

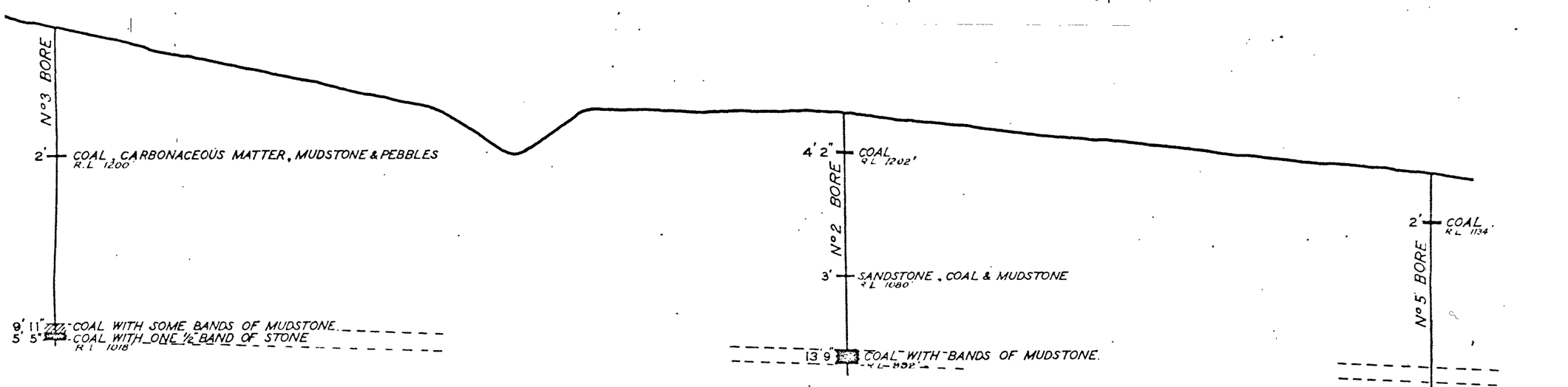
BORE SECTIONS — DALMAYNE COALFIELD

SCALE

0 100 200 300 400 500 FT.

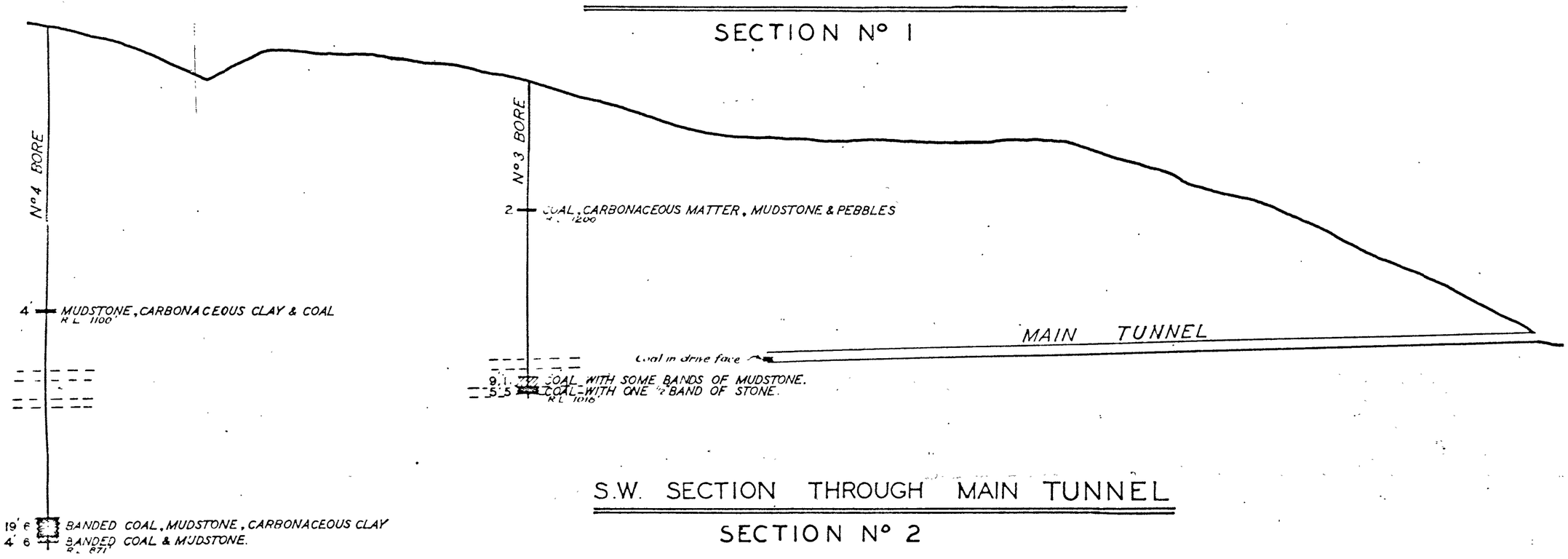
1 IN. = 100 FT.

5 cm



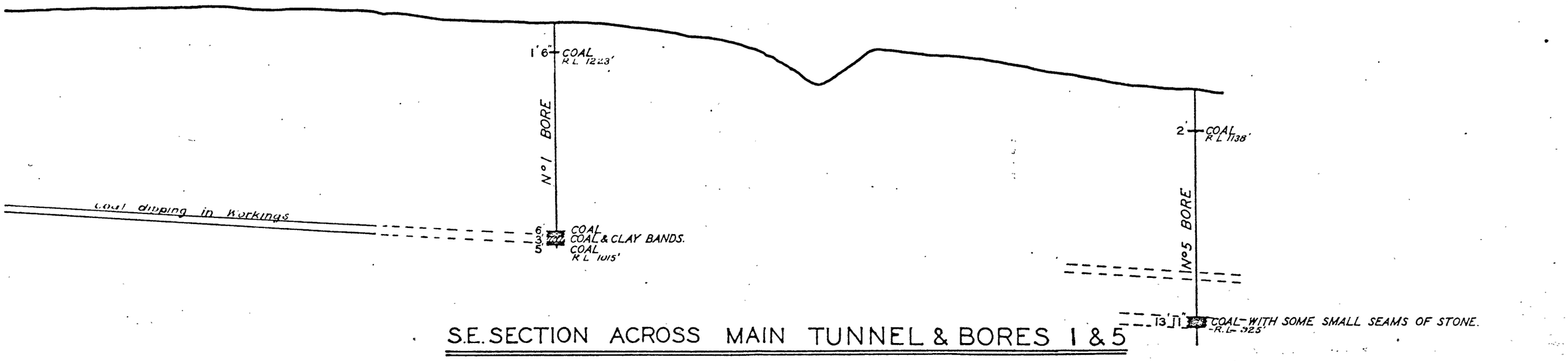
S.E SECTION THROUGH BORES 5,2 & 3

SECTION N° 1



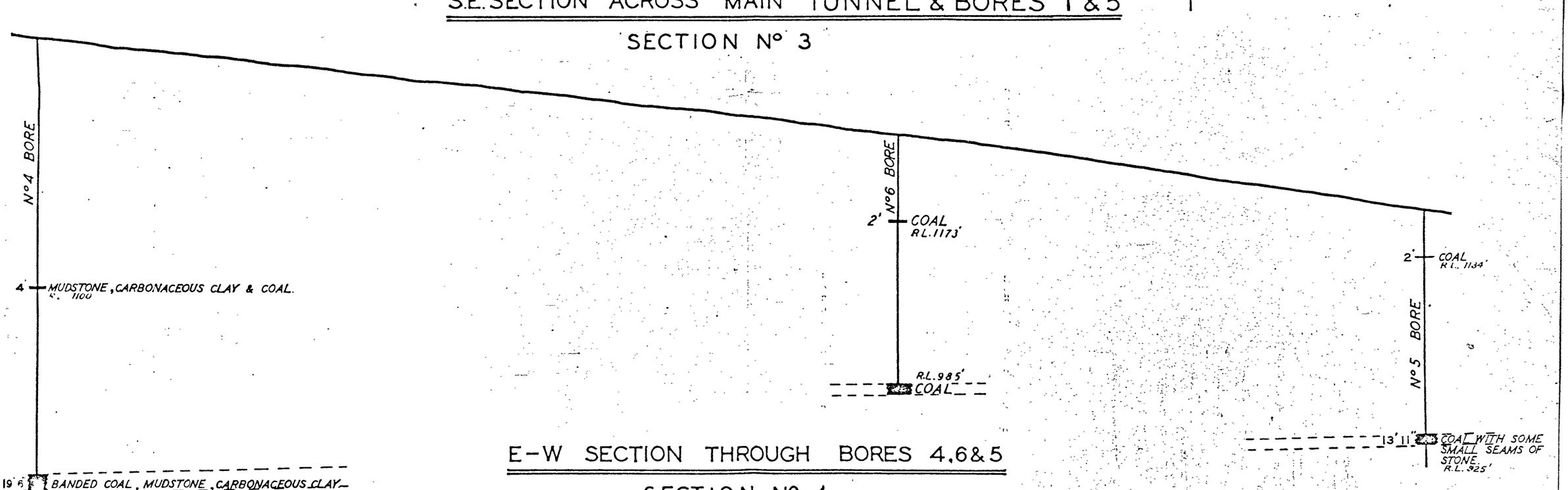
S.W. SECTION THROUGH MAIN TUNNEL

SECTION N° 2



S.E. SECTION ACROSS MAIN TUNNEL & BORES 1 & 5

SECTION N° 3



E-W SECTION THROUGH BORES 4,6 & 5

SECTION N° 4

Keith A Beatson A.O.S.M.

TECHNICAL & ADMINISTRATIVE ASST

APRIL 1951

RTK

DEPT OF MINES

1192-49

2035

518048 F16 10 75/10/

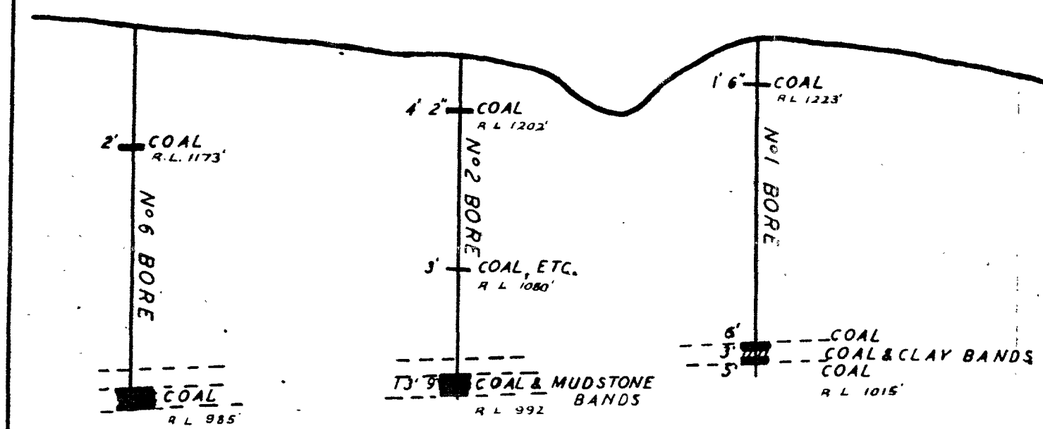
518049 75-1101 2036

Fig 11

BORE SECTION - DALMAYNE COALFIELD

SCALE 5 cm

1 IN=100 FT.



S W SECTION THROUGH BORES 1,2 & 6

SECTION No 5.

Field & Boulton
TECH. & ADMIN.

DEPT OF MINES
1192A - 49

JUN

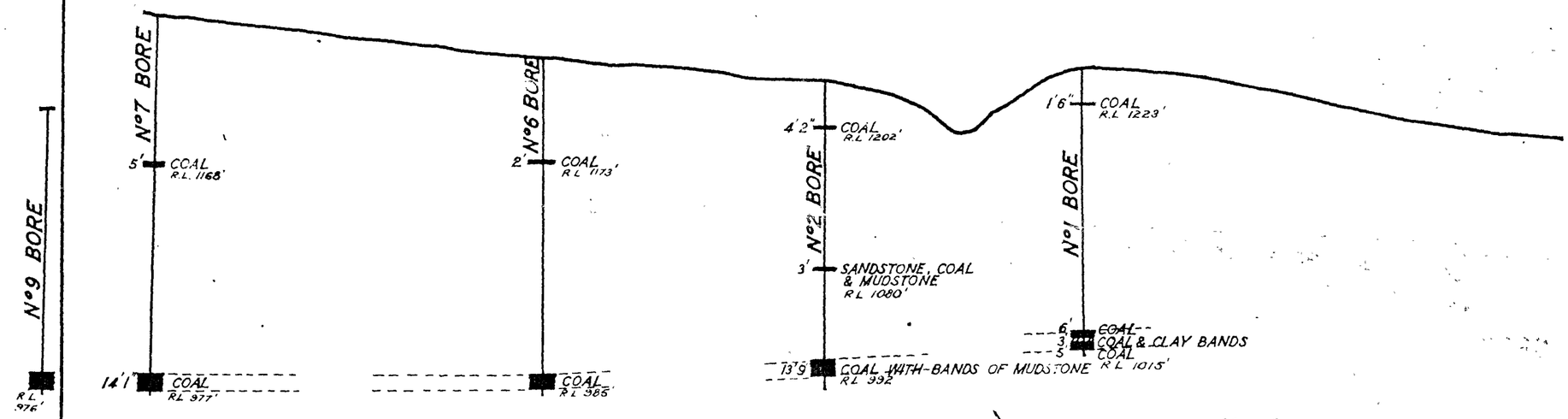
518050 75-1101
2037

Fig 12

BORE SECTIONS — DALMAYNE COALFIELD

SCALE
0 100 200 300 FT.
1 IN = 100 FT.

5 cm



S.W. SECTION THROUGH BORES 1, 2, 6 7 & 9

SECTION 5 (PARALLEL TO SECTION 2)

Keith A Beatson A.O.S.M.
TECHNICAL & ADMINISTRATIVE ASST
APRIL 1952

KTK

DEPT OF MINES
1192A-49

75-1101

518051

Fig 13

DEPARTMENT OF MINES
1125B-49

SECTION N°3 BORE

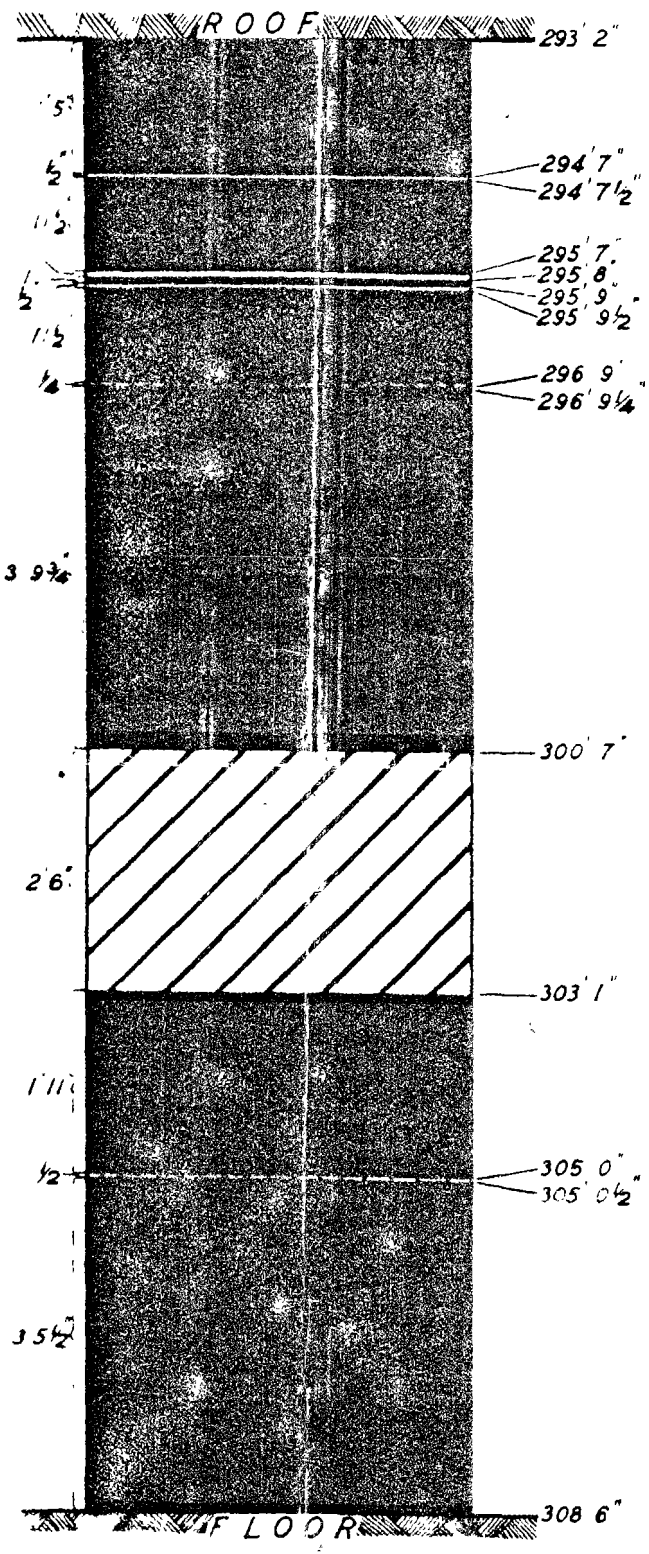
DALMAYNE COAL SEAM

SCALE

0 1 2 3 4 5 FT.

1 IN. = 2 FT.

5 cm



COAL

COAL & SHALE BANDS

CLAY BANDS

STONE BANDS

9. 12. 1949 RTR

2038

Section 1

029

518052

SECTION.

DALMAYNE No. 1 + MINES DEPT. Nos. 3 + 2.

(M.D. No 2. - R.L + LOCATION APPROX. ONLY)

SCALE 1cm = 20 METRES.

FIG 16

FIG 19

FIG 19

DALMAYNE
No. 1. (416·4m)

M.D. No 3.
(407·3m)

M.D. No 2
(≈ 391 m — NOT SURVEYED)

R.L.
1
400m

300m

200m

100m

7·01m { 334·47m = R.L.

4·67m { 317·27m = R.L.

FAULTING
BETWEEN DAL. No 1.
+ MINES DEPT. No 3.

4·56m { 252·25m = R.L.

132·29m = R.L.

4·67m
R.L. = 313·27m (Seam 1)

4·19m
R.L. = 306·1m (Seam 1)

[redacted]

[redacted]

Section 1.

030

518053

SECTION.

Fig 14a DALMAYNE D.D.H'S. No. 1 AND No. 2.

SCALE 1cm = 20 metres

5 cm

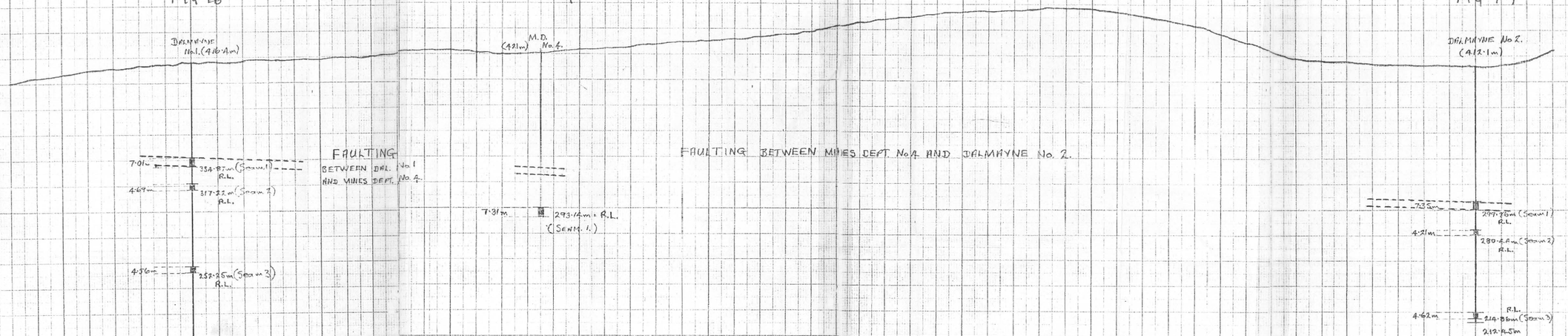
(MINES DEPT. No. 4 - APPROX LOCATION ONLY)

APPROX R.L.

FIG 18

FIG 19

FIG 17

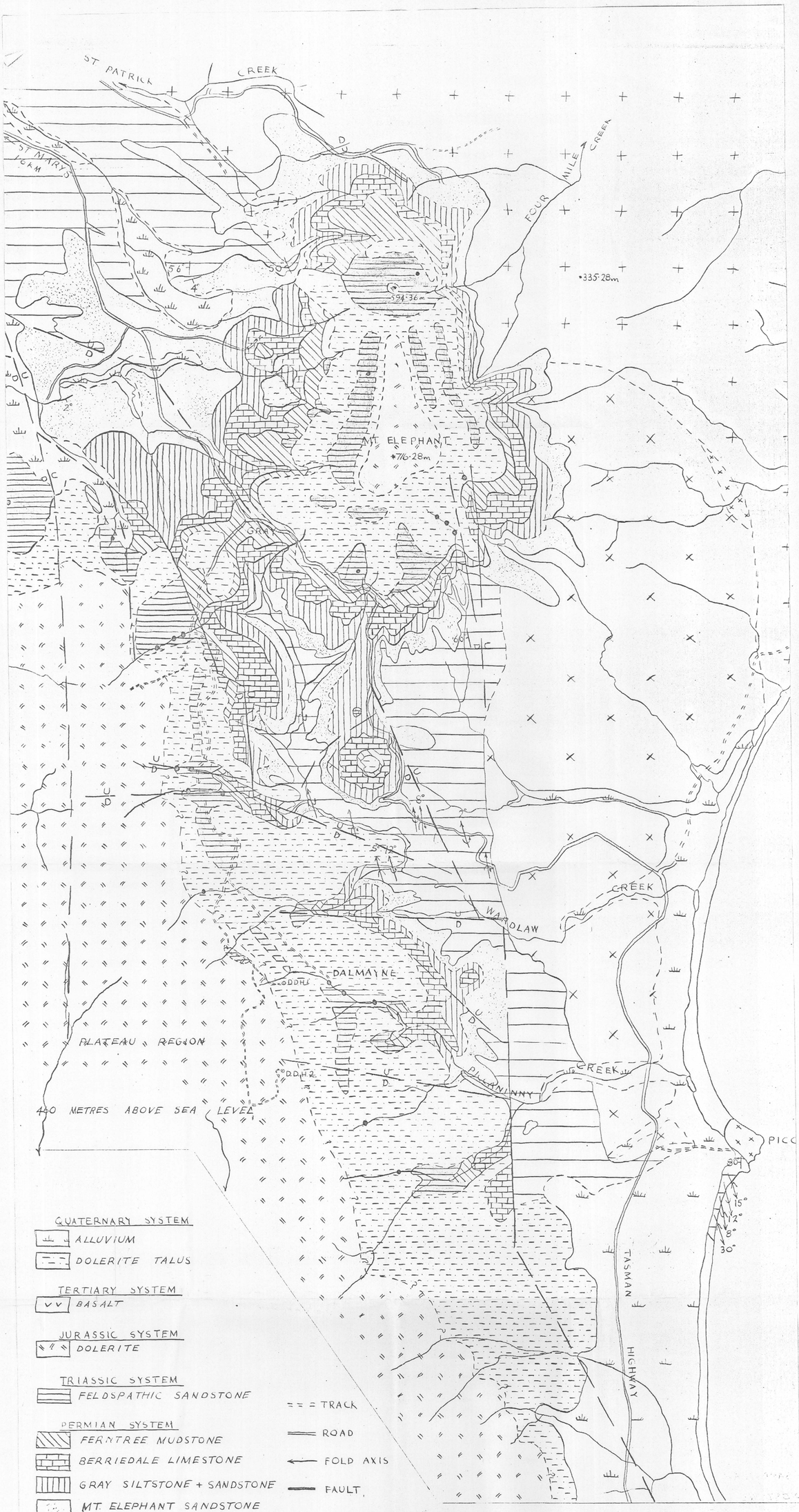


FAULTING BETWEEN DAL. No. 1 AND MINES DEPT. No. 4.

FAULTING BETWEEN MINES DEPT. No. 4 AND DALMAYNE No. 2.

DIFFERENCE IN R.L. BETWEEN DRILLHOLES

SEAM 1	334.87m − 299.86m	= 35.01m.
SEAM 2	317.22m − 280.44m	= 36.78m
SEAM 3.	253.25m − 214.86m	= 37.39m


ST PATRICK
CREEK
ST MARYS
16KM
FOUR MILE CREEK
MT. ELEPHANT
776·28m
394·36m
335·28m
GRAY
CREEK
WARDLAW
DALMAINE
DDH1
DDH2
PLATEAU REGION
440 METRES ABOVE SEA LEVEL
PICCANINNY
CREEK
TASMAN HIGHWAY
QUATERNARY SYSTEM
ALLUVIUM
DOLERITE TALUS
TERTIARY SYSTEM
BASALT
JURASSIC SYSTEM
DOLERITE
TRIASSIC SYSTEM
FELDSPATHIC SANDSTONE
PERMIAN SYSTEM
FERNTREE MUDSTONE
BERRIEDALE LIMESTONE
GRAY SILTSTONE + SANDSTONE
MT. ELEPHANT SANDSTONE
UNDIFFERENTIATED
SILURIAN SYSTEM
MATHINNA BEDS
DEVONIAN SYSTEM
ST MARYS PORPHYRY
ADAMELLITE
GRANODIORITE
TRACK
ROAD
FOLD AXIS
FAULT
FAULT INFERRED
BOUNDARY
BOUNDARY INFERRED
STRIKE AND DIP
COAL OUTCROP
DRILLHOLE
N
0
1600M
3200M
1 : 2000
5cm
GEOLOGICA
OF
MT. ELEPHA
PICCANINNY
AREA
518054
APPENDIX B
75-1101.
2039