

STANDING COMMITTEE ON COALFIELD GEOLOGY OF N.S.W.

NORTHERN COALFIELDS SUB-COMMITTEE

STRATIGRAPHY OF THE JERRYS PLAINS SUB-GROUP

OF THE WITTINGHAM COAL MEASURES

IN THE SINGLETON-MUSWELLBROOK COAL DISTRICT
OF THE HUNTER VALLEY

INTRODUCTORY NOTE

The stratigraphic nomenclature and sub-division of Britten (1971) has been considered and revised by the Northern Coalfields Sub-Committee. The need for this revision has come about because of the large amount of drillhole data that has accumulated since 1975. This revision is based upon the mappability of rock units and their recognition and correlation by geologists working in the Wittingham Coal Measures.

WORKING PARTY MEMBERSHIP

A Jerrys Plains Sub-Group working party was established within the Northern Coalfields Sub-Committee from sub-committee members and other coal geologists who were involved in geological activity based on the coal resources of the Jerrys Plains Sub-Group. The working party members consisted of:

R A Britten:	Australian National University, C.R.F.S.
J Beckett:	Coal Geology Branch, NSW Department of Mineral Resources and Energy
I McDonald:	Coal Geology Branch, NSW Department of Mineral Resources and Energy
K Brown:	Joint Coal Board
C E Crapp:	Electricity Commission of NSW
F Stoddart:	BHP Co. Ltd. Minerals Division
P Wootton:	R W. Miller & Company Pty Limited
R Davis:	Coal & Allied Operations Pty Ltd
F Turnbull:	Coal & Allied Operations Pty Ltd
R Rigby:	Newcastle Wallsend Coal Company Pty Ltd
J G Binnekamp:	Mount Isa Mines Holdings
J Brunton:	CSR Limited Lemington Mine
R Hall:	Clutha Development Pty Ltd
G Sharrock:	Caltex Oil (Australia) Pty Ltd
M Fahey:	Warkworth Mining Limited
I Menzies:	Bellambi Coal Company Pty Ltd

The areas over which these people are involved is shown on Figure 1. This plan also indicates the location of type and standard sections and the surface geology of the coalfield as related to the Jerrys Plains Sub-Group.

Chief Geologist

REVISED SUB-DIVISION OF THE JERRYS PLAINS SUB-GROUP

In summary, the amendments resulting from the work of the Jerrys Plains working party are as follows :

1. Elevating three "claystone members to formation status and removing the lithological term "claystone" because of the variable lithology of this unit
2. Redefining the limits of the Denman, Malabar, Mount Ogilvie Formations.
3. Subdividing the Birnamwood Formation to create a new formation, the Mount Thorley Formation.
4. The introduction of the Mt. Leonard Formation at the top of the Jerrys Plains sub group.
5. "Coal Members" have been reclassified as "coal seams", being identified as economic units, not formal litho-stratigraphic units.

Definition and description of the proposed stratigraphic nomenclature is included in Appendix A. Stratigraphic relationships and type reference sections are shown on figure 2. A section on arbitrary datum running from south to north is shown on figure 3.

A comparison of the existing and proposed stratigraphy is shown on table 1. Amendments have been made based on the criteria as listed below:-

1. The Denman Formation has been taken out of the Jerrys Plains Sub-Group and its base changed to equal with the base of bioturbated interbedded strata. There is a distinct change in sedimentary structures and an increase of coarser massive sandstone and conglomerate units in the lower parts of the previously defined formation. Subsequently the top of the Jerrys Plains Sub-Group has been defined as the top of the Mount Leonard Formation. The Mount Leonard Formation is so defined for the following reasons:

- (a) coarser lithology compared to the Denman Formation and the relative scarcity of bioturbated features.
- (b) the presence in places of several unnamed bands of coal well above the main part of the Whybrow Coal Seam.
- (c) the distinctive appearance and unanimous recognition by all workers on the Northern Coalfield Sub-Committee of the Althorpe Formation.

2. Elevation of Althorpe Claystone Member to Althorpe Formation because of condition 1(c) above. The term claystone was not used because of variable nature of this unit from a puggy soapy claystone to a cherty hard siltstone.

3. Change in top of Malabar Formation came about because of the conditions outlined in 1(c) and 2 above.

4. Change in base of Malabar Formation from the base of the Whynot Coal Member (Seam) to the top of a distinctive white claystone/siltstone marker horizon nominated hereunder as the Saxonvale Member.

5. Alteration of top of Mount Ogilvie Formation to coincide with the top of the Saxonvale Member on the same basis as redefinition of the base of Malabar Formation.

6. The establishment of Saxonvale Member because of its distinctive marker bed identification by workers on the Northern Coalfield Sub-Committee.

7. The Milbrodale Formation is established to overcome the ambiguity currently associated with the units named Fairford Claystone Tongue which are at different stratigraphic positions in the Broke and Warkworth to Mount Arthur areas. This present study indicates the need for additional litho-stratigraphic subdivisions of the Burnamwood Formation. The Milbrodale Formation is a waxy white claystone to cherty siltstone marker unit that was correlated at the base of the Woodlands Hill "coal seams" from Broke to Mount Arthur.

8. The Mount Thorley Formation is nominated to include the upper half of the existing Burnamwood Formation that lies between two distinctive marker formations: Milbrodale and Fairford. The Mount Thorley Formation includes a number of coal beds that in the type bore were included into Mount Arthur and upper sections of Piercesfield Coal Members. The sub-committee found that these coal beds were correlatable over the Singleton Coalfield and have been nominated as the Arrowfield, Bowfield and Warkworth Coal Seams. Several claystone units traceable over parts of the coalfield occur within the Mount Thorley Formation whereas very few have been noted in the underlying Burnamwood Formation.

9. Fairford Formation equates with the Fairford Claystone Tongue in the standard bore J.H.N. Mt Arthur DDH 1 and is the most useful and distinctive of the marker horizons in the Jerrys Plains area. This unit comprises a hard white massive siltstone one metre thick commonly underlain by the consistent dull upwards section of the Mount Arthur Seam. This unit reaches a maximum thickness of over eight metres coarsening to a fine/medium sandstone.

10. Top of the Burnamwood Formation is as occurs in the standard section at Mount Arthur, DDH 1 and limits are defined at the top by the Fairford Formation and at the base by the base of the dull Bayswater Coal Seam or by the top of the Archerfield Sandstone.

11. Coal Members have been reclassified as informal economic "coal seams" because of the nature and extent of seam splitting and wedging and the coalescence with coal plies of adjacent coal beds. It is generally correct that certain bands can be correlated over large areas. However, definition of a coal member as a lithostratigraphic unit results in major variations in thickness, the inclusion of vast amount of coarser grained non-carbonaceous sediments within the coal unit and the loss of boundary definition in zones of coal bed coalescence. Under such conditions naming coal beds on the basis of correlatable economic coal units enables equivalence of major coal bed occurrences to be established to satisfy economic and statutory requirements. This system fits within the established formal litho-stratigraphic framework of formations and marker beds. General description and extent of coal seams within the Jerrys Plains Sub-Group are given in Appendix B.

References

- Britten 1971: Report of Sub Committee for Northern Coalfield - stratigraphic nomenclature - in Records of The Geological Survey of N.S.W. Vol. 16, Part 1 Published 3rd March, 1975.
- Bailey J. 1983: 17th Newcastle Symposium May 1983.

APPENDIX A

DENMAN FORMATION

DERIVATION:

After township of Denman on Murrumbidgee 1:50,000 sheet.

PREVIOUS USAGE:

R A Britten - 1971

TYPE SECTION:

Location: D M Doyles Creek DDH 11 (ISG co-ordinates E: 300 589m, N: 1 361 043m from 542.1m to 355.8m.

Repository: Department of Mineral Resources Core Library, Londonderry.

STANDARD SECTION:

Bayswater Strowan DDH 8 (ISG Co-ordinates E: 286 033m N: 1 405 539m) from 65.1m to 102.0m.

LITHOLOGY:

Interbedded shale, siltstone and minor sandstone, worm burrowed and bioturbated.

THICKNESS:

Type Section - 13.7m

Typical thickness-20-30m in Warkworth area thickening north-westerly to 70m in Jerrys Plains-Doyles Creek area.

DISTRIBUTION:

Crops out in vicinity of Broke, Warkworth, Jerrys Plains and Roxburgh and below alluvial areas of upper Hunter Valley and Wollombi Brook.

STRATIGRAPHIC LIMITS
AND STRUCTURAL
RELATIONSHIP:

Above Jerrys Plains Sub-Group. Conformable overlies Mt Leonard Formation and underlies Wattle Sandstone of Wollombi Coal Measures and forms the top unit of the Wittingham Coal Measures.

MURIEL LEONARD FORMATION

DERIVATION: After homestead on mapletan 1:50,000 sheet.

PREVIOUS USAGE: New Name.

TYPE SECTION: Location: D. H. Devies Creek DDH 11 4156 co-ordinates
E: 300 585m. N: 1 481 045m from 355.8m
to 445.7m.
Repository: Department of Mineral Resources Core
Library, Londonderry.

STANDARD SECTION: Baywater Strowan DDH 8 4156 co-ordinates E: 286 053m.
N: 1 405 539m. from 102.9m to 155.1m.

LITHOLOGY: Minor shale, light coloured sandstones and conglom-
erates: contains Whybrow Coal Seam and minor coal
bands.

THICKNESS: Type Section - 87.2m
Typical Thickness- 50-50m

DISTRIBUTION: Crops out in vicinity of Broke, Warkworth, Jerrys
Plains and Roxburgh and below alluvial areas of
upper Hunter Valley and Wollombi Brook.

STRATIGRAPHIC LIMITS
AND STRUCTURAL
RELATIONSHIP: Top unit of Jerrys Plains Sub-Group. Confor-ably
overlies Althorpe Formation and underlies Denman
Formation.

ALTHORPE FORMATION

DERIVATION:

After Parish in County Brisbane.

PREVIOUS USAGE:

After R. A. Britten 1971. Previously Althorpe Claystone Member.

TYPE SECTION:

Location: O. M. Doyle's Creek DDH 11 (ISG co-ordinates E: 300 585m, N: 1 381 043m) from 443.7m to 446.5m.

Repository: Department of Mineral Resources Core Library, Londonderry.

STANDARD SECTION:

Caltex 3G DDH 1 (ISG co-ordinates E: 285 684m, N: 1 338 655m) from 77.1 to 78.9m.

LITHOLOGY:

Very light colour claystone

THICKNESS:

Type Section - 2.6m

Typical Thickness - 2m

DISTRIBUTION:

Generally throughout the area of Jerrys Plains Sub-Group. Penetrated in bores from Broke to Warkearth and Northwards to Roxburgh.

STRATIGRAPHIC LIMITS
AND STRUCTURAL
RELATIONSHIP:

Above Malabar Formation and below Mount Leonard Formation. The Redbank Creek Coal Seam is closely associated with the Althorpe Formation which is an important mappable unit in the Jerrys Plains Sub-Group.

MALABAR FORMATION

DERIVATION:

After homestead on Doyle's Creek 1:50,000 sheet.

PREVIOUS USAGE:

R A Britton 1971

TYPE SECTION:

Location: 0.1 Doyle's Creek DDH 11 (15G co-ordinates E: 307 585m, N: 1 581 045m) from 446.5m to 618.0m.

Repository: Department of Mineral Resources Core Library, Londonderry.

STANDARD SECTION:

Caltex BG DDH 1 (15G co-ordinates E: 285 684m, N: 1 408 450m) from 78.9m to 164.9m.

LITHOLOGY:

Sandstone, siltstone, shale, conglomerate, minor claystone and coal bands, includes Redbank Creek, Wambo, Whynot and Blakelyfield coal seams.

THICKNESS:

Type Section - 161.7m

Typical thickness-70-100m

DISTRIBUTION:

Crops out in general vicinity of Warkworth, Denman and Broke, towards centre of Hunter River Valley and east of Wollombi Brook.

STRATIGRAPHIC LIMITS
AND STRUCTURAL
RELATIONSHIP:

Conformably overlies Mount Durlivie Formation and underlies Aithorpe Formation. Correlatable through bores from Broke to Denman and Mt Arthur.

FOUNTAINHEAD, DEBIAH, 1971

DESCRIPTION:

After geographic feature on Mount Brook 1:50,000 sheet.

DATE OF COLLECTION:

R. V. Brattin 1971

LOCALITY:

Location: 0° 27' North, 100° 15' West
E: 100.500m, N: 1.541.54m from 0° 27' N to 710.2m.

Repository: Department of Minerals, Geological Survey of Canada, Ottawa, Ontario.

MAP REFERENCE:

Dallex 40 200 2 1:50,000 co-ordinates E: 28' 18.8m, N: 1.541.54m from 64.1m to 801.1m.

LITHOLOGY:

Sandstone, shale, carbonaceous mudstone and claystone beds. Includes the Hen Mine and Woodlands Hill Coal seams.

THICKNESS:

Type section - 102.2m

Typical thickness - 100-120m.

DISTRIBUTION:

Occurs out in the vicinity of Kasuga, Reservoir, Mt. Dallex, east of and east of Woodlands Hill.

REFERENCES:

Definitely overlies Wilbraham Formation and underlies Malabar Formation. The top of this unit is probably marked by the Cassinville deposit, a pale shaly sandstone - siltstone marker unit.

SAXONVALE MEMBER

- DERIVATION: Saxonvale Mine near Bruke on Singleton 1:50,000 sheet.
- PREVIOUS USAGE: Informal "Saxonvale Claystone", F. Stoddart, BHP, J. Bailey, 1983.
- TYPE SECTION: Location: Miller Mt Thorley DDH 54 (ISG co-ordinates E: 504 501m, N: 1 385 786m) from 184.0m to 185.5m.
Repository: R W Miller Mt Thorley Colliery Core Store Mt Thorley via Singleton.
- STANDARD SECTION: Caltex BG DDH 1 (ISG co-ordinates E: 285 684m, N: 1 308 455m) from 164.5m to 164.70m.
- LITHOLOGY: Pale sherty claystone or silty sandstone.
- THICKNESS: Type Section - 1.5m.
Typical Thickness - 0.5-2.0m.
- DISTRIBUTION: Penetrated in bores from Bruke to Denman and Mt Arthur.
- STRATIGRAPHIC LIMITS AND STRUCTURAL RELATIONSHIP: At top of Mount Oqilvie Formation immediately below Malabar Formation. This marker unit may be used to identify the top of Mount Oqilvie Formation. Splits of the Blakefield and Glen Minro Coal Seams are often associated with this unit. In some parts the Saxonvale Member may become indistinct visually but this unit does still give a high marked response on gamma ray downhole logs.

MILLERDALE FORMATION

DERIVATION:

After locality on Singleton 1:50,000 sheet.

PREVIOUS USAGE:

New Name (previously called the Fairford Claystone Tongue in the area Broke to Mt. Harley).

TYPE SECTION:

Location - D M Doyles Creek DDH 11 (ISG co-ordinates E: 400 585m, N: 1 381 045m) from 710.2m to 710.8m.

Repository - Department of Mineral Resources Core Library, Londonderry.

STANDARD SECTION:

JABAS Warkworth DDH 4 (ISG co-ordinates E: 297 396m, N: 1 397 575m) from 149.4m to 149.7m. Caltex BG DDH 1 (ISG co-ordinates E: 285 684m, N: 1 408 455m) from 301.5 to 302.0m.

LITHOLOGY:

Waxy claystone - siltstone, white-light brown, chert-like in parts.

THICKNESS:

Type Section - 0.6m

Typical thickness - 0.3-2.0m.

DISTRIBUTION:

Throughout Hunter Valley from Kayuga to Broke.

STRATIGRAPHIC LIMITS AND STRUCTURAL RELATIONSHIP:

Conformably underlies Mount Oatfield Formation and overlies Mt. Harley Formation. The lower parts of the Woodlands Hill Coal Seam are closely associated with this unit.

MOUNT THORLEY FORMATION

- DERIVATION: After location 11 kilometres south west of Singleton on Singleton 1:50,000 sheet.
- PREVIOUS USAGE: New Name.
- TYPE SECTION: Location: JARAS Warkworth DDH 4 (ISC co-ordinates E: 297 396m, N: 1 397 573m) from 149.7m to 256.2m.
- Repository: Coal & Allied Operations Core Store Warkworth.
- STANDARD SECTIONS: DM Doyles Creek DDH 11 (ISC co-ordinates E: 300 585m, N: 1 381 043m) from 710.8m to 848.9m. Caltex BC DDH 1 (ISC co-ordinates E: 285 684m, N: 1 408 455m) from 302.0 to 457.8m.
- LITHOLOGY: Sandstone, conglomerate, shale, claystone bands and coal beds: includes Arrowfield, Bowfield and Warkworth Coal Seams.
- THICKNESS: Type Section: 106.5m
- Typical thickness - 80-130m
- DISTRIBUTION: through out Hunter Valley outcrops generally in vicinity of Kayuga, Mount Arthur, Jerrys Plains, Lemington, Mount Thorley and Broke.
- STRATIGRAPHIC LIMITS AND STRUCTURAL RELATIONSHIP: Conformably overlies Fairford Formation and underlies Milbrodale Formation.

FAIRFORD FORMATION

DERIVATION:

After homestead on Muswellbrook 1:10,000 sheet.

PREVIOUS USAGE:

Britten 1971: "Fairford Claystone Tongue".

TYPE SECTION:

Location: JABAS Warkworth DDH 4 (ISG co-ordinates E: 297 396m, N: 1 397 473m) from 256.2m to 264.4m.

Repository: Coal and Allied Core Store, Warkworth.

STANDARD SECTIONS:

D M Doylee Creek DDH 11 (ISG E: 300 583m, N: 1 381 043m) from 848.9m to 850.0m. JEM Mt Arthur DDH 1 (E: 285 073m, N: 1 423 443m) from 57.1m to 58.4m.

LITHOLOGY:

Distinctive white claystone grading to cherty homogeneous silty sandstone.

THICKNESS:

Type Section - 8.2m

Typical thickness-1.0-2.0m.

DISTRIBUTION:

Throughout Hunter Valley from Kavuga to Broke.

STRATIGRAPHIC LIMITS
AND STRUCTURAL
RELATIONSHIP:

Conformably overlies Burnamwood formation and underlies Mount Thorley formation. Fairford formation is an important marker unit in the Jerry Plains Sub-Group. The upper parts of the Mt Arthur Coal Seam are closely associated with this unit.

BURNAMWOOD FORMATION.DERIVATION:

After amendment on Singleton 1:50,000 sheet.

PREVIOUS USAGE:

R.A. Britten 1971.

TYPE SECTION:

Location: D.M. Doyle's Creek DDH 11 (15G co-ordinates
E: 500 585m, N: 1 531 043m) from 850.6m
to 1064.1m.

Repository: Department of Mineral Resources Core
Library, Londonderry.

STANDARD SECTION:

JFM Mt Arthur DDH 1 (E: 285 073m, N: 1 425 443m)
from 58.4m to 152.0m.

JABAS Warkworth DDH 4 (E: 297 396m, N: 1 397 573m)
from 264.4m to 355.8m.

LITHOLOGY:

Sandstone, shale, conglomerate and coal beds,
includes Mt Arthur, Piercefield, Vaux, Bronnie
and Bayswater Coal Seams.

THICKNESS:

Type Section - 214.1m

Typical Thickness - 60-100m.

DISTRIBUTION:

Crops out generally in vicinity of Kavega, Mount
Arthur, Jerrys Plains, Lemington, Mount Thorley
and Broke.

STRATIGRAPHIC LIMITS
AND STRUCTURAL
RELATIONSHIP:

Basal formation of the Jerrys Plains Sub-Group,
conformably overlies Archerfield Sandstone and
underlies the distinctive Fairford formation.
The basal part of Burnamwood Formation is
identified either by the thick dull coal of the
Bayswater Seam or by the underlying "bronze"
sandstone of Archerfield Sandstone. It should be
noted that the Archerfield Sandstone is absent in
the northern part of the area of study.

APPENDIX B

GENERAL DESCRIPTION AND EXTENT OF COAL SEAMS
WITHIN THE JERRYS PLAINS SUB GROUP

- 1 Whybrow Seam - This seam is the uppermost coal of economic significance in the Jerrys Plains Sub-Group. It is typically a low ash bright to bright banded coal of 2-4 metres thickness containing a distinctive purgy pale brown claystone band of 0.1 to 0.3 metres thickness in the lower half of its section.
- 2 Redbank Creek Seam - This seam is associated with the Althorpe Formation and is highly banded, generally split and contains a lower ash section of bright banded coal towards its base. When unsplit, seam thickness is typically 3 to 5 metres.
- 3 Wambo Seam - Is of low ash, bright coal of average total thickness 2 metres. A lower split of this seam approaches the top of the underlying Whynot Seam.
- 4 Whynot Seam - Is a low ash bright and dull to bright banded coal with a consistent section of 1-1.2 metres thickness with closely associated plies of bright coal at the roof and floor. The central section has a consistent bright-dull-bright profile.
- 5 Blakefield Seam - Contains several splits of varying ash content with a number of pale brown/white soft claystone bands. Total thickness of this seam is 4-5 metres, however, most commonly the seam is split into plies between 0.5-1.5 metre thickness. The Saxonvale Member is closely associated with the base of the Blakefield Seam.
- 6 Glen Munro Seam - Typically consists of 3 metres of dull and bright medium-low ash coal in a generally consistent lower section. Several upper plies which coalesce with this section occur immediately below the Saxonvale Member.
- 7 Woodlands Hill Seam - Generally occurs in two splits of total coal thickness 4 metres. Coal is medium to low ash dull and bright type. The Woodlands Hill Seam occurs immediately or closely above the Milbrodale Formation.
- 8 Arrowfield Seam - Is a consistent dull and bright to dull banded seam of three metres typical thickness.
- 9 Bowfield Seam - Is a consistent dull and bright coal section north of Jerrys Plains but splits and coalesces with the Arrowfield and Warkworth Seams in the Warkworth to Mt Thorley area.
- 10 Warkworth Seam - Is a dull banded seam of medium ash of typical thickness three metres with a tendency to split into three splits, the upper merging with the Bowfield in the Warkworth area and the lower coalescing in parts with thin coal bands immediately overlying the Fairford Formation. The lower 1-2 metres of brighter coal is often underlain by a pale claystone/siltstone unit.
- 11 Mt Arthur Seam - This seam is readily identified by its close association with the overlying Fairford Formation and its well-marked dulling upwards profile in the top half of its section. Typical thickness of this seam is six metres, however major splitting develops over parts of the Coalfield where two sections of 1.5 to 3.0 metres occur. Upper splits of the Piercesfield Seam are closely associated with the base of the Mt Arthur Seam, particularly in and south of the Jerrys Plains-Warkworth area.

12. Pierrefield Seam - Consists of bright banded low to medium ash coal plies with a cumulative thickness ranging from two to five metres. The Pierrefield Seam is more consistent and better developed north from Warkworth.

13. Vaux Seam - Contains bright bright banded low ash coal. In the southern part of the region it tends to occur in three splits that diverge and coalesce with a maximum coal thickness of three metres. North of Jerrys Plains the Vaux Seam thickens and while splits occur at the base of the seam the section is more regular.

14. Broonie Seam - Generally occurs in up to three splits of dull and bright and bright banded coal. However, in the area north of Jerrys Plains the Broonie seam thickens and consists principally of dull banded coal. In some places the recognition of the base of the Broonie Seam and top of the Bayswater Seam is not an absolute definition because of merging of splits of both seams which comprise similar coal types.

15. Bayswater Seam - Historically has been the principal seam of economic interest in the Jerrys Plains Sub-Group, being considered to be a thick consistent dull coal seam. However, in many parts the Bayswater Seam is severely split and deteriorated to such an extent that recognition of its position is based solely on the identification of the underlying "bronze" Archerfield Sandstone. Typically the Bayswater Seam consists of 6-10metres of dull massive coal. In areas of maximum development a section 1-2metres of bright banded coal may occur at the top of the section, while in areas of splitting less than two metres of dull coal comprises the full seam.

EXISTING & PROPOSED NOMENCLATURE SUMMARY OF THE JERRYS PLAINS SUB-GROUP

BRITTEN 1971		PROPOSED		
FORMATION	MEMBER	FORMATION	MEMBER	COAL SEAM
WATTS SANDSTONE				
Denman		Denman		
Malabar	Whybrow Coal	Mt Leonard		Whybrow
	Althorpe Cs	Althorpe #		
	Redbank Creek Coal	Malabar		Redbank Creek
	Wambo Coal			Wambo
	Whynot Coal			Whynot
Mt Ogilvie	Blakefield Coal			Blakefield
	Glen Munro Coal	Mt Ogilvie	Saxonvale #	
	Woodlands Hill Coal			Glen Munro Woodlands Hill
Burnamwood	Fairford Cs Tongue *	Milbrodale #		
	Mt Arthur Coal *	Mt Thorley		Arrowfield Bowfield Warkworth
	Piercefield Coal *			
	"Greenleek"			
	Fairford Cs Tongue +	Fairford #		
	Mt Arthur Coal +	Burnamwood		Mt Arthur Piercefield Vaux Broonie Bayswater
	Piercefield Coal +			
Vaux Coal				
Broonie Coal				
Bayswater Coal				
ARCHERFIELD SANDSTONE				

Wollombi Coal Meas.

WITTINGHAM COAL MEASURES

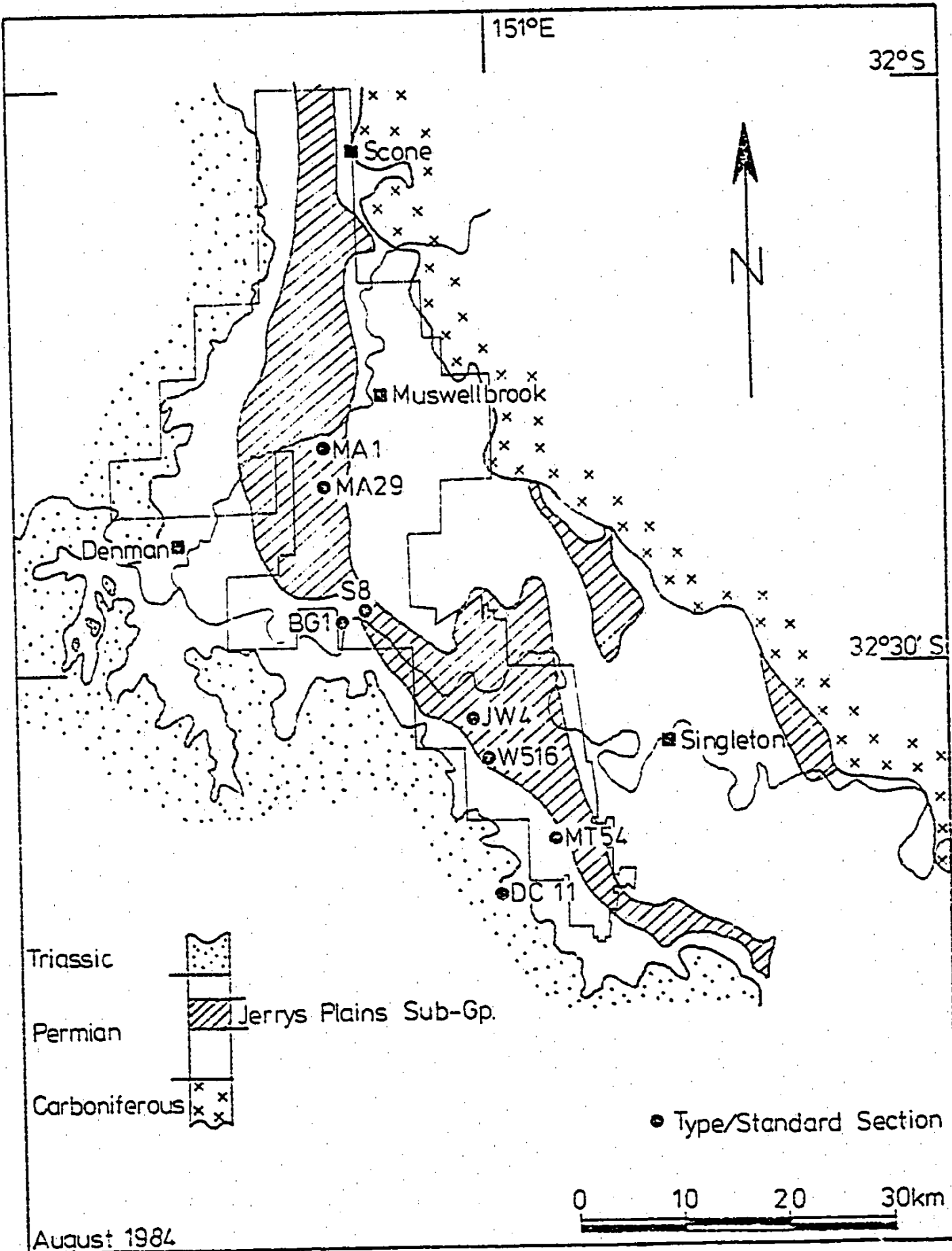
SINGLETON SUPER GROUP

*Nominated position in type section D M Doyles Creek DDH 11

+Nominated position in standard section J E M Mt Arthur DDH 1

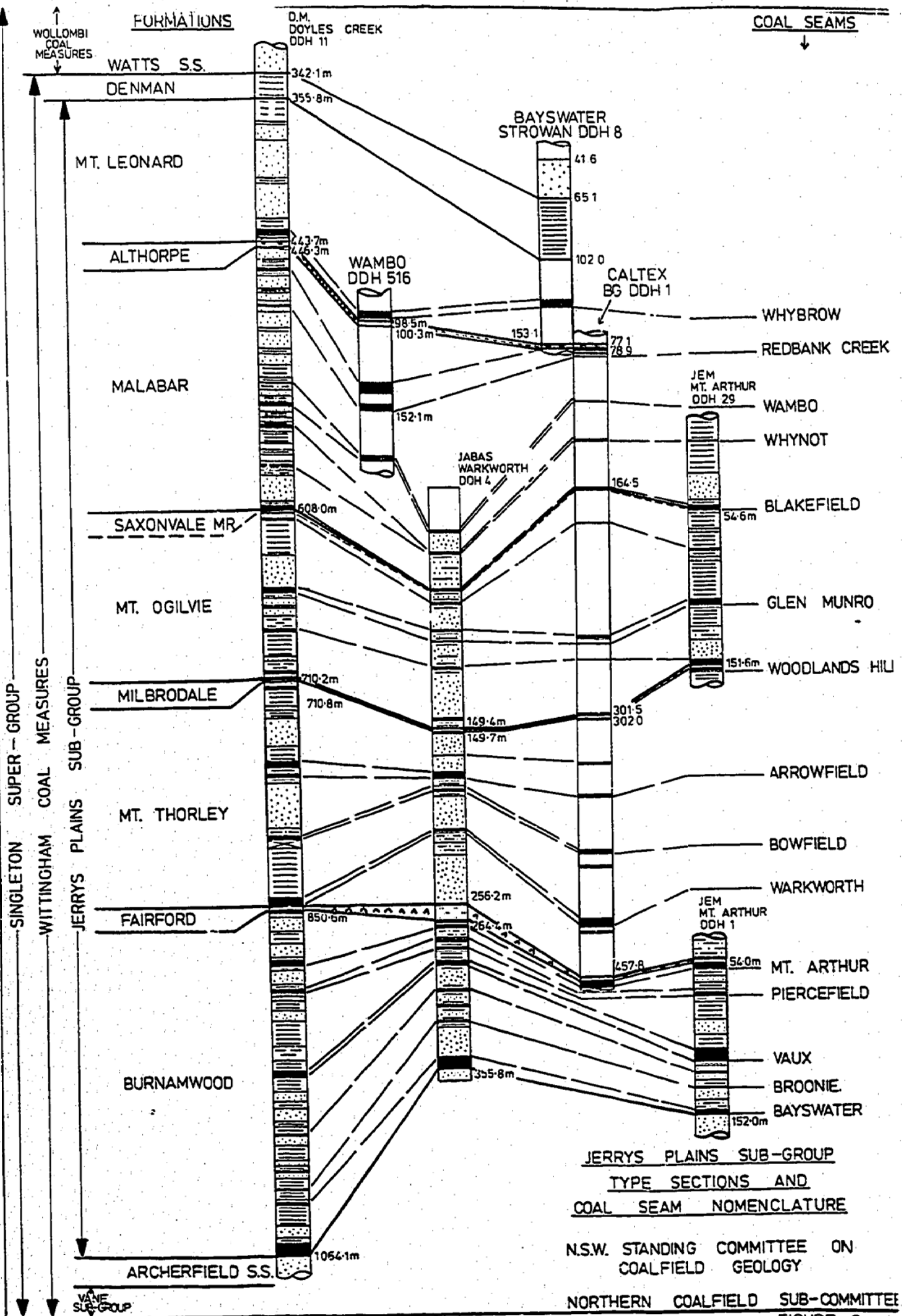
Marker Horizons

TABLE



STANDING COMMITTEE ON COALFIELD GEOLOGY OF N.S.W.
 NORTHERN COALFIELD SUB-COMMITTEE
 JERRYS PLAINS SUB-GROUP: AREA OF STUDY & TYPE/STANDARD
 SECTION LOCATIONS

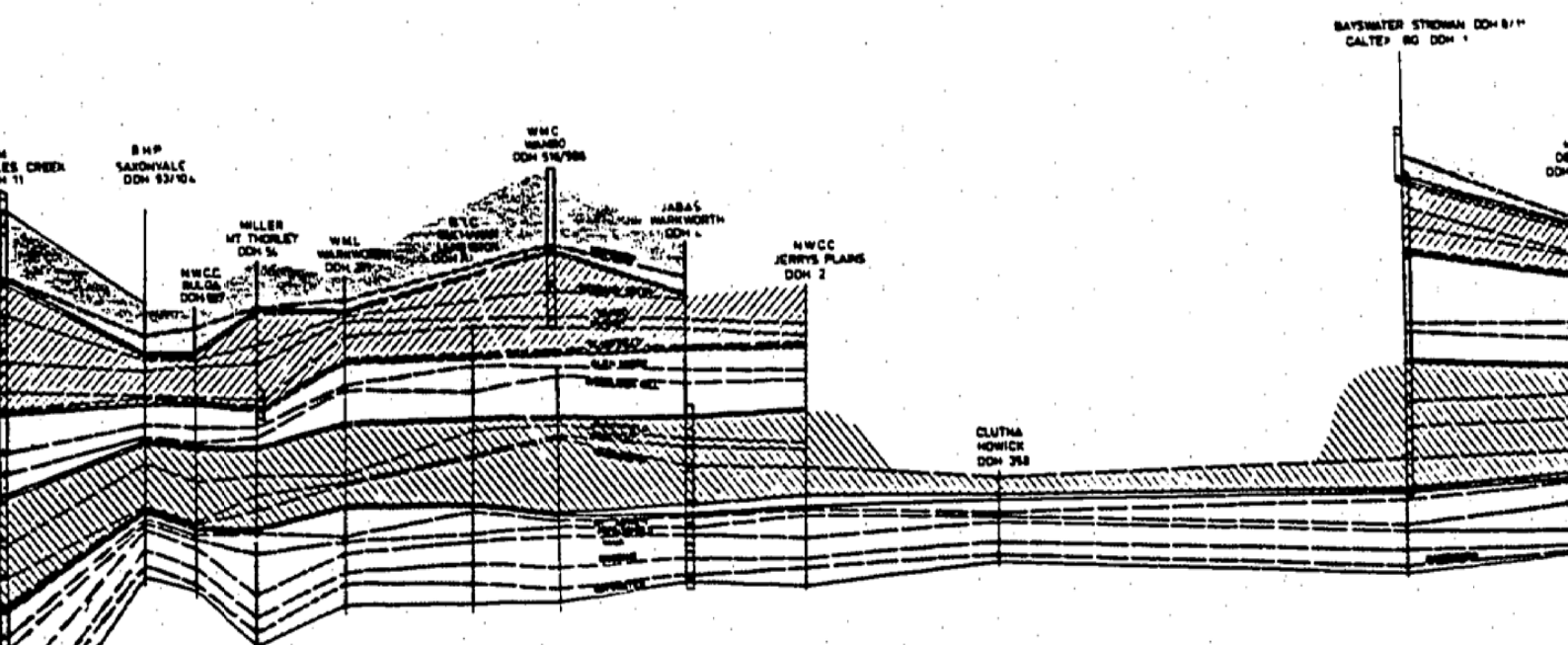
FIGURE 1



JERRYS PLAINS SUB-GROUP
TYPE SECTIONS AND
COAL SEAM NOMENCLATURE

N.S.W. STANDING COMMITTEE ON
COALFIELD GEOLOGY

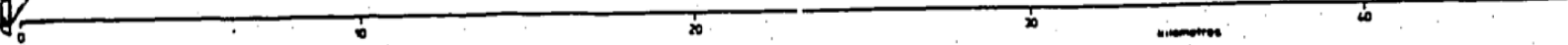
NORTHERN COALFIELD SUB-COMMITTEE
FIGURE 2

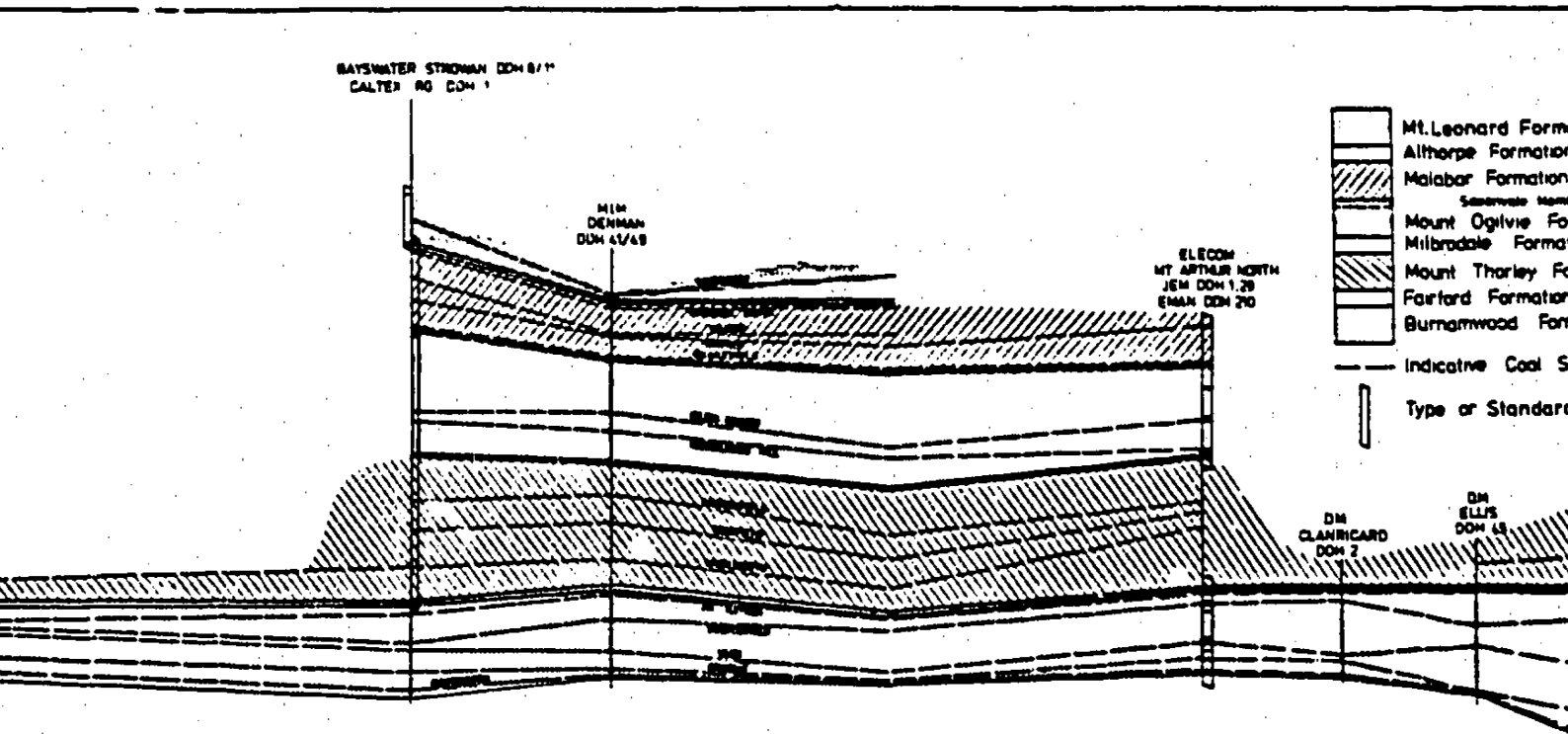


NSW STANDING COMMITTEE ON COALFIELD GEOLOGY
 NORTHERN COALFIELD SUB-COMMITTEE

JERRYS PLAINS SUB-GROUP SOUTH NORTH CORRELATION DIAGRAM

SOUTH





ON COALFIELD GEOLOGY
SUB-COMMITTEE

WITH NORTH CORRELATION DIAGRAM

V/H 25 : 1

Kilometres

40

50

60

70