COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS

RECORDS:

1949/106

PROGRESS REPORT ON TESTING OF ASHFORD COAL FIELD.

by

H.B. OWEN.

PROGRESS REPORT ON TESTING OF ASHFORD COALFIELD

Report No. 1949/106
(Geol. Ser. No. 76)

INTRODUCTION

Coal outcrops in the bed of a small gully tributary to the Severn River, at a point 7 miles north of the village of Ashford 36 miles north of Inverell, New South Wales.

A small colliery has been developed in the Ashford Seam and worked intermittently until 1925, mainly to supply coal and coke to the Silver Spur mine near Texas, Queensland. Texas, 32 miles north and Inverell, 43 miles south of the mine are the nearest railheads.

The coalfield and extensions to the north and south have been examined by officers of the New South Wales Department of Mines, the Australian Aluminium Production Commission, the Joint Coal Board and others. During March 1949 a diamond drilling programme was initiated by the Bureau of Mineral Resources, Geology and Geophysics and both geological and geophysical investigation of the area was carried out by the Bureau during early phases of the drilling campaign.

GEOLOGY

Main geological units of the area are:

1. The Lower Carboniferous Series,
2. Permian coal measures, and
3. Granite intrusive into the Lower Carboniferous.

The Carboniferous beds consist mainly of white cherts, greenish mudstones, tuffs and coarse sandstones sharply folded and faulted.

The Permian system overlies the Lower Carboniferous unconformably and, near the coal mine, consists of interbedded shale, conglomerate, sandstone and coal. The coal measures strike northerly to north-easterly and dip west at about 30 degrees.

The principal seam, here referred to as the Ashford seam ranges in thickness from 14 to 38 feet at the points drilled, and is thinning to the south. The base of this seam lies about 80 feet or less above the base of the Permian beds. Many smaller seams occur but are of no economic importance with the possible exception of a seam about 4 feet thick, referred to as the Bonshaw Seam, about 130-170 feet above the Ashford Seam.

On the west the coal measures are bounded by granite which is faulted against the Permian formation by an overthrust from the west. The fault has taken place close to the original granite-Carboniferous contact with the result that in places a narrow selvage of Carboniferous sediments is interposed between the granite and the Permian coal measures.

NATURE OF THE COAL.

Analyses of Ashford coal have been carried out by the New South Wales Department of Mines and the results are given in Appendix I. They show that the coal ranks as a low

volatile bituminous. Most of the core which was recovered and submitted for analysis consisted of durain owing to poor core recovery of vitrain and fusain. Analyses of coal from the colliery and from No. 1 Diamond Drill Hole, when compared, show little difference in average composition, so it is apparent that any selective action by core drilling has not had any serious effect on the results of sampling.

DRILLING RESULTS AND RESOURCES

Todate five diamond drill holes have been completed in the positions shown on the accompanying plan.

Total volume of coal contained in the Ashford Seam between Nos. 2 and 4 bores, assuming the contact between granite and Permian to be vertical amounts to 2,300,000 tons, calculated on the basis of 1500 tons per acre-foot of coal.

Logs of diamond drill holes and percussion bores sunk by a former lease-holder are given in the appendix. Diamond drilling is to be continued northerly from the old colliery for a distance of approximately 1½ miles.

H.B. Owen.

7th December, 1949.
CANBERRA, A.C.T.

(H.B. Owen)
Senior Geologist.

– to Administrator

ASHFORD

DRILLING SUMMARY.

(a) DIAMOND DRILLING

(b) PERCUSSION DRILLING.

ASHFORD COAL MINE

Log of No. 1 Diamond Drill Hole.

Description	Base		Thickness		Remarks
	Feet	Inches	Feet	Inches	
Soil and alluvium	12	-	12	-	
Conglomerate (?)	42	1	30	1	No core retained by driller for inspection.
Grey shale with black bands	45	3	3	2	Plant remains, streaks of coal and limonite staining. Dips 30-40 degrees.
Black to light grey shale and thin coal seams	48	8	3	5	Lustrous coal 46'-46'4". Limonite staining.
Sandstone, shale and coarse grit	50	7	1	11	Dip 25 degrees
Blue-grey conglomerate	53 57	11 9	3 3	4 10	No core
Blue-grey conglomerate	61 65	6 10	3 4	9) 4)	No core
Grey sandstone	66	4		6	
Grey sandstone and pebbles	68	5	2	1	Dip 30 degrees.
Grit and sandstone	69	6	1	1	Dip 40 degrees at base. Only 5" core recovered.
Conglomerate, grit and sandstone	74	9	5	3	Poor core recovery between 73'3" and 74'9"
Coarse grey sandstone	76	0	1	3	Calcite veins
Blue-grey conglomerate	84	3	8	3	Dip 30 degrees. Some bands shale and sandstone and green cherty pebbles in conglomerate.
Blue-grey conglomerate with sandstone band 86' 3"-86'10".	94	11	10	8	Dips 25 to 35 degrees.
Sandstone and grit	98	2	3	3	Dips 25-30 degrees. Narrow band conglomerates containing large particles coaly matter.
Blue-grey and blackish conglomerate	103	3	5	1	Dip 27°. Carbonaceous banding 100'7" to 101'4".

ASHFORD COAL MINE

Log of No. 1 Diamond Drill Hole (Contd.)

Description	Base		Thickness		Remarks
	Feet	Inches	Feet	Inches	
Sandstone and grit	105	5	2	2	
Conglomerate and grit	106	9	1	4	
Light grey sandstone	107	9	1	-	
Blue-grey conglomerate with greenish pebbles, alternating with thin bands of grit.	119	5	11	8	Six inches core lost between 107'5" and 111'5".
Alternating conglomerate and sandstone	122	0	2	7	Dips 31, 32 and 35 degrees.
Coal	122	4		4	
Black banded carbonaceous shale	126	2	3	10	Dip 28 degrees. 3 feet of core lost between 122' and 127'2". Probably carbonaceous shale.
Carbonaceous sandstone and light grey banded sandstone	141	4	15	2	Dips 33 and 35 degrees.
Alternating conglomerate, grit and sandstone.	163	6	22	2	Dips 32, 28, 30 degrees.
Coal	168	2	4	8	With thick shale band. Bonshaw seam.
Black shale and black sandstone	173	0	4	10	Dip 35 degrees.
Sandstone and grit with thin bands fine conglomerate	191	3	18	3	Carbonaceous bands.
Coal	191	4		1	Dip 32 degrees
Blue-grey grit and conglomerate	194		2	8	
Black shale	200	3	6	3	Breccia from 196' to 197'1".
Grey sandstone, blue-grey grit and fine conglomerate	215		14	9	Few shaly and carbonaceous bands.
Blue-grey conglomerate	218	3	3	3	
Sandstone	220	11	2	8	
Carbonaceous shale	230	5	9	6	One inch coal at 222' 10". Dips 28 and 32 degrees. 9 ins. of core lost between 225'10" and 229'10".
Very dark banded shale	230	8		3	
Very fine, banded, grey sandstone	244	11	14	3	Dips from 28 to 34 degrees; 30 degrees at base.

ASHFORD COAL MINE

Log of No. 1 Diamond Drill Hole (Contd.)

Description	Base		Thickness		Remarks	
	Feet	Inches	Feet	Inches		
Coarse black shale	246	-	1	1		*
Grey banded sandstone	252	10	6	10	Dips 27° to 42°	*
Very dark shale	252	11	-	1	Dip 40°	*
Grey banded sandstone	294	5	41	6	See footnote	*
Grey-green grit and sandstone	304	1	9	8	Dips 30° and 25°	*
Grey-green grit and sandstone	307	11	3	2	Dip 30°	
Grey-green conglomerate	308	8	-	9		
Grey-green grit and sandstone	319	9	11	1	Dip 30°	*
Grey grit and sandstone with conglomerate bands	330	5	10	8	Dips 27° to 40°	*
Dark grey sandstone, grit and fine conglomerate	340	4	9	11	Dips 35° to 43°	*
Carbonaceous shale and coal	377	3	36	11	Ashford Seam 341'-375' Drill recovery 50%	
Carbonaceous shale with fine conglomerate and grit bands	390	8	13	5	Dips 15° to 20°	
Grit and conglomerate with bands of black shale	397	-	6	4	Dip 20°	
Grey-green grit and conglomerate	401	9	4	9	*	
Grit and conglomerate with frequent black shale bands	443	0	41	3	Dip 20° Base of Permian	
Banded green mudstone and white cherts	450	6	7	5	Carboniferous	

FOOTNOTE: Asterisk denotes interbedding of thin carbonaceous bands.

Evidence of slumping at 262'3"

ASHFORD COAL MINE

Log of No. 2 Diamond Drill Hole.

Description	Base		Thickness		Remarks
	Feet	Inches	Feet	Inches	
Red Mud	27	-	27	-	No core
Red Mud and carbonaceous matter	31	9	4	9	Dip 30°
Thin banded grey shale and red mudstone	36	4	4	7	Dips 20° and 22°
Blue-grey conglomerate	70	-	33	8	Dips 26° and 22°
Blue-grey sandstone	70	10	-	10	
Light grey banded shale	71	10	1	-	Dip 27°
Blue-greygrit and conglomerate and grey sandstone	76	8	4	2	Dip at base 26°
Blue-grey conglomerate	76	8	-	8	
Coal	77	-	-	4	Lustrous
Black shale	107	-	30	-	Dip 23°
Alternating bands blue-grey conglomerate and grey sandstone	164	10	57	10	Thin coaly bands at 145' 148' 151'. Dips measure 23°, 37°, 50° 43°
Black shale and thin bands of coal. (Bonshaw seam)	177	-	12	2	Dips measured 31°, 28° 31° and 28°. Bonshaw seam.
Banded light grey shale	183	-	6		Dips 36°, 42°.
Grey sandstone	195	7	12	7	Dips 27°, 31°, 34°, 32° and 32°
Banded shale	200	-	4	5	
Sandstone, grit and conglomerate	220	6	20	6	Dips 36°, 40°, 40° and 40°
Black shale	220	10	-	4	
Coal	221	-	-	2	Dip 35°
Banded sandstone and shale	227	-	6	-	
Grit and conglomerate	231	6	4	6	
Black banded shale	248	3	16	9	Dips 42°, 32° and 42°
Grit and conglomerate	307	-	58	9	Carbonaceous and sandy bands. Becomes progressively darker towards base. Dips 40°, 43° and 45°
Blackish-grey fine grit	308	-	1	-	
Coal (Ashford Seam)	350		42	-	Poor core recovery
Coal and black shale	357	-	7	-	Poor core recovery
Black shale	363	-	6	-	Contains pebbles
Medium grey conglomerate in black matrix	366	-	3	-	

ASHFORD COAL MINE

Log of No. 3 Diamond Drill Hole

Description	Base		Thickness		Remarks
	Feet	Inches	Feet	Inches	
Soil	5		5		
Green-grey conglomerate	25	1	20	1	Dips 21°, 28°
Green-grey sandstone, grit and conglomerate	26	2	1	1	Dip 31°
Black and dark grey shale	32	-	5	10	Coaly seam at 32'
Green-grey conglomerate	40	10	8	10	
Black shale	41	8	-	10	Dip 40°
Green-grey conglomerate	50	-	8	4	
Blue-grey sandstone, grit and conglomerate	86	2	36	2	With carbonaceous bands at 66' and 68'. Dips 28° and 24°.
Grey sandstone	88	6	2	4	Dip 20°
Grey and black shale and fine grey sandstone	102	-	13	6	Dips 25°, 18°, 17° and 24°
Dark grey and blue-grey sandstone, grit and conglomerate	150	-	48	-	Carbonaceous bands at 111' 112' and 120'. Dips 31° and 32° at 142'.
Banded black and grey shale with fine grey sandstone	160		10		
Grey sandstone with carbonaceous banding	163		3		Dips 22°, 30° and 40°
Banded black and grey shale with fine sandstone	168	10	5	10	Dips 37°, 32°, 20° and 48°.
Brecciated shale and black shale	169	10	1	-	Dip 31°
Blue-grey grit, sandstone and conglomerate	179	9	9	11	
Carbonaceous shale	192	4	12	7	Slickensiding
Grey-green sandstone	196	3	3	11	
Black and grey shale	228	10	32	7	Dips at base 32° and 35°
Grey sandstone	235	4	6	6	Dips 30° and 18°
Black and grey shale	243	10	8	6	Dips 48° and 38°
Grey sandstone	246	5	2	7	With carbonaceous shale
Grey-green conglomerate	251	4	4	11	
Grey sandstone	256	6	5	2	Dip 32°
Conglomerate	266	-	9	6	
Dark grey grit	267	-	1	-	
Dark grey conglomerate	278	3	11	3	

ASHFORD COAL MINE

Log of No. 3 Diamond Drill Hole (Contd.)

Description	Base		Thickness		Remarks
	Feet	Inches	Feet	Inches	
Dark grey and black shale	287	4	9	1	Dips 28°, 29°, 30°, 34°
Grey sandstone	293	8	6	4	Dips 25° and 34°
Grey, passing to black shale	310	-	16	4	Dips near base 20°, 20° 10°, 31°, 31°
Coal	331	8	21	8	Ashford Seam. Recovery about 50%
Black shale with thin bands coal	349	-	17	4	
Interbedded shale and grey black conglomerate	357	-	8	-	
Grey-green conglomerate	360	-	3	-	

Owing to loss of water, it was necessary to seal off this hole twice while in the coal seam.

ASHFORD COALFIELD

LOG OF NO. 4 DIAMOND DRILL HOLE.

Description	Base Ft.	Thickness Ft.	Remarks
No core	28	28	
Grit, sandstone and conglomerate	65	35	
Grey and black shale	65	2	Dip 27°
Grey sandstone	69	4	Dip 34°
Black shale	77.5	8.5	Dips 33°, 30°, 40°, 27°
Grey grit, conglomerate sandstone	108	30.5	Dip near top 23°
Grey and black shale	109.5	1.5	
Alternating grit and shale	119	9.5	Dip at 115 feet, 25°
Sandstone and conglomerate	132.5	13.5	
Black shale	147	14.5	Dips 29°, 28°, 33°
Sandstone and conglomerate	167.5	20.5	Dips at 153-157 feet, 27°-28°
Grey shale	174	6.5	Dips 31°, 41°, 38°
Grey sandstone and conglomerate	175.5	1.5	
Black and grey shale	218	42.5	
Coal	237	19	First two feet mainly durain which cored well, below this fussin bands caused poor core recovery. Driller states clay band 222-227 feet but this unlikely. Thin shale band about 232 feet.
Thin bands black shale and conglomerate	238.25	1.25	Dip about 30° at 237'4"
Black shale	242	3.75	
Coal	242.75	0.75	Durain
Black shale	248	5.25	Thin bands of coal
Black conglomerate	249	1	
Black shale with gritty bands	260	11	

Ground water level — 87 feet

ASHFORD COALFIELD

LOG OF DIAMOND DRILL HOLE 5.

Description	Base Ft.	Thickness Ft.	Remarks
No core	11	11	
Grey shale	20	9	Thin carbonaceous bands 25°, 25°, 30°, 25°.
Conglomerate and sandstone	21	1	
Grey shale	23	2	Carb. bands dip 26°
Blue-grey conglomerate	37	14	
Coal	51	14	Very poor recovery. Mainly durain. Slickensided. 37'-39' contained shale bands.
Black shale	54	3	
Blue grey conglomerate	61.7	7.7	
Black shale	65	3.3	

ASHFORD COALFIELD, N.S.W.

No. 6 Diamond Drill Hole.

Started 13th October, 1949
Completed 30th November, 1949

Max. Depth 426 feet.

Lithology	Thickness Ft.	Ins.	Depth Ft.	Ins.	Dips and Remarks
Soil	4	-	4	-	
No core	11	-	15	-	
Granite	12	9	27	9	Highly contaminated in part
Carboniferous mud-stones, etc.	41	3	69	-	Highly silicified
Fault zone	9	-	78	-	Badly broken zone. No core recovered.
Grey shale	6	-	84	-	With carbonaceous banding. (Start of Permian).
Blue grey conglomerate	2	-	86	-	
Grey shale	11	-	97	-	With carbonaceous, sandstone and very thin coaly bands.
Blue grey sandstone	3	-	100	-	Conglomerate bands.
Banded grey shale	7	-	107	-	
Blue grey conglomerate	1	6	108	6	
Banded grey shale	17	6	126	-	With sandstone and carb. shale bands 30 degrees.
Blue grey sandstone	2	6	126	6	
Blue grey conglomerate	5	6	134	-	Few fine coaly bands, 27°
Blue grey sandstone and grit	12	-	146	-	Few conglomerate and coaly bands, 29 degrees.
Blue grey conglomerate	27	-	173	-	Few fine coal bands
Grey sandstone	15	-	198	-	Carbonaceous bands. Very slight faulting and slumping 30° 30° 29°.
Conglomerate	17	6	215	6	Large sandstone bands.
Grey shale	3	6	219	-	Banded with black shale, 26° 30°.
Blue grey conglomerate	1	6	220	6	
Black shale	1	-	221	6	Black conglomerate bands
Blue grey conglomerate	15	6	237	-	Sandstone bands and little black shale, 30 degrees.
Black shale	2	-	239	-	Very thin coaly bands.
Blue grey conglomerate	1	-	240	-	
Black shale	10	-	250	-	22 degrees.
Coal	1	-	251	-	Top of split Bonshaw Seam?
Black Shale	4	-	255	-	
Conglomerate	13	-	268	-	Occassional thin coaly bands.
Grey shale	8	-	276	-	
Dark blue grey conglom.	9	-	285	-	
Black banded shale	13	6	298	6	Few fine coal bands near base 31 degrees.
Coal		6	299	-	
Black shale	18	-	317	-	Irregularly banded
Coal	1	6	318	6	Base of split Bonshaw Seam
Black banded shale	6	6	325	-	Irregularly banded.
Sandstone and grit	10	-	335	-	Thick conglomerate bands
Grey banded shale	3	-	338	-	Banding streaked in part, 30 degrees.
Grey sandstone	2	-	340	-	
Conglom. and sandstone	6	-	346	-	At 341 feet little shale breccia.
Shale	1	-	347	-	Very irregularly streaked.
Blue grey conglomerate	3	-	350	-	
Black & grey shale	8	-	358	-	28 degrees.

Log. No. 6 Bore (Cont.)

Lithology	Thickness Ft.	Ins.	Depth Ft.	Ins.	Dips and Remarks
Conglomerate	15	-	373	-	
Black shale	11	6	384	6	
Conglom. with occasional very thin coal bands	5	-	389	6	
Black carb. shale	4	-	393	6	
Grey banded shale and fine sandstone	3	6	397	-	Showing small faults.
Coal	7	-	404	-	No core whatsoever obtained.
Black shale	1	-	405	-	
Coal		6	405	6	No core obtained.
Black shale	15	6	421	-	Pebbly bands increasing towards base.
Blackish conglomerate	5	-	426	-	With some shale

Hole completed at 426 feet.

S. Burton
Geologist

ASHFORD PROVINCE.

COAL ANALYSES

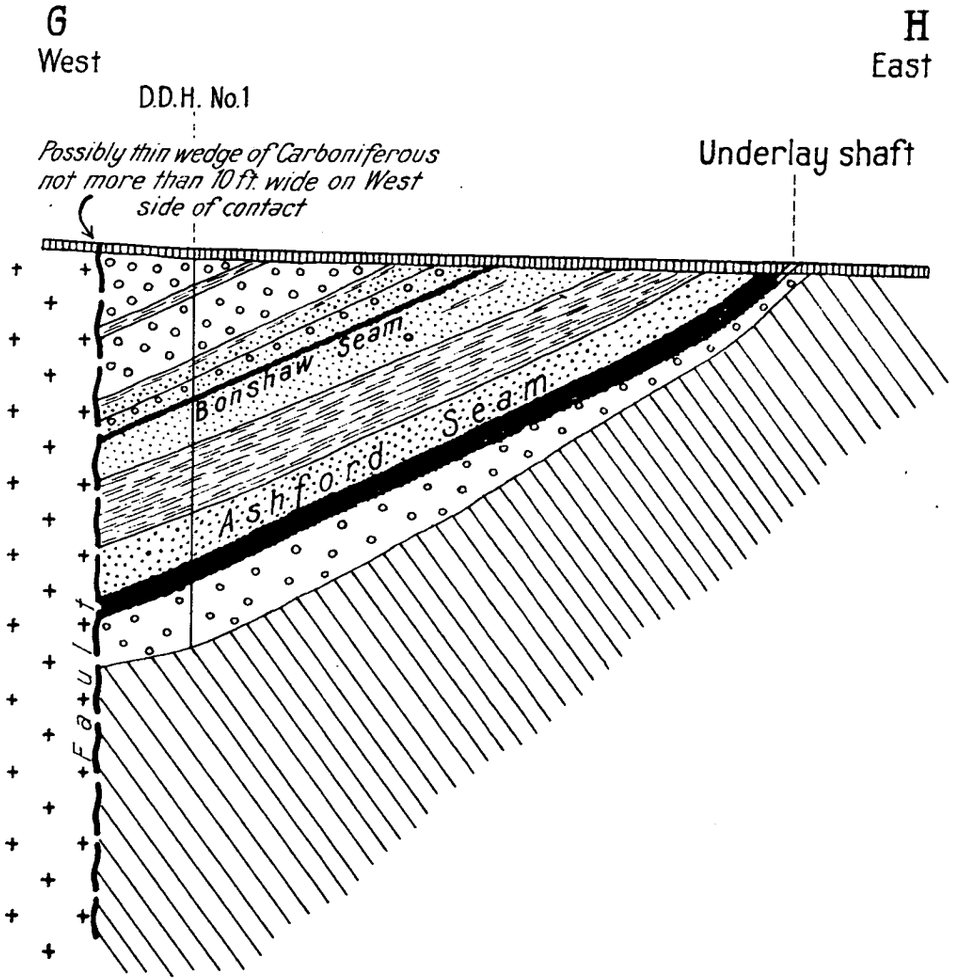
Location	N.S.W. Mines Dept. Ref. No.	Hygroscopic Moisture %	Volatile Matter%	Fixed Carbon %	Ash%	Coke Nature	Ash Colour	Sulphur %	BTU/lb	Seam (for Comparison)
Arrawatta		4.02	10.14	70.80	15.04					
Ashford Colliery	45/1514	1.7	22.6	65.9	9.8	Dull firm shrunken	Reddish		13,360	Ashford Seam
ASHFORD DDH NO.1										
341' -350'	999	0.7	23.6	66.5	9.2	Medium coking	Pink		13,970	Ashford Seam
350' -356'	1000	0.7	23.5	66.5	9.3	Weak coking	Pink		13,970	Ashford Seam
356' -357'	1001	0.6	23.4	70.0	6.0	Weak coking	Pink		14,480	Ashford Seam
357' -358'	1002	0.6	23.0	66.1	10.3	Weak coking	Pink		13,830	Ashford Seam
358' - ?	1003	0.6	22.5	68.9	8.0	Weak coking	Pink		14,160	Ashford Seam
? -370'6"	1004	0.7	22.2	68.6	8.5	Weak coking	Pink		14,000	Ashford Seam
370'6"-375'	1005	0.7	18.5	47.2	33.6	Firmly agglom.	Pink		10,050	Ashford Seam
ASHFORD DDH NO.2										
165' -165'6"	1414	1.0	19.8	57.5	21.7	Firmly Agglom.	Pink		11,870	Bonshaw Seam
173'6"-174'3"	1415	0.9	25.2	58.3	15.6	Medium coking	Pink		12,770	Bonshaw Seam
308' -312'	1416	1.0	23.8	66.2	9.0	Weak coking	Buff		13,860	Ashford Seam
312' -320'	1417	0.9	24.5	66.6	8.0	Medium coking	Brown		14,070	Ashford Seam
320' -333'8"	1418	1.0	23.5	68.3	7.2	Weak coking	Pink		14,120	Ashford Seam
333'8"-334'6"	1419	1.1	24.2	69.7	5.0	Medium coking	Cream		14,450	Ashford Seam
334'6"-340'6"	1420	1.2	22.6	70.1	6.1	Medium coking	Buff		14,240	Ashford Seam
340'6"-350'	1421	1.2	20.7	67.0	11.1	Firmly agglom.	Pink		13,360	Ashford Seam
350' -355'	1422	1.2	19.6	47.3	31.9	Non coking	Pink		9,830	Ashford Seam
355' -357'	1423	1.0	19.7	54.0	25.3	Weak coking	Pink		10,780	Ashford Seam
ASHFORD DDH.No.3										
311' -313'	1622	0.8	24.8	65.2	9.2	Weak Coking	Pink		13,710	Ashford Seam
313' -315'	1623	0.8	24.5	65.2	9.5	" "	"		13,710	" "
315' -318'	1624	0.9	23.3	69.5	6.3	" "	"		14,270	" "
318' -320'	1625	0.7	25.4	62.7	11.2	" "	"		13,470	" "
318' -322'	1626	0.7	24.6	60.5	14.2	" "	"		13,020	" "
322' -323'8"	1627	0.8	23.5	70.0	5.7	" "	"		14,450	" "
323'8-326'	1628	0.7	23.2	69.3	6.8	" "	"		14,340	" "
326' -328'	1629	0.9	22.6	68.9	7.6	" "	"		14,140	" "
328' -331'8	1630	1.1	17.5	31.4	50.0	Non Coking	"		-	" "

RESULTS NOT YET AVAILABLE.

ASHFORD DDH.NO. 4.										
218' -222' top	2049	0.9	23.2	65.4	10.5	Weak Coking	Pink		13,560	Ashford Seam
218' -222'	2050	0.9	24.2	66.3	8.6	" "	"		13,820	" "
218' -222'	2051	1.0	23.0	68.1	7.9	" "	"		13,900	" "
218' -222'(base)	2052	1.1/	21.9	66.1	10.9	" "	"		13,440	" "
227' -229'	2053	1.0	23.1	67.4	8.5	" "	"		13,810	" "
229' -237'	2054	0.9	21.3	60.2	17.6	" "	"		12,440	" "
242'3"-242'9"	2055	0.9	20.6	63.9	14.6	" "	"		12,920	" "
ASHFORD DDH.NO. 5.										
371' -39'7"	2056	1.8	24.7	63.2	10.3	Weak Coking	Pink		13,240	Ashford Seam
39'7"-50'	2057	1.1	21.5	53.9	23.5	" "	"		11,200	" "
50' -51'	2058	1.2	19.6	41.8	36.4	" "	"		9,150	" "
ASHFORD DDH. NO.6.										
		NO CORE RECOVERED FOR ANALYSIS.								

NOT AVAILABLE.

Proximate Coal Analyses carried out by N.S.W. Dept. of Mines in Departmental Laboratory, Sydney.



Ashford Coalfield

Section G-H

100 0 200 400 ft.

Legend:

Shale	Permian	
Sandstone & fine Grit	Permian	
Conglomerate & coarse Grit	Permian	
Coal	Permian	
Mudstones & Cherts	Carboniferous(?)	
Granite (Pre-Permian)	Igneous	
Granite Wash	Sundry	

Fault not necessarily vertical as shown

L. Burton
Geologist

BUREAU OF MINERAL RESOURCES, GEOLOGY & GEOPHYSICS. Nov. 49

N 11 A/5
H.F.B.

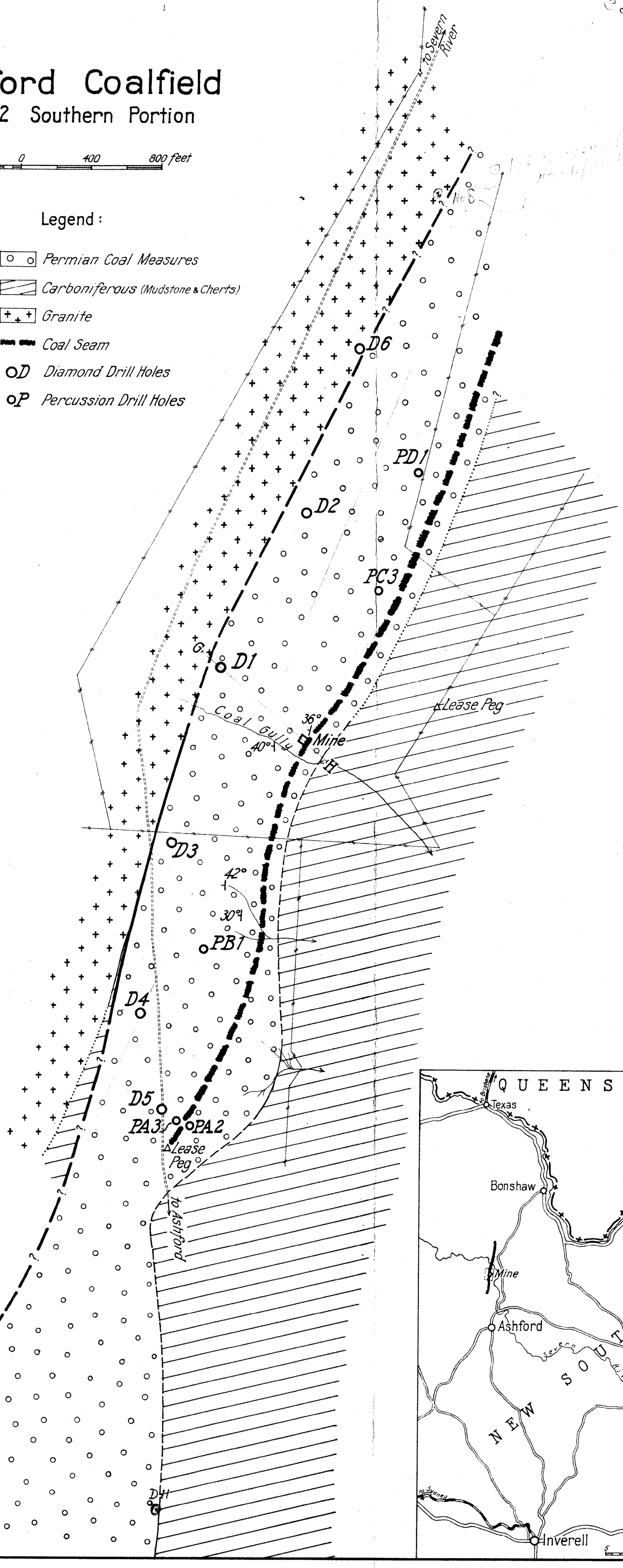
Ashford Coalfield

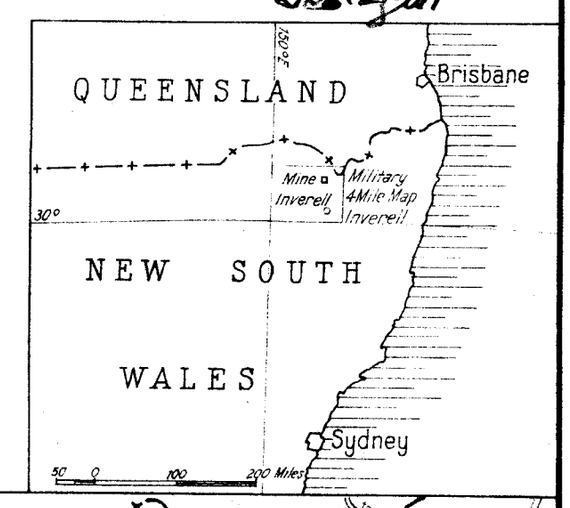
Plan 2 Southern Portion

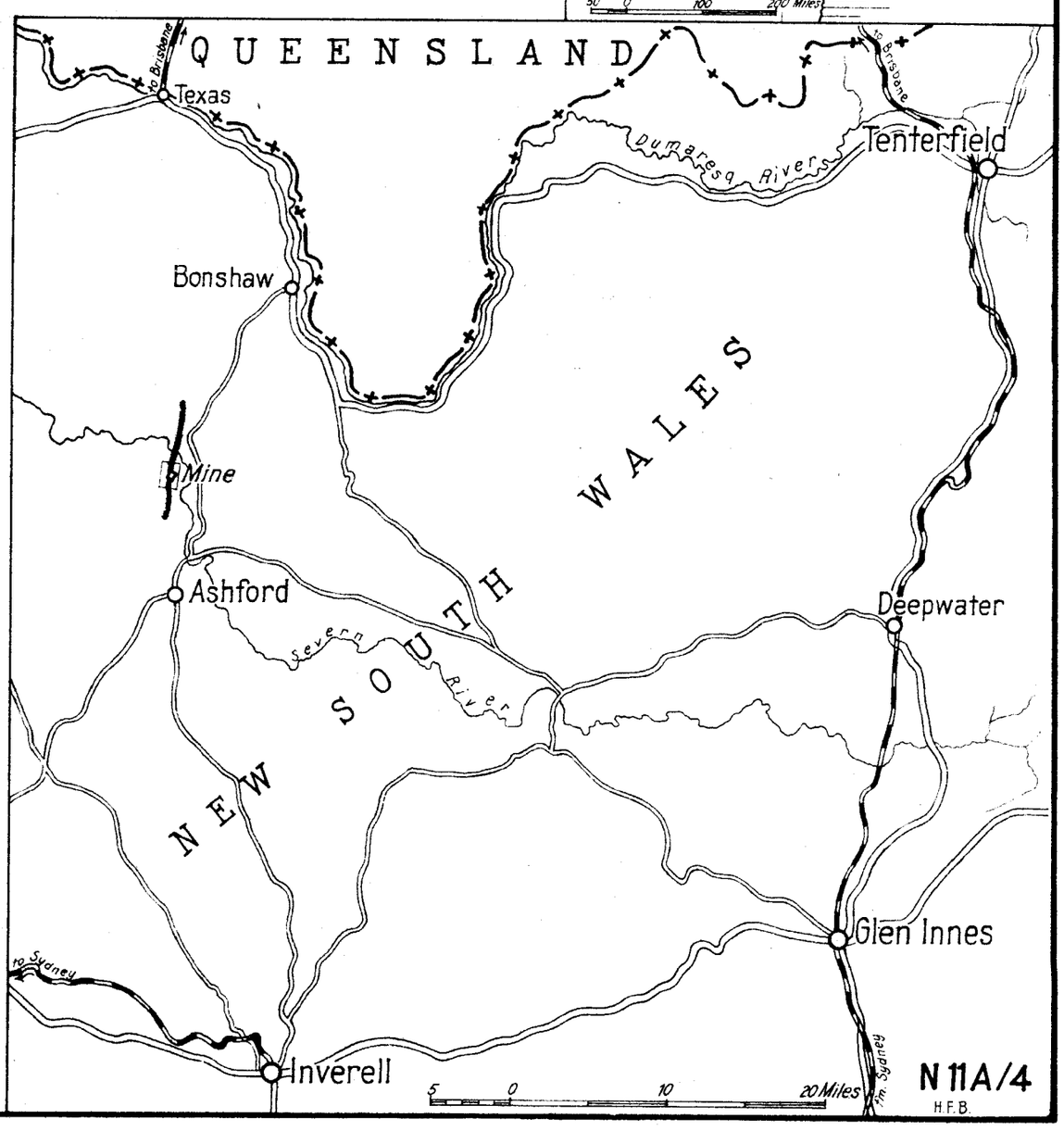
200 0 400 800 feet

Legend :

- Permian Coal Measures
- Carboniferous (Mudstone & Cherts)
- Granite
- Coal Seam
- OD Diamond Drill Holes
- OP Percussion Drill Holes







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BUREAU OF MINERAL RESOURCES, GEOLOGY & GEOPHYSICS. Nov. 49

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