

Galileo 03 Limited

Mynydd Ty-talwyn Energy Park – Environmental Statement Volume III

Appendix 5.1: Preliminary Risk Assessment

Annex B – BGS Historical Borehole Logs and Location Plan

Project reference: 663870

RSK GEOSCIENCES

OCTOBER 2025

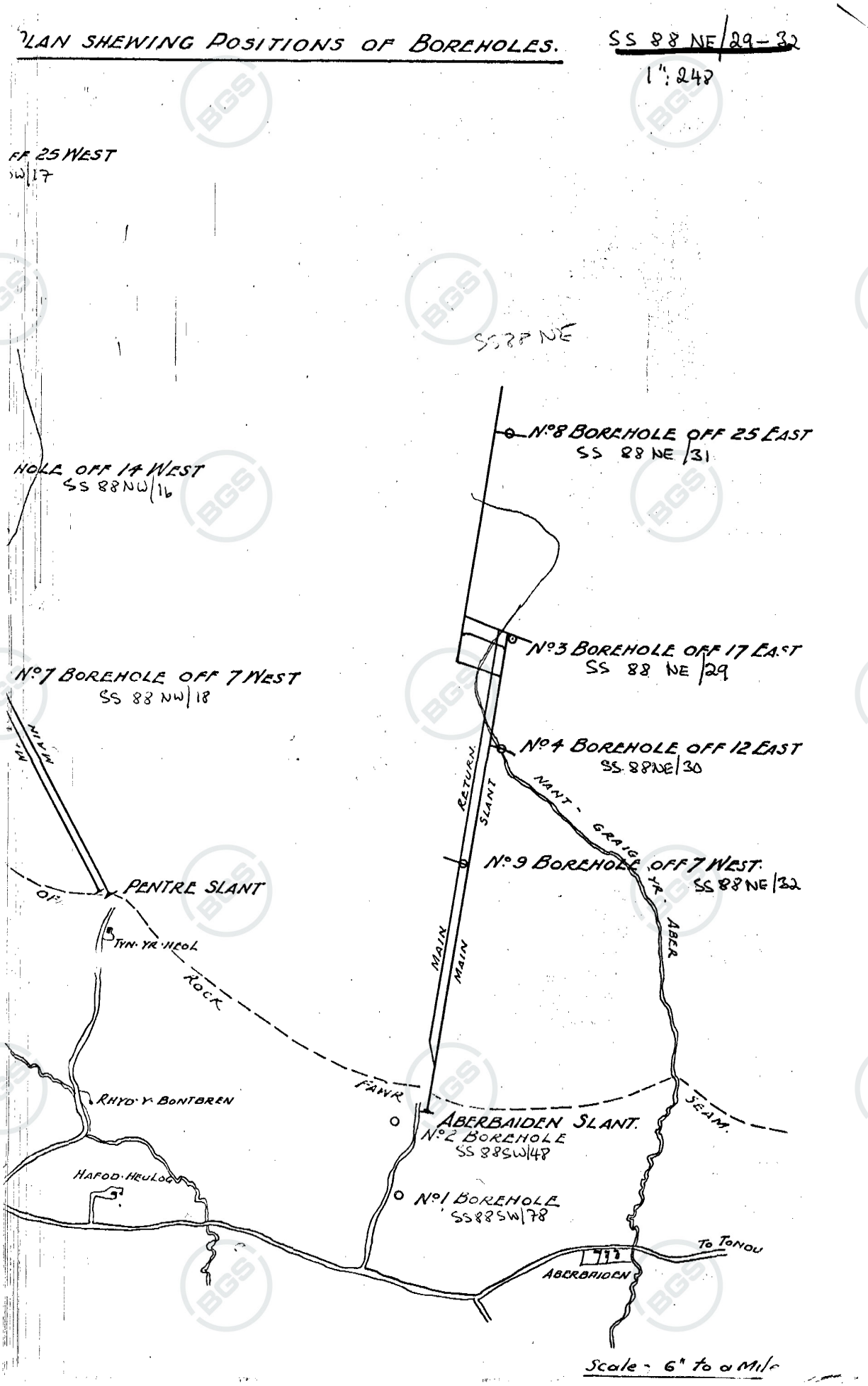
ANNEX B
BGS HISTORICAL BOREHOLE LOGS AND LOCATION PLAN

Borehole Index

	Reference	Name	Water Well Reference	Precision	Length (m)	Date	Easting	Northing	Scan Quality	Record	Record appended
1	SS88NE31	ABERBAIDEN COLLIERY 8 OFF 25 EAST HEADING	SS88/16H	± 10 METRES	121.92		285230	186700	not Entered	Scan	Y
2	SS88NW22	MARGAM 10	N/A	± METRE	Confidential		284504	186351	not Entered	Confidential/restricted access borehole - try GeoRecords.	N
3	SS88NE29	ABERBAIDEN COLLIERY 3 OFF 17 EAST HEADING	SS88/16C	± 10 METRES	152.4		285260	186130	not Entered	Scan	Y
4	SS88NE30	ABERBAIDEN COLLIERY 4 OFF 12 EAST HEADING	SS88/16D	± 10 METRES	117.65		285210	185810	not Entered	Scan	Y
5	SS88NE33	MARGAM 7 (CRAIG-Y-ABER)	N/A	± METRE	848.87		285392	185575	not Entered	Scan	Y
6	SS88NE32	ABERBAIDEN COLLIERY 9 OFF 7 WEST HEADING	SS88/16J	± 10 METRES	116.43		285100	185510	not Entered	Scan	Y
7	SS88NW5	PENTRE. 149	N/A	± 100 METRES	Unknown		284900	185300	not Entered	Scan	N
8	SS88SW48	ABERBAIDEN COLLIERY 2	N/A	± 10 METRES	45.72		284920	184830	not Entered	Scan	Y
9	SS88SW253	ABERBAIDEN, NO 2	SS88/16B	± 100 METRES	47.24	1935	284900	184800	not Entered	Scan	Y
10	SS88SW163	ABERBAIDEN SLANT	N/A	± 10 METRES	Unknown		284990	184870	not Entered	Scan	N
11	SS88SW252	ABERBAIDEN, NO 1	SS88/16A	± 100 METRES	112.78	1934	284900	184600	not Entered	Scan	Y
12	SS88SW78	ABERBAIDEN COLLIERY 1	N/A	± 10 METRES	112.78		284910	184600	not Entered	Scan	Y
13	SS88SE62	MARGAM 5	N/A	± METRE	719	1975	285656	184760	not Entered	Scan	Y
14	SS88SE105	TYTALWYN SLANT	N/A	± 10 METRES	Confidential		285739	184923	not Entered	Confidential/restricted access borehole - try GeoRecords.	N
15	SS88SE1	TY-TALWYN. 155	N/A	± 100 METRES	Unknown		286200	184900	not Entered	Scan	N
16	SS88SE106	TYTALWYN LEVEL	N/A	± METRE	Confidential		286265	184617	not Entered	Confidential/restricted access borehole - try GeoRecords.	N
17	SS88SE107	TON PHILLIP COLLIERY	N/A	± METRE	Confidential		286537	184674	not Entered	Confidential/restricted access borehole - try GeoRecords.	N
18	SS88NE34	MARGAM 11	N/A	± METRE	1058.1		286505	185962	not Entered	Scan	Y
19	SS88NE9	CRAIG-YR-ABER.171	N/A	± 100 METRES	Unknown		286500	185400	not Entered	Scan	N
20	SS88NE35	MARGAM 12	N/A	± METRE	895.6		286866	185033	not Entered	Scan	Y
21	SS88SE108	PARK FARM SLANT	N/A	± METRE	Confidential		287755	184272	not Entered	Confidential/restricted access borehole - try GeoRecords.	N
22	SS88SE58	PARK SLIP COLLIERY. DUFT N. OFF NO.2 SLANT	N/A	± 10 METRES	146		287890	184350	not Entered	Scan	Y
23	SS88SE2	BAIDEN. 154	N/A	± 100 METRES	Unknown		287800	184900	not Entered	Scan	N
24	SS88NE8	COYTRAHEN. 190	N/A	± 100 METRES	Unknown		288600	185900	not Entered	Scan	N
25	SS88NW24	PENTRE COLLIERY	N/A	± 10 METRES	Unknown		284500	185500	not Entered	Scan	Y
26	SS88NW12	MARGAM PARK 4	SS88/10	± 10 METRES	771.14		284140	185300	not Entered	Scan	Y
27	SS88NW23	MARGAM 13	N/A	± METRE	1042		284149	185053	not Entered	Scan	Y
28	SS88NW11	TRALLWN. 174	N/A	± 100 METRES	Unknown		284400	185000	not Entered	Scan	N
29	SS88SW10	TRALLWN. 174	N/A	± 100 METRES	Unknown		284400	184700	not Entered	Scan	N
30	SS88NW18	ABERBAIDEN COLLIERY 7 OFF 7 WEST	SS88/16G	± 10 METRES	122.22		283770	186060	not Entered	Scan	Y
31	SS88NE5	MAES CADLAWR. 152	N/A	± 100 METRES	Unknown		287000	187500	not Entered	Scan	N
32	SS88NE4	BRYN CYNAN. 144	N/A	± 100 METRES	Unknown		286000	187700	not Entered	Scan	N
33	SS88NE3	TYNTON. 177	N/A	± 100 METRES	Unknown		285600	187700	not Entered	Scan	N

British Geological Survey

BGS ID: 372607 : BGS Reference: SS88NE31
EPSG: 27700 : 285230,186700



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372607 : BGS Reference: SS88NE31
EPSG: 27700 : 285230,186700

SS 88 NE/31

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS

248

N.G.R. 8523. 8670

County Glam.

Underground BORE OR SHAFT N° 8 off N° 25 E. Heading, Aberbaiden Slant, Aberbaiden Colliery (see plan for site)

6-in. Map 34 NW.

GSM 70[illegible]/38

Top of Bore Surface level 1180·20 ft. below O.D. One-inch Map 248.

Communicated 27·7·1937. by Messrs Baldwins, Ltd.

Date of sinking 10·4·37 to 24·7·37. Boren Francis Cementation Co. (J. Godden Boren)

Rock Favr Seam 3 ft. thick at Bore

Specimens Bc. 1273-1302. Dip of Seam roof:- 10½ in. p. yard.

Notes by Co[illegible]
Bores in 83 Coals
C. 42 ft. 6 Bar
Diameter at top 7⅛ in. to 6¼" at Bm.

Description.	Thickness. Feet.	Thickness. Inches.	Depth. Feet.	Depth. Inches.
Top of Bore is 6 ft. below Rock Favr Seam, so add 6 ft (3½ ft. fireclay + 2½ ft. rock) to get distances below Rock Favr Seam.				
Concrete	2		2	
Hard shaly rock	19		21	
Very hard grey rock	19		40	
Hard grey rock	9		49	
" with coal marking	3		52	
"	35		87	
Grey rock with coal markings	3		90	
Very hard grey rock	12		102	
Broken grey rock with clay joints	1	6	103	6
Hard grey rock	42	6	146	
Grey rock with Coal markings	7		153	
Coal	1	10	155	10
Black shale or washing		10	156	8
Strong grey fireclay with ironstone nodules.	2	10	159	1
Grey fireclay with ironstone nodules	2	5	161	6
Dark grey sandy shale	5		166	6
Dark grey shale	17		183	6
Dark grey sandy shale	5	6	189	
Dark grey shale	1		190	
Dark grey shaly fireclay	5		195	
Dark grey shale	1		196	
Broken dark grey shale		3	196	3
Coal	1	11	198	2
Grey shaly fireclay	1	10	200	
Hard shaley rock	6		206	
Soft friable shaly fireclay	7	6	213	6
Broken black shale ironstone nodules & traces of coal	1	9	215	3
Grey fireclay	2	6	217	9
Bloody dark grey shale	21	3	239	
Dark grey shale		3	239	3
Black shale & ironstone nodules	3		242	3
Dark grey shale	56	9	299	
" broken	5		304	
" strong	6	6	310	6
" broken	14	2	324	8

See back for details.

(B12268) Wt. 13119—9011 5000 9/27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372607 : BGS Reference: SS88NE31
EPSG: 27700 : 285230,186700

SS 88 NE/31

Details of shale from 242' 3":

Up. 12-14°	Dark grey silty & micaceous sandy shale slightly current bedded with some worm tubes. Macerated plants. Neuropteris & index pl. from 257' to 263'	20' 9"	263	0
10-12°	Dark grey silty micaceous fair shale with thin bands of brown ironstone & Naiadites large & small, ostracods & silicified fish scales & reptilian	1 0	264	0
	Hard dark fine micaceous sandy & fairly micaceous ironstone with Naiadites, Spirorbis & fish scales, small & indet. plant stems.	1 6	265	6
	Dark grey fine shale w. thin ironstone & a few Naiadites & fish scales.	1 6	267	0
	Dark grey fine shale with thin ironstone bands & hieroglyphs at top & plant fragments 269 to 268' with a few bands mostly impure to brown 268-274'			
	Metacoceras frequent at 274' & Pinnularia & Lingula. Carbonized fish teeth, Schizodus, Orthoceras, Homoceratoides & Bellis. 274-279'	12 0	279	0
10-12°	Dark grey/yellow tinged brown fair shale with brown ironstone bands up to 12" & traces of pyrites & small nodules of pyrite & ironstone.	14 0	293	0
" "	Strong dark silty mudstone & shale with carbonized plant stems, bands with pyrite & pyrite nodules, indet. fish remains & in bottom foot Lingula, Orbiculoidea & small fish scales (joints at base)	7 0	300	0
" "	Dark grey shale & ironstone bands up to 1 in. & brown except for coarse plant trees.	4 0	304	0

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372607 : BGS Reference: SS88NE31
EPSG: 27700 : 285230,186700

SS 88 NE 131

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

B.H. No. 8

Aberbaiden Slant Folio _____ County Glam.

Aberbaiden Colliery (cont.) 1/2500 in. Map 218

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Brt. forward.			324	8
Dark shale & coal		3	324	11
Dark grey sandy shale	7	1	332	
Coal	2	9	334	9
Dark grey sandy shale	4	3	339	
Strong sandy shale	5		344	
Very broken dark grey shale	18	10	362	10
Coal		8	363	6
Strong grey fireclay		9	364	3
Dark grey sandy shale	2		366	3
Dark grey shale with ironstone nodules.		6	366	9
Strong dark grey shale	4	3	371	
Dark grey shale	9	3	380	3
" W. ironstone nodules		9	381	
"	2		382	
" W. ironstone nod.	8		391	
Strong dark grey shale	2	6	393	6
"	2	6	396	
Dark grey shale	3	6	399	6

A.T. 16.9.37.

(B12267) Wt. 13119A—0014 5000 9.27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372607 : BGS Reference: SS88NE31
EPSG: 27700 : 285230,186700

Name and Number of Shaft or Bore given by Geological Survey: 27 88 NE/51 1 240 | County: Glam. | 248

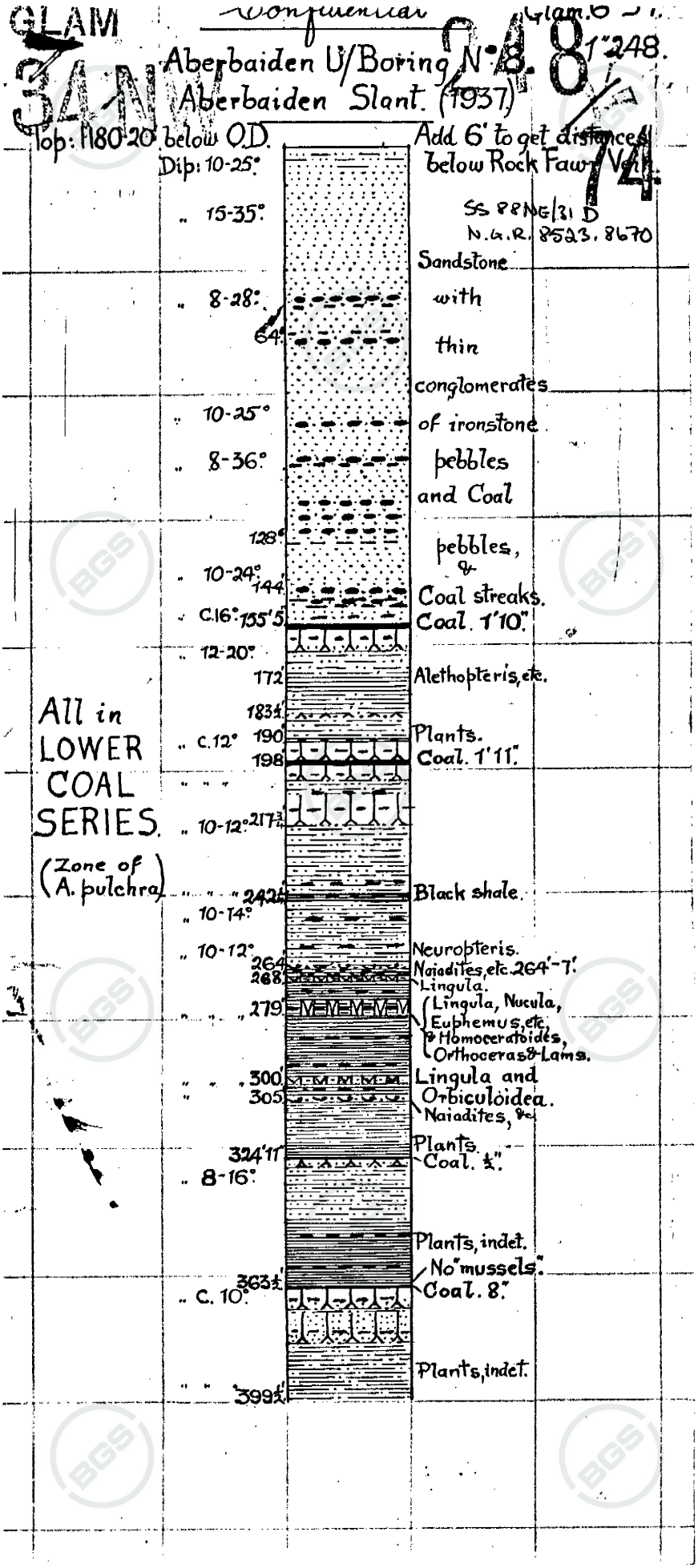
Underground b.h. No. 1 in the Abercynon Seam | 6" Quarter Sheet 34 SW.

Abercynon Colliery (Baldwins Ltd.) 1937

GEOLOGICAL CLASSIFICATION	DESCRIPTION	THICKNESS		DEPTH	
				74	-
	Conglom.				
	Hard shaly sandstone	21		23	-
	Very hard broken grey rock	4	-	27	-
	Hard grey rock	15	-	42	-
	Very hard broken grey rock	24	-	66	-
	" " grey rock	37	-	103	-
	Very hard broken grey rock w. shear joints	1	6	104	6
	Very hard broken grey rock	7	6	112	-
	Hard grey rock	15	-	127	-
	" " " , broken	10	-	137	-
	Hard grey rock	10	-	147	-
	Grey rock w. coal markings	6	7	153	7
	COAL	1	10	155	5
	Black shale or washing		10	156	3
	Strong grey fireclay w. ironstone nodules	3	7	159	10
	Dark grey sandy shale	5	10	165	8
	" " shale	4	2	170	-
	" " shaly fireclay	5	-	175	-
	Broken dark grey shale	1	3	176	3
	COAL	1	11	178	2
	Grey shaly fireclay	2	4	200	6
	Hard " rock	5	8	206	-
	Rotten dark grey shale	7	6	213	6
	Broken black shale w. ironstone nodules and lenses of coal	1	9	215	3
	Grey fireclay	2	9	218	-
	Strong dark grey shale	21	-	239	-
	Very broken black shale + ironstone	3	-	242	-
	Broken sandy shale	5	-	247	-
	" dark grey shale	14	-	261	-
	Dark grey shale	39	-	300	-
	" " " , broken	24	8	324	8
	Black shale + coal		3	324	11
	Dark grey sandy shale	7	1	332	-
	Hard grey rock	2	9	334	9
	Dark grey sandy shale	2	3	337	-
	Hard sandy shale	7	-	344	-
	Very broken dark grey shale	18	10	362	10
	COAL		8	363	6
	Strong grey fireclay		9	364	3
	Strong shaly rock	2	-	366	3
	Strong fireclay w. ironstone nodules		9	367	-
	Strong sandy shale	3	-	370	-
	Dark grey shale	4	-	374	-
	Grey sandy shale	5	-	379	-
	Dark grey shale w. ironstone nodules	1	-	380	-
	Dark grey shale	3	-	383	-
	" " " w. ironstone bands	8	-	391	-
	Strong dark grey shale	5	-	396	-
	Dark grey shale	3	6	399	6
	Sunk by Francois Cementation Co.				

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372607 : BGS Reference: SS88NE31
EPSG: 27700 : 285230,186700



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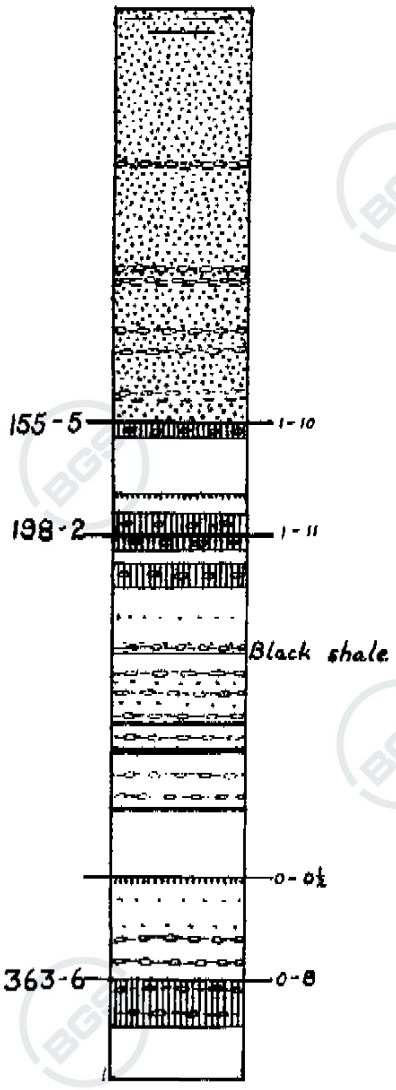
British Geological Survey
BGS ID: 372607 : BGS Reference: SS88NE31
EPSG: 27700 : 285230,186700

[redacted] ABERBAIDEN COLLIERY 1" 248

No. 8 OF No 25 EAST HEADING

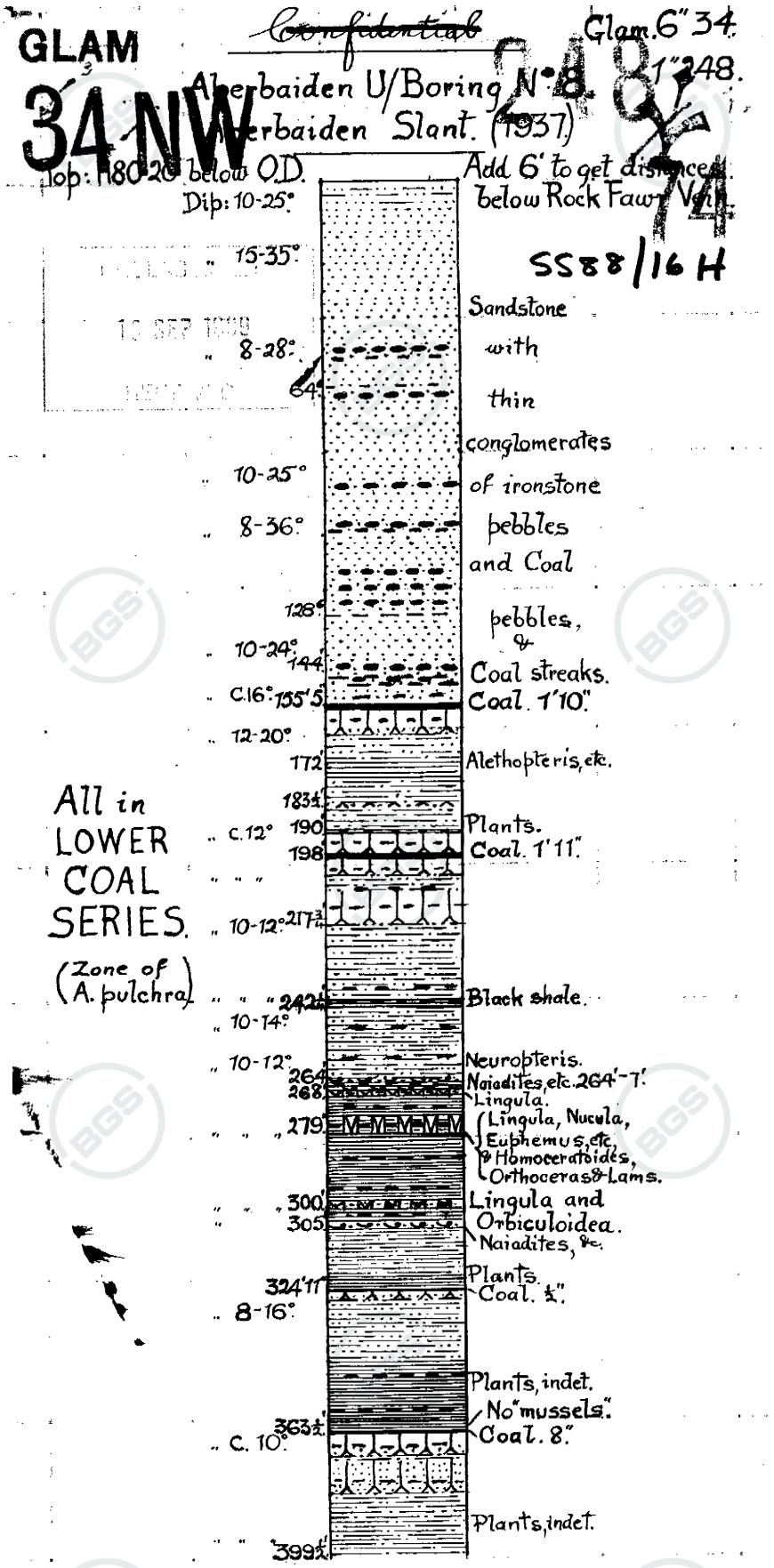
SS 88 NE | 31 D

8523 8670



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EPSG: 27700 : 285230,186700



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British Geological Survey
BGS ID: 372607 : BGS Reference: SS88NE31
EPSG: 27700 : 285230,186700

34 NW/3.

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

Underground BORE or SHAFT No. 8 off the No. 25 E. Heading, Aberbaiden Slant, Aberbaiden Colliery (see plan for site)

County Glam. 6-in. Map 34 NW. GSM 7000/506 SS88/1LH

Top of Bore Surface level 1180.20 ft. below O.D. One-inch Map 248. SS852 867

Communicated 27.7.1937. by Messrs Baldwins, Ltd.

Date of sinking 10.4.37 to 24.7.37. Boren François Cementation Co. (J. Godden Bore.) Rock Fawr Seam 3 ft. thick at Bore

Specimens Bc. 1273-1302. Dip of Seam roof:- 10½ in. p. yard.

Notes by Cff
bores in 83 bore
at 43 ft. p bore
Diameter at top 15 in.
" 6½" at bottom.

Description. Top of Bore is 6 ft. below Rock Fawr Seam, so add 6 ft (3 ft. fireclay + 2½ ft. rock) to get distances below Rock Fawr Seam.

Description.	Thickness. Feet.	Thickness. Inches.	Depth. Feet.	Depth. Inches.
Concrete	2	.	2	.
Hard shaly rock	19	.	21	.
Very hard grey rock	19	.	40	.
Hard grey rock	9	.	49	.
" " with coal markings	3	.	52	.
" "	35	.	87	.
" grey rock with coal markings	3	.	90	.
Very hard grey rock	12	.	102	.
Broken grey rock with clay joints	1	6	103	6
Hard grey rock	42	6	146	.
Grey rock with coal markings	7	.	153	.
Coal	1	10	155	5
Block shale or washing	.	10	156	3
Strong grey fireclay with ironstone nodules.	2	10	159	1
Grey fireclay with ironstone nodules.	2	5	161	6
Dark grey sandy shale	5	.	166	6
Dark grey shale	17	.	183	6
Dark grey sandy shale	5	6	189	.
Dark grey shale	1	.	190	.
Dark grey shaly fireclay	5	.	195	.
Dark grey shale	1	.	196	.
Broken dark grey shale	.	3	196	3
Coal	1	11	198	2
Grey shaly fireclay	1	10	200	.
Hard shaley rock	6	.	206	.
Soft friable shaly fireclay	7	6	213	6
Dark block shale & ironstone nodules & traces of coal	1	9	215	3
Grey fireclay	2	6	217	9
Woody dark grey shale	21	3	239	.
Dark grey shale	.	3	239	3
Block shale & ironstone nodules	3	.	242	3
Dark grey shale	56	9	299	.
" , broken	5	.	304	.
" , strong	6	6	310	6
" , broken	14	2	324	8

See back for details.

(B12268) Wt. 13119—9014 5000 9/27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372607 : BGS Reference: SS88NE31
EPSG: 27700 : 285230,186700

Details of strata from 242' 3":—

Dip 12-14°	Dark grey silty & micaceous sandy shale slightly current-bedded with some ironstone. Macerated plants. Neuropteris & index pts. from 257 ft to 260 ft. Nodules & thin bands of ironstone.		20' 9"	263- 0
10-12°	Dark ~~grey silty micaceous~~ fine shale with thin bands of brown ironstone & nodules. Naiadites large & small, ostracods & small fish scales & coprolites.		1. 0	264- 0
	Hard dark fine-grd sandy & finely micaceous ironstone with Naiadites, Spirorbis, & fresh scales, small & indet. plant stems.		1. 6	265- 6
	Dark grey fine shale w. thin ironstone & a few Naiadites & fish scs.		1. 6	267- 0
	Dark blue-grey fine shale with thin ironstone bands & nodules at top. + plants fr. 267 ft to 267½ ft with a few ferns, mostly impressions, beam 268-274'			
	Metaclerus, Neuropteris at 274½ ft, Naiadites & Anthracomya, fish tooth Schizodus, Glyptosaras, Homoeolepides & Amblis 274-279½ ft		12. 0	279. 0
10-12°	Dark grey/yellow tinged barren fine shale with brown ironstone bands up to 12 ins & bands of pyrites & small nodules of pyrite & ironstone.		14. 0	293. 0
" "	Strong dark silty mudstone & shale with carbonised plants & lenticular with pyrites & pyrite nodules, indet. fish remains & in bottom part Anthracomya, Naiadites & small fish scales (joints at base)		7. 0.	300- 0
" "	Dark grey shale & ironstone bands up to 1 in. & barren except for scarce plant traces.		4 0	304 0

Contact BGS: ngdc@bgs.ac.uk

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EPSG: 27700 : 285230,186700

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

11/Bh. No. 8

Aberbaiden Sheet 5 Folio ____ County Glam.

Aberbaiden Colliery (cont.) 1-in. Map

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
SS88/16H				
Broken Black coal, shale w. coal attached & 2 in. band of coal			324	8
B/ht. forward.				
Dark shale & coal		3	324	11
Soft grey sandy shale	7	1	332	
8-16° Strong grey rock	2	9	334	9
Dark grey sandy shale	4	3	339	
Strong sandy shale	5		344	
10-16° Very broken dark grey shale	18	10	362	10
Coal		8	363	6
Strong grey finely		9	364	3
Dark grey sandy shale	2		366	3
Dark grey shale with ironstone nodules.		6	366	9
c.16° Strong dark grey shale	4	3	371	
Dark grey shale	9	3	380	3
" W. ironstone nodules		9	381	
Dark grey shale with nodules. 370½-381. "	2		383	
c.10° Dark grey fine shale bonen	8		391	
W. ironstone nod.				
Dark grey shale	2	6	393	6
Strong dark grey shale	2	6	396	
c.10° Dk grey fine to silty shale	3	6	399	6
Dark grey shale				

A.J. 16.9.37.

(B12267) Wt. 13119A—0014 5000 9.27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372607 : BGS Reference: SS88NE31
EPSG: 27700 : 285230,186700

(*11932) W[illegible]0370/0370 10,000 9/39 A.& E.W.Ltd. Gp.685

Name and Number of Shaft or Bore given by Geological Survey: 1"248

Underground B.H. N° 4 No 8 Abercraven Sheet. Abercraven 283 37

County Sh.

6" Quarter Sheet 34 SW

248

A Borehole Cutting (Baldwins Ltd) 1937

SS88/16

74

Geological Classification	Description	Thickness		Depth	
	Concrete				-
	Hard shaly sandstone	21	-	23	-
	Very hard broken grey rock	4	-	27	-
	Hard grey rock	15	-	42	-
	Very hard broken grey rock	24	-	66	-
	" " grey rock	37	-	103	-
	Very hard broken grey rock w. sheer joints	1	6	104	6
	Very hard broken grey rock	7	6	112	-
	Hard grey rock	15	-	127	-
	" " " broken	10	-	137	-
	Hard grey rock	10	-	147	-
	Grey rock w. coal markings	6	7	153	7
	COAL	1	10	155	5
	Black shale or washing		10	156	3
	Strong grey fireclay w. ironstone nodules	3	7	159	10
	Dark grey sandy shale	5	10	165	8
	" " shale	4	2	170	-
	" " shaly fireclay	5	-	175	-
	Broken dark grey shale	1	3	176	3
	COAL	1	11	178	2
	Grey shaly fireclay	2	4	200	6
	Hard " rock	5	8	206	-
	Rather dark grey shale	7	6	213	6
	Broken black shale w. ironstone nodules and veins of coal	1	9	215	3
	Grey fireclay	2	9	218	-
	Strong dark grey shale	21	-	239	-
	Very broken black shale + ironstone	3	-	242	-
	Broken sandy shale	5	-	247	-
	" dark grey shale	14	-	261	-
	Dark grey shale	39	-	300	-
	" " " , broken	24	8	324	8
	Black shale + coal		3	324	11
	Dark grey sandy shale	7	1	332	-
	Hard grey rock	2	9	334	9
	Dark grey sandy shale	2	3	337	-
	Hard sandy shale	7	-	344	-
	Very broken dark grey shale	18	10	362	10
	COAL		8	363	6
	Strong grey fireclay		9	364	3
	Strong shaly rock	2	-	366	3
	Strong fireclay w. ironstone nodules		9	367	-
	Strong sandy shale	3	-	370	-
	Dark grey shale	4	-	374	-
	Grey sandy shale	5	-	379	-
	Dark grey shale w. ironstone nodules	1	-	380	-
	Dark grey shale	3	-	383	-
	" " " w. ironstone bands	8	-	391	-
	Strong dark grey shale	5	-	396	-
	Dark grey shale	3	6	399	6
	Struck by Francois Consolidated Co.				

Contact BGS: ngdc@bgs.ac.uk

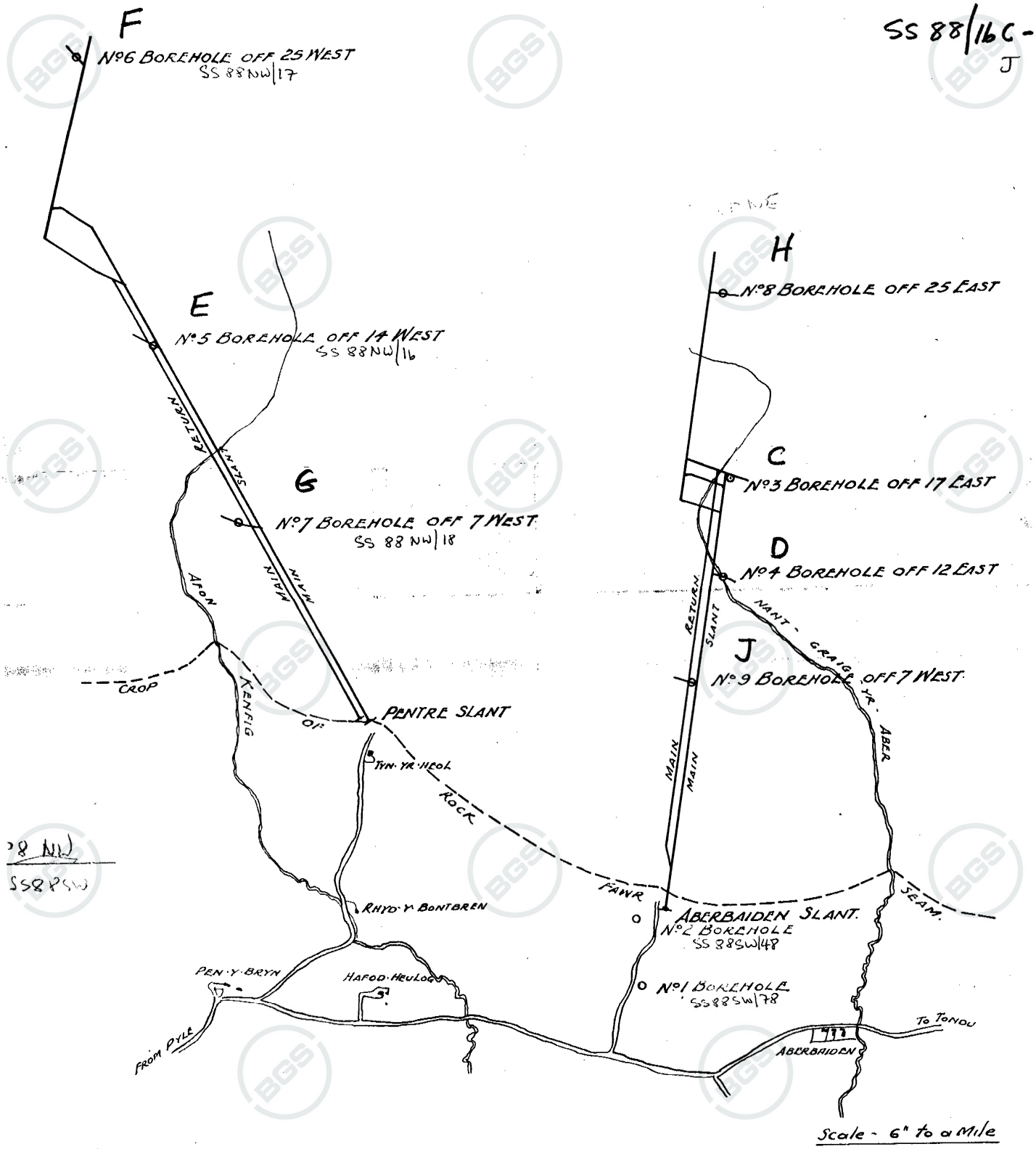
British Geological Survey
BGS ID: 372607 : BGS Reference: SS88NE31
EPSG: 27700 : 285230,186700

SS 88/16 H

BALDWINS LTD – ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C-J



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372607 : BGS Reference: SS88NE31
EPSG: 27700 : 285230,186700

SS 88/16J

BALDWINS LTD – ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C-J

F
No 6 BOREHOLE OFF 25 WEST
SS 88 NW/17

E
No 5 BOREHOLE OFF 14 WEST
SS 88 NW/16

G
No 7 BOREHOLE OFF 7 WEST
SS 88 NW/18

H
No 8 BOREHOLE OFF 25 EAST

C
No 3 BOREHOLE OFF 17 EAST

D
No 4 BOREHOLE OFF 12 EAST

J
No 9 BOREHOLE OFF 7 WEST

ABERBAIDEN SLANT.
No 2 BOREHOLE
SS 88 SW/48

No 1 BOREHOLE
SS 88 SW/78

PENTRE SLANT

RHYD-Y-BONTBREN

TYN-YR-HEOL

PEN-Y-BRYN

HAFOD-HEULOG

ABERBAIDEN

TO TONDU

FROM PYLE

CROP

Scale - 6" to a Mile

SS 88 NE

SS 88 NW

SS 88 SW

88 SE

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88 NE/29-32

1": 248

FR 25 WEST
SW/17

SS88 NE

HOLE OFF 14 WEST
SS 88NW/16

Nº8 BOREHOLE OFF 25 EAST
SS 88 NE/31

Nº3 BOREHOLE OFF 17 EAST
SS 88 NE/29

Nº7 BOREHOLE OFF 7 WEST
SS 88 NW/18

Nº4 BOREHOLE OFF 12 EAST
SS 88NE/30

Nº9 BOREHOLE OFF 7 WEST.
SS 88 NE/32

MAIN

RETURN

SLANT

NANT-GRAIGE YR. ABER

MAIN

MAIN

OFF

PENTRE SLANT

TYN-YR-HEOL

ROCK

RHYD-Y-BONTBREN

FAWR

SEAM.

ABERBAIDEN SLANT.
Nº2 BOREHOLE
SS 88SW/48

HAFOD-HEULOG

Nº1 BOREHOLE
SS88SW/78

To TONDU

ABERBAIDEN

Scale - 6" to a Mile

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130

SS 88 NE/29
8532 · 8613

34 NW

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

248/60

Underground

BORE or SHAFT at Uberbaiden Colliery Slant (No. 3) in No. 17 East Heading, (see plan for site)

County Glam. Prin. Map 34 NW GSM 70

Top of Bh. Surface level −716·56 (Bd.) O.D. One-inch Map 248.

Communicated 10·9·35 & 11·9·35 & 5·10·35 by Messrs Baldwins Ltd., Swansea.

Date of sinking June to Sept. 1935. Borer Francois Cementation Co. Ld. (H. Godde...

Specimens Bh. 3059–3119. Vert. Sect. dra...

Top of Bore is 7'8" below Rock Fawr Seam so add 7'8" to undernoted depths to get distance below Rock Fawr V...

Description	Thickness Feet	Thickness Inches	Depth
Very hard grey rock	34		34
Hard grey sandstone	90		1.4
Dark grey shale	1		125
Hard grey sandstone	16		141
Grey sandstone with coal veins & ironstone nodules	9		
Black shale with traces of coal			1..
Dark grey shale	21		17..
Dark grey fireclay	1		1..
Dark grey shale	13		186
	4		190
Grey fireclay	3		193
Dark grey shale	5		198
Not seen Coal	1	3	199 3
Strong grey fireclay	2	3	201 6
Ironstone nodules	1		202 6
Strong grey fireclay	2	6	20..
Black shale	1		20..
Very friable soft grey fireclay	6		212
Hard grey sandstone	10		222
Dark grey sandy shale	39		2..
Dark grey shale	36		341
Black shale	3		
Dark grey shale	25		..
Dark grey sandy shale	29		34..
Dark grey shale	15		360
Dark grey sandy shale	25		385
Hard broken grey sandstone	10		395
Dark grey shale	20		415
Strong dark grey sandy shale	15		430
Dark grey sandy shale	6		436
Dark grey shale	2		438
Dark grey sandy shale	3		441
Dark grey shale	18		459
	2	6	461 6
Not seen Coal		4	461 10
Dark grey fireclay w. ironstone nodules	4	2	466
Dark grey sandy shale	3		469
Hard grey rock	31		500

(B12268) Wt. 13119—0014 5000 9/27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130

SS 88 NE 12

Details of Strata from 261 to 316 ft:—

			261'
Dip 10–12°	Dk grey fine silty & fine shale (paler yellowish) with thin buff-brown sandstone bands up to 1 in. & traces of plants.	3' 0"	264
" "	Dk grey fine & silty shale, w. sandstone Naiadites, Spirorbis & ostracods & fish teeth.	1·0	265
" "	" fine & silty shale with Lingula & sandstone	1·0	266
" "	" " " Naiadites, fish scs & coprolite	1-0	267
" "	" shale, with brown sandstone bands up to 4 ins & nodules, marine shells, traces of plants, & green pyritised streaks, Lingula & Tubericulella at 268', Posidonella Nucula, Chonetes & Productus at 269', Schizodus, Homarantides, Anthracosia, Euphemites & Naticopsis at 270' and Homoerateites, Kirkbyi, Euphemites to 273–274', barren 274 to 288'.	21·0	288
" "	Strong dark shale, part silty, shaly mudstone with plants traces & some pyrites, Lingula, Megalichthys rostrum fish sc. in bottom part.	6·0	294
" "	Dark grey barren shale with sandstone bands up to 1 in.	2·0	296
" "	Dark shale with Naiadites.	1·0	297
" "	Dark grey fine & fine silty shale with sandstone nodules & bands up to 1 in (Plant traces)	11·0	308
" "	Dark grey shale with Cordaites, Calamites undulates, Neuropteris, Sphenopteris, Annularia, & with at base thin sandstone & other blank shale with ostracods.	8·0	316

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130

Name and Number of Shaft or Bore given by Geological Survey: Underground bh. No 1 East Heading, Aberaman Seam, Aberaman Colliery (Baldwins Ltd.) 1935

County Glam. SS 88 NE/24 Quarter Sheet 34 SW A

248/69

Geological Classification	Description	Thickness			Depth		
	Very broken hard grey rock		17	-		17	-
	Very hard grey rock		11	-		28	-
	" " " , broken		6	-		34	-
	Hard grey sandstone		14	-		48	-
	" " " , broken		27	-		75	-
	Hard grey sandstone		9	-		84	-
	" " " , broken		13	-		97	
	" " " " , with coal markings		11	-		108	-
	Hard grey sandstone		16	-		124	-
	Dark " shale		1	-		125	-
	Hard " sandstone		16	-		141	-
	" " " with coal veins and ironstone nodules		9	-		150	-
	Black shale		1	-		151	-
	Dark grey sandy shale		8	-		159	-
	" " shale		12	-		171	-
	" " " , broken		1	-		172	-
	" " limestone		1	-		173	-
	" " shale		17	-		190	-
	Grey limestone		3	-		193	-
	Dark grey shale		5	-		198	-
	COAL		1	3		199	3
	Strong grey limestone		2	3		201	6
	Ironstone nodules		1	-		202	6
	Strong grey limestone		2	6		205	-
	Black shale		1	-		206	-
	Very friable soft grey limestone		6	-		212	-
	Hard grey sandstone		10	-		222	-
	Strong dark grey sandy shale		5	-		227	-
	Dark grey sandy shale		34	-		261	-
	Very dark grey shale		30	-		291	-
	Black shale		3	-		294	-
	Dark grey shale		22	-		316	-
	" " " , sandy		29	-		345	-
	" " "		15	-		360	-
	" " " , sandy		25	-		385	-
	Very hard + broken grey sandstone		10	-		395	-
	Dark grey shale		20	-		415	-
	Strong dark grey sandy shale		21	-		436	-
	Dark grey shale		2	-		438	-
	" " sandy shale		3	-		441	-
	" " shale		20	6		461	6
	COAL			4		461	10
	Grey limestone w. ironstone nodules		4	2		466	-
	Hard dark grey sandy shale		3	-		469	-
	Hard grey rock		21	-		490	-
	" " sandstone		7	-		497	-
	" " rock		3	-		500	-
	Put down in 1935 by Francois Cementation Co.						
	Information collected June " , June, 1941						

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130

~~3 4 ~~

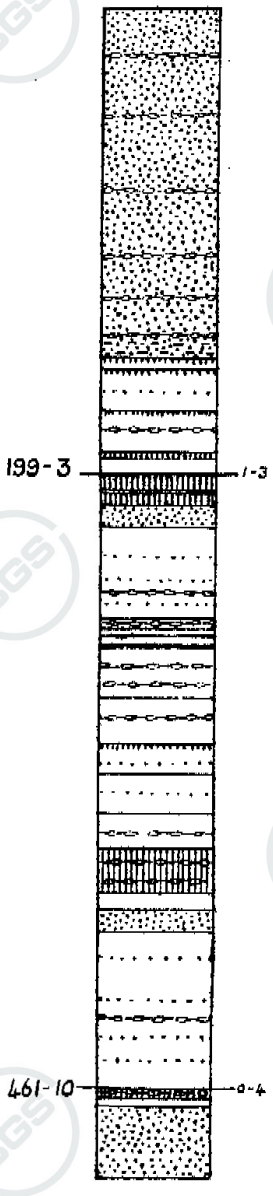
ABERBAIDEN COLLIERY

1'248

No 3 IN No 17 EAST HEADING

SS88NE/29

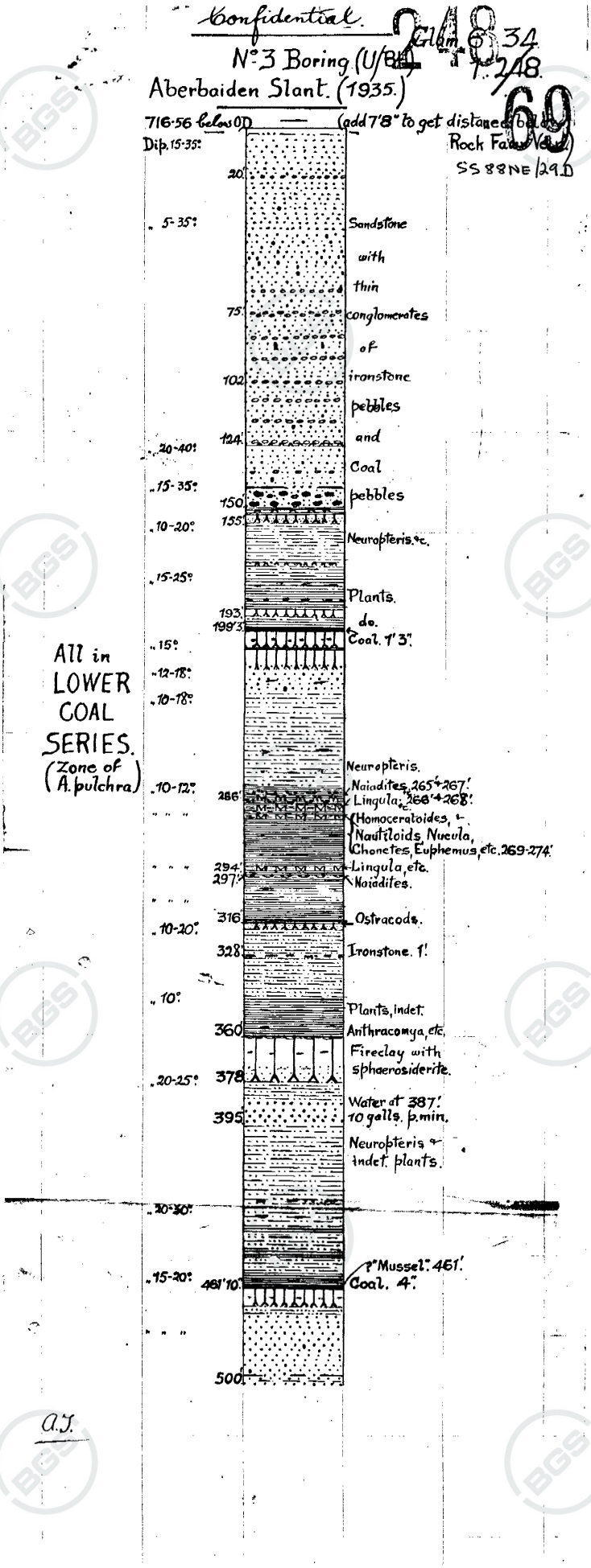
8526 8613



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

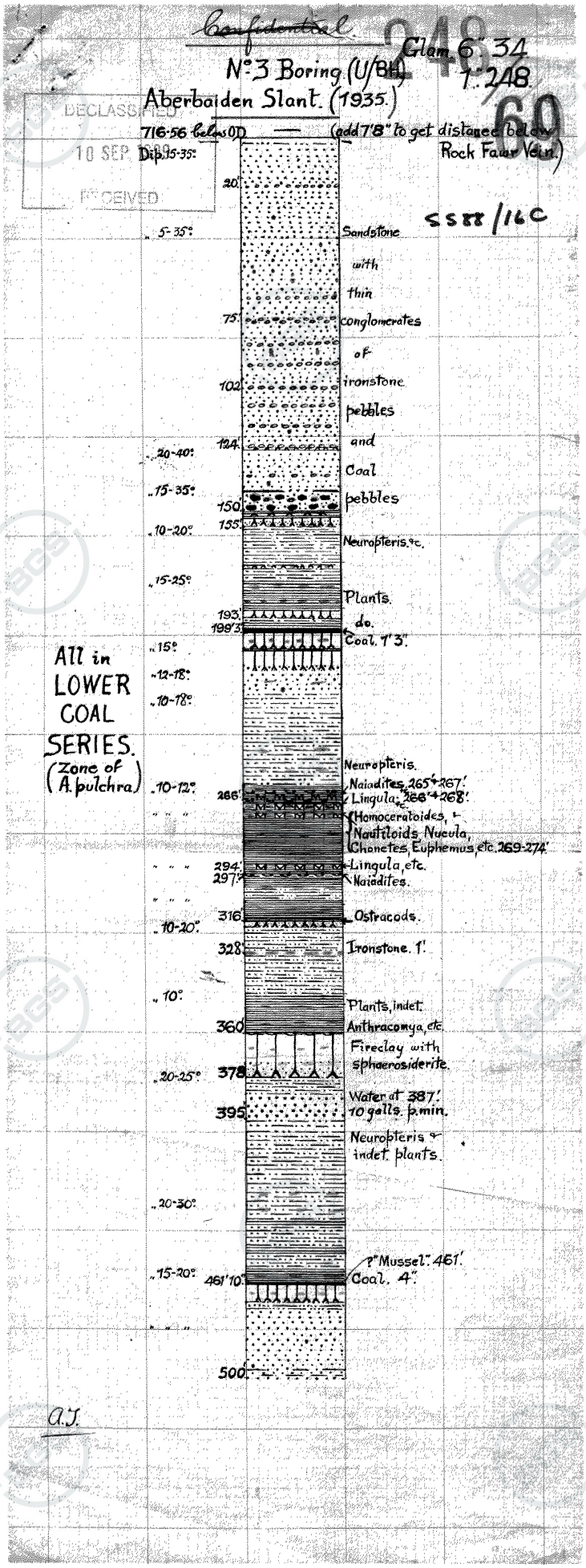
BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130



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British Geological Survey

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EPSG: 27700 : 285260,186130



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BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130

GLAM Confidential 34NW/1

34 NW GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

DECLASSIFIED 10 SEP 1999

SS 852 861

248 69

County Glam

Geol. Map 34 NW

GSM 1000/447

SS88 NE 6

Underground BORE or ~~SHAFT~~ (No 3) at Aberbaiden Colliery Slant. in No 17 East Heading (see plan for site)

Top of Bht. Surface level −716·56 (Bht) O.D. One-inch Map 248

Communicated 10·9·35 & 11·9·35 & 15·10·35 by Messrs Baldwins Ltd. Swansea.

Date of sinking June to Sept 1935. Borer Francois Cementation Co. Ltd. (Glodden Borer)

Specimens BH 3059–3119. Vert. Sect. drawn

Description	Thickness. Feet.	Thickness. Inches.	Depth. Feet.	Depth. Inches.
Top of Bore is 7'8" below Rock Fawr Seam so add 7'8" to undernoted depths to get distance below Rock Fawr Vein.				
Very hard grey rock	34		34	
Hard grey sandstone	90		124	
Dark grey shale	1		125	
Hard grey sandstone	16		141	
Grey sandstone with coal seams & ironstone nodules	9		150	
Black shale with traces of coal	1		151	
Dark grey shale	21		172	
Dark grey fireclay	1		173	
Dark grey shale	13		186	
" "	4		190	
Grey fireclay	3		193	
Dark grey shale	5		198	
Not seen Coal	1	3	199	3
Strong grey fireclay	2	3	201	6
Ironstone nodules	1		202	6
Strong grey fireclay	2	6	205	
Black shale	1		206	
Very friable soft grey fireclay	6		212	
Hard grey sandstone	10		222	
Dark grey sandy shale	39		261	
Dip 10–12° See back for details. Dark grey shale	30		291	
Black shale	3		294	
Dark grey shale	22		316	
Dark grey sandy shale	29		345	
Dark grey shale	15		360	
Dark grey sandy shale	25		385	
Hard broken grey sandstone	10		395	
Dark grey shale	20		415	
Strong dark grey sandy shale	15		430	
Dark grey sandy shale	6		436	
Dark grey shale	2		438	
Dark grey sandy shale	3		441	
Dark grey shale	18		459	
" " "	2	6	461	6
Not seen Coal		4	461	10
Dark grey fireclay w. ironstone nodules	4	2	466	
Dark grey sandy shale	3		469	
Hard grey rock	31		500	

(B12268) W4 13110—0014 5000 9/27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130

Details of Strata from 261 to 316ft:—

			261'
Dip 10-12°	Dk grey fine silty & fine shale (faint yellowtinge) with thin buff-brown ironstone bands up to 1 in. & traces of plants.	3'0"	264
" "	Dk grey fine & silty shale, w. ironstone Naiadites, Spirorbis & ostracods & fish teeth.	1·0	265
" " "	" fine silty shale with Lingula & ironstone	1·0	266
" " " " "	" Naiadites, fish oes & coprolite	1·0	267
" " "	" shale, with brown ironstone bands up to 4 ins & nodules, marine shells, traces of plants, & green pyritised streak. Lingula & Tuberculodiella at 268', Posidoniella, Naucula, Chonetes & Melocanna, & fish scales at 269', Schizodus, Homaxinetes, Orthoceras, Euphemites & Naultinia at 270' and Homoxinetes Hitchini, Euphemites at 273-274', barren 274 to 288'	21·0	288
" "	Strong dark shale, part silty, shaly mudstone, with plant traces & some pyrites, Lingula, Megalichthys tooth, fish oes in bottom foot.	6·0	294
" "	Dark grey barren shale with ironstone bands up to 1 in.	2·0	296
" "	Dark shale with Naiadites.	1·0	297
" "	Dark grey fine & fine silty shale with ironstone nodules & bands up to 1 in (plant traces)	11·0	308
" "	Dark grey shale with Cordaites, Calamites undulatus, Neuropteris Sphenopteris, Annularia, & with at base thin ironstone & thin black shale with ostracods.	8·0	316

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130

(*11932) Wt.30370/0370 10,000 9/39 A.& E.W.Ltd. Gp.685

1"248

Name and Number of Shaft or Bore given by Geological Survey: Underground bh. No 19 East Heading, 3 Rise, Garden Seam, Abertaiden Colliery (Baldwins Ltd.) 1935

County Glam. 6" Quarter Sheet 34 SW.

248

SS 88/16C 69

Geological Classification	Description	Thickness	Depth
	Very broken hard grey rock.	17 -	17 -
	Very hard grey rock	11 -	28 -
	" " " " , broken	6 -	34 -
	Hard grey sandstone	14 -	48 -
	" " " , broken	27 -	75 -
	Hard grey sandstone	9 -	84 -
	" " " , broken	13 -	97 -
	" " " " , with coal markings	11 -	108 -
	Hard grey sandstone	16 -	124 -
	Dark " shale	1 -	125 -
	Hard " sandstone	16 -	141 -
	" " " w. coal veins and ironstone nodules	9 -	150 -
	Black shale	1 -	151 -
	Dark grey sandy shale	8 -	159 -
	" " shale	12 -	171 -
	" " " , broken	1 -	172 -
	" " finclay	1 -	173 -
	" " shale	17 -	190 -
	Grey finclay	3 -	193 -
	Dark grey shale	5 -	198 -
	COAL	1 3	199 3
	Strong grey finclay	2 3	201 6
	Ironstone nodules	1 -	202 6
	Strong grey finclay	2 6	205 -
	Black shale	1 -	206 -
	Very friable soft grey finclay	6 -	212 -
	Hard grey sandstone	10 -	222 -
	Strong dark grey sandy shale	5 -	227 -
	Dark grey sandy shale	34 -	261 -
	Very dark grey shale	30 -	291 -
	Black shale	3 -	294 -
	Dark grey shale	22 -	316 -
	" " " , sandy	29 -	345 -
	" " "	15 -	360 -
	" " " , sandy	25 -	385 -
	Very hard + broken grey sandstone	10 -	395 -
	Dark grey shale	20 -	415 -
	Strong dark grey sandy shale	21 -	436 -
	Dark grey shale	2 -	438 -
	" " sandy shale	3 -	441 -
	" " shale	20 6	461 6
	COAL	4	461 10
	Grey finclay w. ironstone nodules	4 2	466 -
	Hard dark grey sandy shale	3 -	469 -
	Hard grey rock	21 -	490 -
	" " sandstone	7 -	497 -
	" " rock	3 -	500 -

Put down in 1935 by Fraser Consolidated Co.

Information collected from ... on ... June 1941

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130

SS 88/16C

BALDWINS LTD — ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C-J

F
No 6 BOREHOLE OFF 25 WEST
SS 88 NW/17

E
No 5 BOREHOLE OFF 14 WEST
SS 88 NW/16

G
No 7 BOREHOLE OFF 7 WEST
SS 88 NW/18

H
No 8 BOREHOLE OFF 25 EAST

C
No 3 BOREHOLE OFF 17 EAST

D
No 4 BOREHOLE OFF 12 EAST

J
No 9 BOREHOLE OFF 7 WEST

No 2 BOREHOLE
SS 88 SW/48

No 1 BOREHOLE
SS 88 SW/78

RETURN SLANT
MAIN
AFON
CROP
KENFIG
PENTRE SLANT
TYN-YR-HEOL
ROCK
RHYD-Y-BONTBREN
PEN-Y-BRYN
HAFOD-HEULOG
FROM PYLE
FAWR
ABERBAIDEN SLANT
SEAM
NANT-GRAIG-YR-ABER
TO TONDU
ABERBAIDEN

Scale - 6" to a Mile

Contact BGS: ngdc@bgs.ac.uk

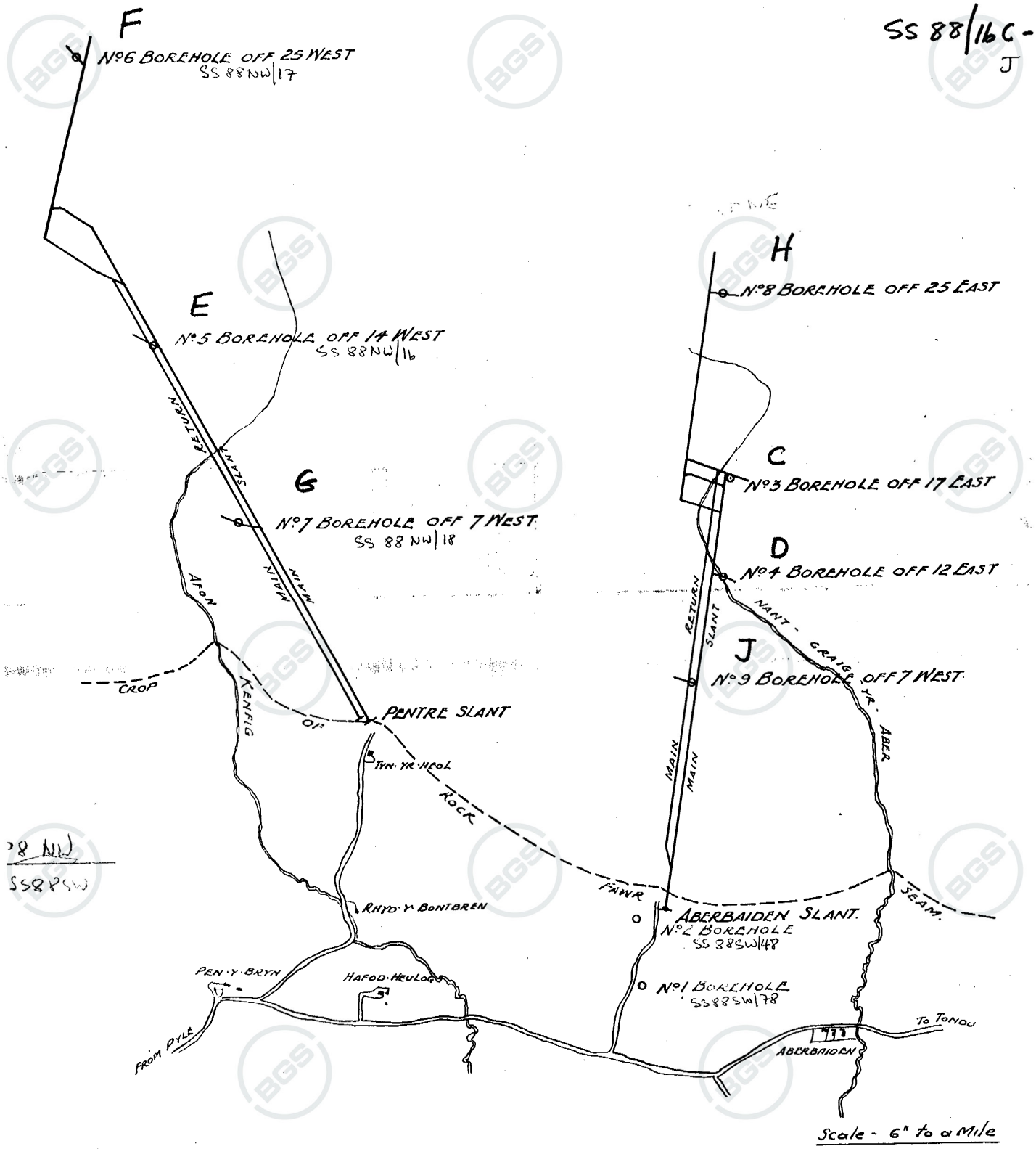
British Geological Survey
BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130

SS 88/16 H

BALDWINS LTD – ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C-J



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130

SS 88/16J

BALDWINS LTD – ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C-J

F
No 6 BOREHOLE OFF 25 WEST
SS 88 NW/17

E
No 5 BOREHOLE OFF 14 WEST
SS 88 NW/16

G
No 7 BOREHOLE OFF 7 WEST
SS 88 NW/18

H
No 8 BOREHOLE OFF 25 EAST

C
No 3 BOREHOLE OFF 17 EAST

D
No 4 BOREHOLE OFF 12 EAST

J
No 9 BOREHOLE OFF 7 WEST

ABERBAIDEN SLANT.
No 2 BOREHOLE
SS 88 SW/48

No 1 BOREHOLE
SS 88 SW/78

PENTRE SLANT

TYN-YR-HEOL

RHYD-Y-BONTBREN

PEN-Y-BRYN

HAFOD-HEULOG

ABERBAIDEN

To TONDU

FROM PYLE

CROP

ROCK

FAWR

SEAM.

MAIN

SLANT

RETURN

NANT-GRAIG-YR-ABER

AFON

KENFIG

SS 88 NW

SS 88 SW

SS 88 NE

Scale - 6" to a Mile

88 SE

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372606 : BGS Reference: SS88NE30
EPSG: 27700 : 285210,185810

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88 NE/29-32

1": 248

FR 25 WEST
SW/17

SS 88 NE

HOLE OFF 14 WEST
SS 88 NW/16

Nº8 BOREHOLE OFF 25 EAST
SS 88 NE/31

Nº3 BOREHOLE OFF 17 EAST
SS 88 NE/29

Nº7 BOREHOLE OFF 7 WEST
SS 88 NW/18

Nº4 BOREHOLE OFF 12 EAST
SS 88 NE/30

Nº9 BOREHOLE OFF 7 WEST
SS 88 NE/32

MAIN

OFF

PENTRE SLANT

TYN-YR-HEOL

ROCK

MAIN

MAIN

RETURN

SLANT

NANT-GRAIGE

YR. ABER

RHYD-Y-BONTBREN

FAWR

SEAM

ABERBAIDEN SLANT.
Nº2 BOREHOLE
SS 88 SW/48

HAFOD-HEULOG

Nº1 BOREHOLE
SS 88 SW/78

To TONDU

ABERBAIDEN

Scale - 6" to a Mile

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372606 : BGS Reference: SS88NE30
EPSG: 27700 : 285210,185810

SS 88 NE 30

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS. 248/76

County Glam.

BORE or SHAFT No. 4, Aberbaiden Colliery, off No. 12 E. Heading, Aberbaiden Slant, (See plan for site) 6-in. Map 34 NW. GSM 7090/4451.

Surface level Top of Bore 386 Below O.D. One-inch Map 1"/48.

Communicated 21·2·36 & 2-3-36. by Baldwins, Ltd., Swansea.

Date of sinking 7·12·35 to 28·2·36. Borer François Cementation Co. Ltd. (J. Godden Borer)

Specimens Bb.4210-4246. Rock Favr Seam is 2'10" thick at Bore. Dip of Seam 13 in. p. yard. Vert. section drawn

Description	Thickness Feet.	Thickness Inches.	Depth Feet.	Depth Inches.
Top of bore to 2'3" above base of Rock Favr Seam. Do Dublicate 2'3" forgot undrnoted depths to get distance above Rock Favr Seam				
Dip 15° 23° Strong grey silty clay with constant bedding Dark grey fireclay	3		3	
Strong grey sandy shale with vertical joint Grey sandy shale (roots & much coal in 2 ft. of sandy shale)	7		10	
0-35° with constant bedding. Grey coal, fine to v. fine sandy rock coarse, non-laminated, speckled with coal & carbonaceous matter, shaly in places & vertical joints at top. Hard grey rock (Parts of 6 in. & 6 ins. over 5 ft. contain numerous ironstone nodules. Fossils: Lingula mytiloides 23-26', 37, 43, 49, 63 & 70, 78 (Lin) 82 (coal 86) 101 ft.)	92		102	
Coal, plant & root plant stems.				
18-25° at Bkg. Uniform grey soft rock mostly massive, with some soft patches, shaly from 104 to 108, 110, 112, 115, 119 (9 in) with some coal pebbles & coal flecks. Hard grey sandstone with coal markings & ironstone nodules	13		115	
10-25° at Bkg. As above with several friable & shaly layers & vertical joints (1 at 124) Grey sandstone	12		127	
10-25° at Bkg. As above, grey sandstone with coaly flecks throughout & fair bands (1 ft) of fine grained sandstone. Stress zone at 138 (Lin) 136, 139 (Lin) 144-150 (Coal 146) Hard grey sandstone	24		151	
0-15° at Bkg. Grey sandstone as above with many coaly flecks & coal & shaly & sandy plants, medium to fine grained. Grey sandstone with coal markings	5		156	
Dk. grey to black shaly slightly silty clay with bedding & vertical joints & ironstone nodules. Dark grey shale	1		157	
Approx 15° As above, broken joints shiny on some joints. Dark to dark grey strong fireclay with nodules & ironstone nodules. broken with ironstone nodules	2	6	159	6
" " " " " "	3	6	163	
Strong silty to sandy clay with many small fossils & fine sandy partings. Grey sandstone	4		167	
18-20° at Bkg. c. 18°. Soft grey & grey mottled shaly clay & sandy pebble. Dark grey shaly sandstone	13		180	
Fine grey shale (1 ft) & plants, laminated, shaly in places, with ironstone nodules & plants & 2 coaly & 2 ft. clay & shale. Strong dark grey shale	3		183	
Dark grey fireclay with roots to firm, dk. nodules. Rotten " " "	2		187	
Dark grey fireclay with rootlets & iron conc. nods. Strong " " "	1	6	188	6
Soft & shaled as above finishing at 22' Rotted " " "	1	6	190	
12-15° Dark grey shale with ironstone nodules & plants. Strong " " "	14		204	6
Carbonaceous Calamites, Neuropteris, Cyclopteris, Sphenopteris, Stigmaria & a few rootlets. Fairly good coal with some dirt & pyrites flakes (Gulch coal) Coal	1	3	205	9
As described. Dark grey fireclay with ironstone nodules.	2	9	208	
12-15° Fine to strong & silty dark grey shale with many fossil stems & a few coaly stems. Soft & marked up with rootlets. Dark grey shale	5		213	
Hard grey (from coal) shot fine to medium & soft to friable grey fireclay with well laminated fine grained sandy shales (dark grey to white) & plant & pyrites. Very soft friable grey fireclay	3		216	
20-25° at Bkg. Grey sandstone	10		226	
15-20° Dark grey fine grained sandy shale with laminated dirty black carbonaceous & micaceous bands & a few ironstone bands at base. Dark grey sandy shale	11		237	
A little slickensiding in places. c. 15° Strong black silty shale with thin iron stone & indet carbonised plants. Black shale with traces of coal	3		240	
Partly slickensided in places. c. 10-15° Strong mottled dark grey silty & fine grained well laminated shale & silt with orientated plants & thin ironstone bands 22' to 262'. Dark grey sandy shale	30		270	
12-14° on 1 ft dark & dirty grey fine & silty shale with plants & nodules at top; & ironstone (coal) Schizodus & Conularia Sowerbyi, etc. 9' 6 272' (ironstone bands up to 2 ins. full of plants)				

(B12268) · Wt. 13119—0014 5000 9/27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372606 : BGS Reference: SS88NE30
EPSG: 27700 : 285210,185810

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHEETS.

SS 88 NE/30

B.H. No. 4 Aberbaiden
Off No. 12 E. Heading (cont.)

Folio
County
6 in. Map 34 NW

Description.	THICKNESS. Feet.	Inches.	DEPTH. Feet.	Inches.
Brot. forward			270	.
Dark grey shale	44	.	314	.
Dark grey greasy shale	5	.	319	.
Strong dark grey sandy shale	34	.	353	.
Dark grey sandy shale with ironstone bands.	7	.	360	.
Dark grey shale	3	.	363	.
Coal.	.	3	363	3
Dark grey rashing.	.	9	364	.
Dark grey sandy shale or fireclay	2	9	366	9.
Very hard broken grey rock	19	3	386	.

(B12267) Wt. 13119A—0014 5000 9.27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372606 : BGS Reference: SS88NE30
EPSG: 27700 : 285210,185810

Ft.30370/0370 10,000 9/39 A.& E. ...

SS 88 NE 130 / 140

and Number of Shaft or Bore given by Geological Survey:

County Glam.

6" Quarter Sheet 34 S.E.

Underground Bh., No 123 East Heading, Aberaman Seam, Aberaman Colliery (Baldwins Ltd.) 1935-6

248/70

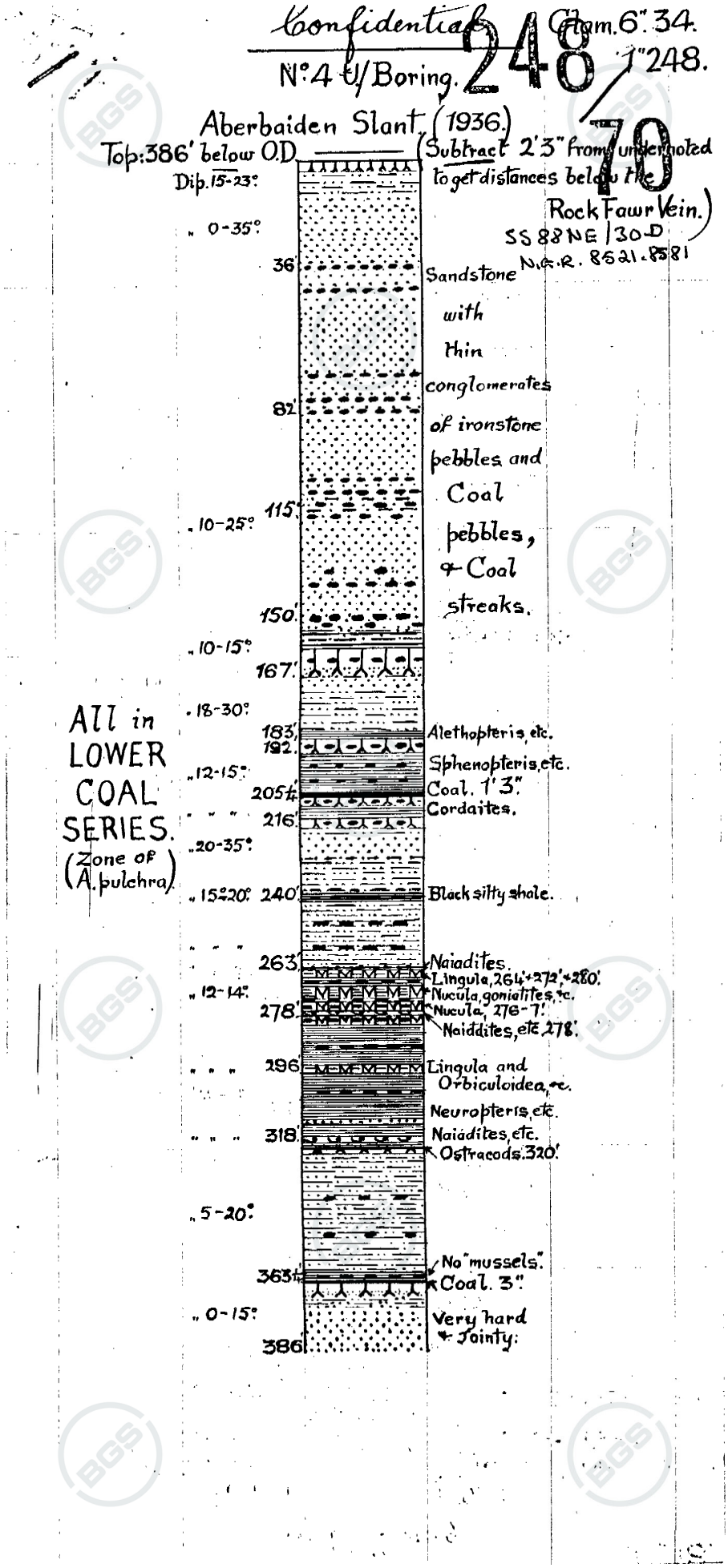
GEOLOGICAL CLASSIFICATION	DESCRIPTION	THICKNESS Ft.	In.	DEPTH Ft.	In.
	Grey fireclay			3	-
	Dark grey sandy shale	7	-	10	-
	Very broken hard grey rock	2	-	12	-
	Hard grey rock	14	-	26	-
	Very hard broken grey rock	14	-	40	-
	Hard grey rock	4	-	44	-
	Very hard broken grey rock	6	-	50	-
	Hard grey rock	19	-	69	-
	" " " w. vertical joints	11	-	80	-
	Hard grey rock	12	-	92	-
	" " , broken	7	-	99	-
	Hard grey rock	3	-	102	-
	" " sandstone with coal markings and ironstone nodules	13	-	115	-
	Hard grey sandstone	36	-	151	-
	Grey sandstone w. coal markings	5	-	156	-
	Dark grey shale	1	-	157	-
	" " , rotten	2	6	159	6
	" " with ironstone nodules	3	6	163	-
	Grey sandstone	4	-	167	-
	Grey shaly sandstone	13	-	180	-
	Dark grey shale	5	-	185	-
	Rotten dark grey shale	2	-	187	-
	Dark grey shale	1	6	188	6
	" " " , rotten	1	6	190	-
	Dark grey shale	14	-	204	-
	COAL	1	3	205	3
	Dark grey fireclay w. ironstone nodules	3	9	209	-
	Dark grey shale	4	-	213	-
	Very soft friable grey fireclay	3	-	216	-
	Grey sandstone	10	-	226	-
	Dark grey sandy shale	11	-	237	-
	Black shale w. traces of coal	3	-	240	-
	Dark grey sandy shale	30	-	270	-
	Dark grey shale	49	-	319	-
	Strong dark grey sandy shale	34	-	353	-
	Dark grey sandy shale w. ironstone bands	7	-	360	-
	Dark grey sandy shale	3	-	363	-
	Rotten dark grey shale	1	-	364	-
	COAL		3	364	3
	Hard dark grey sandy shale	1	9	366	-
	Very hard grey rock	4	-	370	-
	" " " " , broken	16	-	386	-

Put down by Francis Granulation Co., 1935-6

Information received from F.C.Co., June, 1941

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372606 : BGS Reference: SS88NE30
EPSG: 27700 : 285210,185810



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
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EPSG: 27700 : 285210,185810

~~3 4 NW/2~~

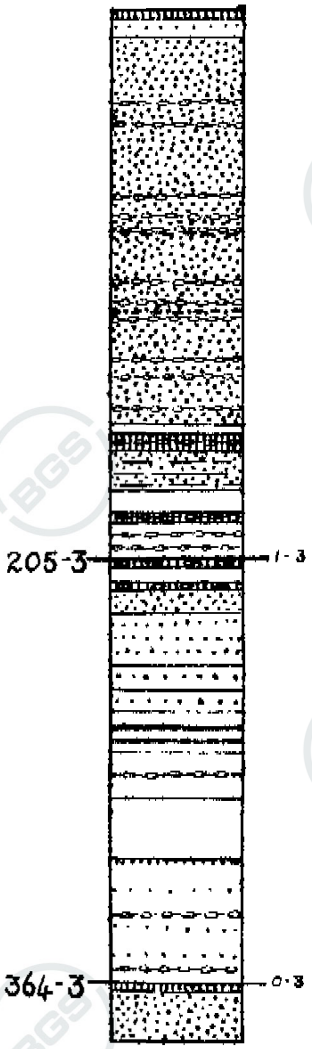
ABERBAIDEN COLLIERY

1"248

No. 4 IN No. 12 EAST HEADING

SS 88 NE/30 D

8521 8581



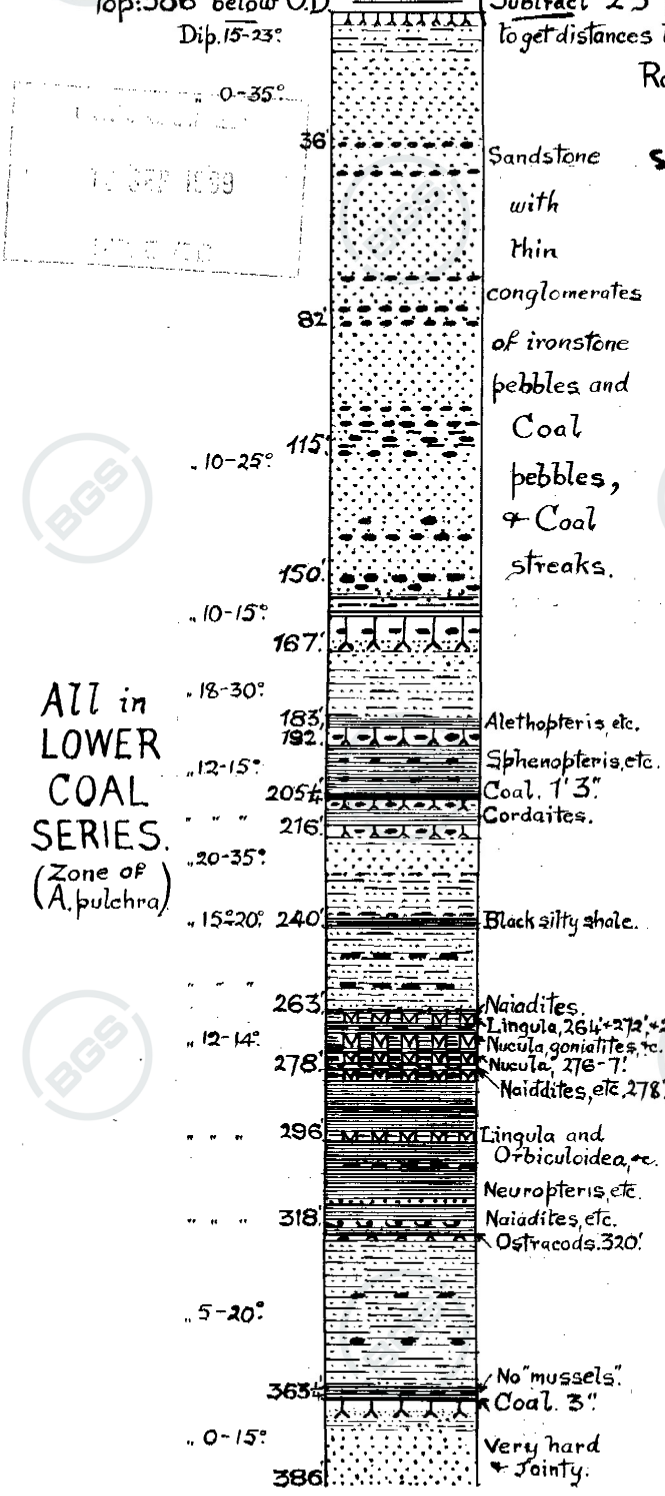
Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372606 : BGS Reference: SS88NE30
EPSG: 27700 : 285210,185810

Confidential 248 Diam. 6". 34.
N°4 U/Boring. 248/70 1"248.

Aberbaiden Slant. (1936.)
Top: 386' below O.D. (Subtract 2'3" from undernoted to get distances below the Rock Fawr Vein.)

SS88 /16D



Contact BGS: ngdc@bgs.ac.uk

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EPSG: 27700 : 285210,185810

GLAM 34NW/2

Confidential

34NW

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS. 248

Underground 70

County Glam. 6-in. Map 34 NW.

BORE or SHAFT No. 4, Aberbaiden Colliery, off No. 12 E. Heading, Aberbaiden Slant, (See plan for site) GSM 7000/4481. SS88/16D

Surface level Top of Bore 386 Below O.D. One-inch Map 1" 248. SS 852 857

Communicated 21·2·36 & 2·3·36. by Baldwins, Ltd., Swansea.

Date of sinking 7·12·35 to 28·2·36. Borer Francis Construction Co. Ltd. (J. Godden, Borer)

Specimens B6.4210-4246. Rock Four Seam is 2'10" thick at Bore Dips of Seam 13 in p. yard Vert. section drawn

Top of bore is 2'3" above base of Rock Four Seam
Do Sublevel 2'3" Footwall marked depths to get distance below Rock Four Seam

Description	Thickness Feet	Thickness Inches	Depth Feet	Depth Inches
Dark grey fireclay	3		3	
Grey sandy shale (roots, climb on 2 ft. of sandy shale)	7		10	
Hard grey rock	92		102	
Hard grey sandstone with coal markings & ironstone nodules	13		115	
Grey sandstone	12		127	
Hard grey sandstone	24		151	
Grey sandstone with coal marking	5		156	
Dark grey shale	1		157	
" " " broken with ironstone nodules	2	6	159	6
Grey sandstone	3	6	163	
Dark grey shaly sandstone	4		167	
Strong dark grey shale	13		180	
Rotten " " "	3		183	
Strong " " "	2		185	
Rotten " " "	1	6	187	6
Strong " " "	1	6	189	
Coal	1	3	205	3
Dark grey fireclay with ironstone nodules, As described.	2	9	208	
Dark grey shale	5		213	
Very soft friable grey fireclay	3		216	
Grey sandstone	10		226	
Dark grey sandy shale	11		237	
Black shale with traces of coal	3		240	
Dark grey sandy shale	30		270	

(B12268) Wt. 13119—0014 5000 9/27 Dp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372606 : BGS Reference: SS88NE30
EPSG: 27700 : 285210,185810

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

N.B.C. No. 4 Aberbaiden
Off No. 12 E. Reading (cont.)

Folio

County Glam 248

6 in. Map 34 NW 70

SS88/160

Description.	THICKNESS. Feet	Inches	DEPTH. Feet	Inches
Brot. forward			270	.
Dark grey shale	44	.	314	.
Dark grey greasy shale	5	.	319	.
Strong dark grey sandy shale	34	.	353	.
Dark grey sandy shale with ironstone bands.	7	.	360	.
Dark grey shale	3	.	363	.
Coal.	.	3	363	3
Dark grey rashing.	.	9	364	.
Dark grey sandy shale or fireclay	2	9	366	9.
Very hard broken grey rock	19	3	386	.

(B12267) Wt. 13119A—0014 5000 9.27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

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EPSG: 27700 : 285210,185810

(*11932) Wt.30370/0370 10,000 9/39 A.& E.W.Ltd. Gp.685

1"248

Name and Number of Shaft or Bore given by Geological Survey:

Underground B.H., No 123 East Heading, Aberaman Seam, Aberaman Colliery (Baldwins Ltd.) 1935-6

County Glam.

6" Quarter Sheet 34 SW.

SS88/16D

248/70

Geological Classification	Description	Thickness		Depth	
	Grey limestone			3	-
	Dark grey sandy shale	7	-	10	-
	Very broken hard grey rock	2	-	12	-
	Hard grey rock	14	-	26	-
	Very hard broken grey rock	14	-	40	-
	Hard grey rock	4	-	44	-
	Very hard broken grey rock	6	-	50	-
	Hard grey rock	19	-	69	-
	" " " w. vertical joints	11	-	80	-
	Hard grey rock	12	-	92	-
	" " " , broken	7	-	99	-
	Hard grey rock	3	-	102	-
	" " sandstone with coal markings and ironstone nodules	13	-	115	-
	Hard grey sandstone	36	-	151	-
	Grey sandstone w. coal markings	5	-	156	-
	Dark grey shale	1	-	157	-
	" " " , rotten	2	6	159	6
	" " " with ironstone nodules	3	6	163	-
	Grey sandstone	4	-	167	-
	Grey shaly sandstone	13	-	180	-
	Dark grey shale	5	-	185	-
	Rotten dark grey shale	2	-	187	-
	Dark grey shale	1	6	188	6
	" " " , rotten	1	6	190	-
	Dark grey shale	14	-	204	-
	COAL	1	3	205	3
	Dark grey limestone w. ironstone nodules	3	9	209	-
	Dark grey shale	4	-	213	-
	Very soft friable grey limestone	3	-	216	-
	Grey sandstone	10	-	226	-
	Dark grey sandy shale	11	-	237	-
	Black shale w. traces of coal	3	-	240	-
	Dark grey sandy shale	30	-	270	-
	Dark grey shale	49	-	319	-
	Strong dark grey sandy shale	34	-	353	-
	Dark grey sandy shale w. ironstone bands	7	-	360	-
	Dark grey sandy shale	3	-	363	-
	Rotten dark grey shale	1	-	364	-
	COAL		3	364	3
	Hard dark grey sandy shale	1	9	366	-
	Very hard grey rock	4	-	370	-
	" " " " , broken	16	-	386	-

Bore done by François Consolidation Co., 1935-6

Information collected from F.C. Co., June, 1941

Contact BGS: ngdc@bgs.ac.uk

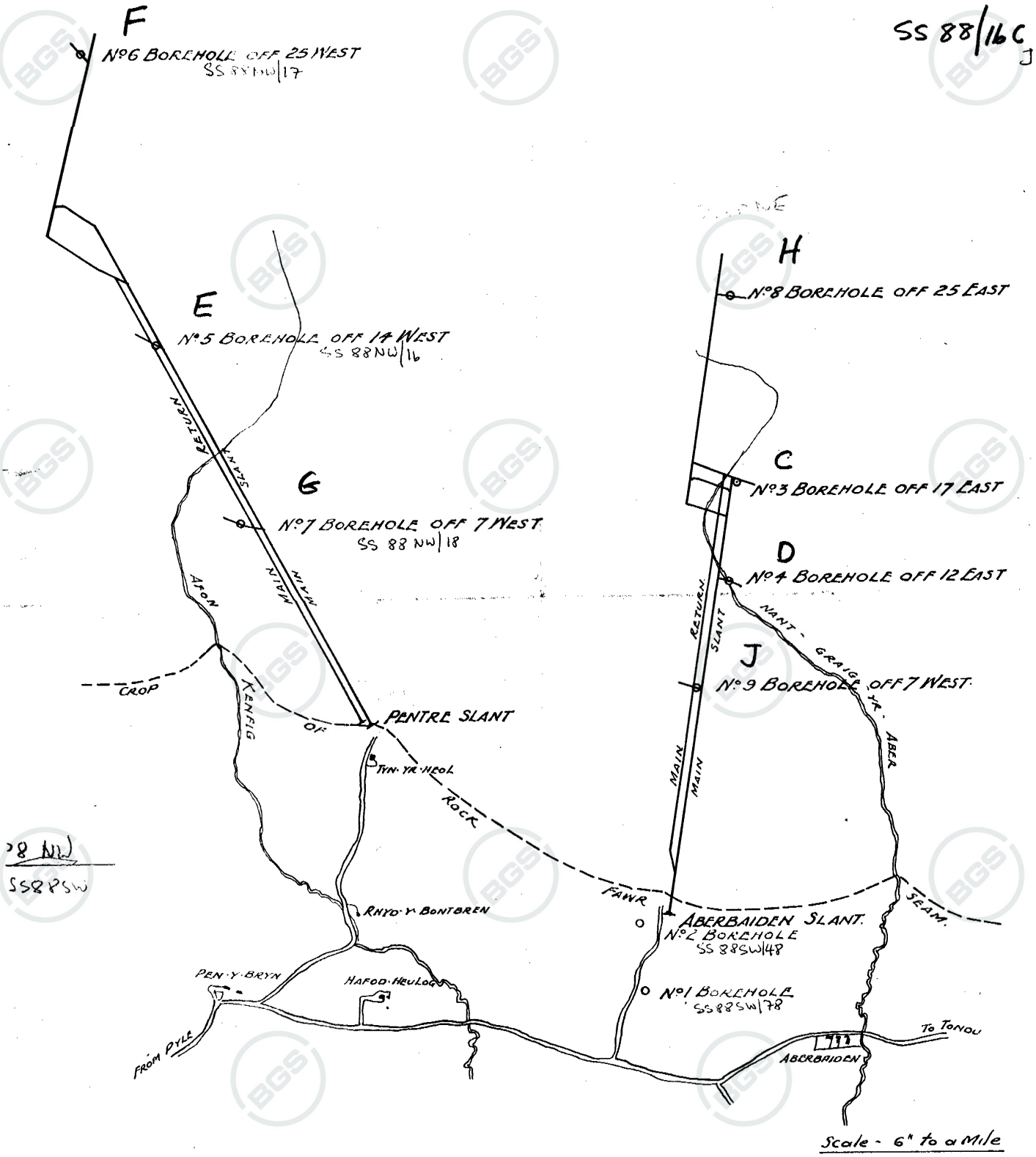
British Geological Survey
BGS ID: 372606 : BGS Reference: SS88NE30
EPSG: 27700 : 285210,185810

SS 88/16D

BALDWINS LTD – ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C



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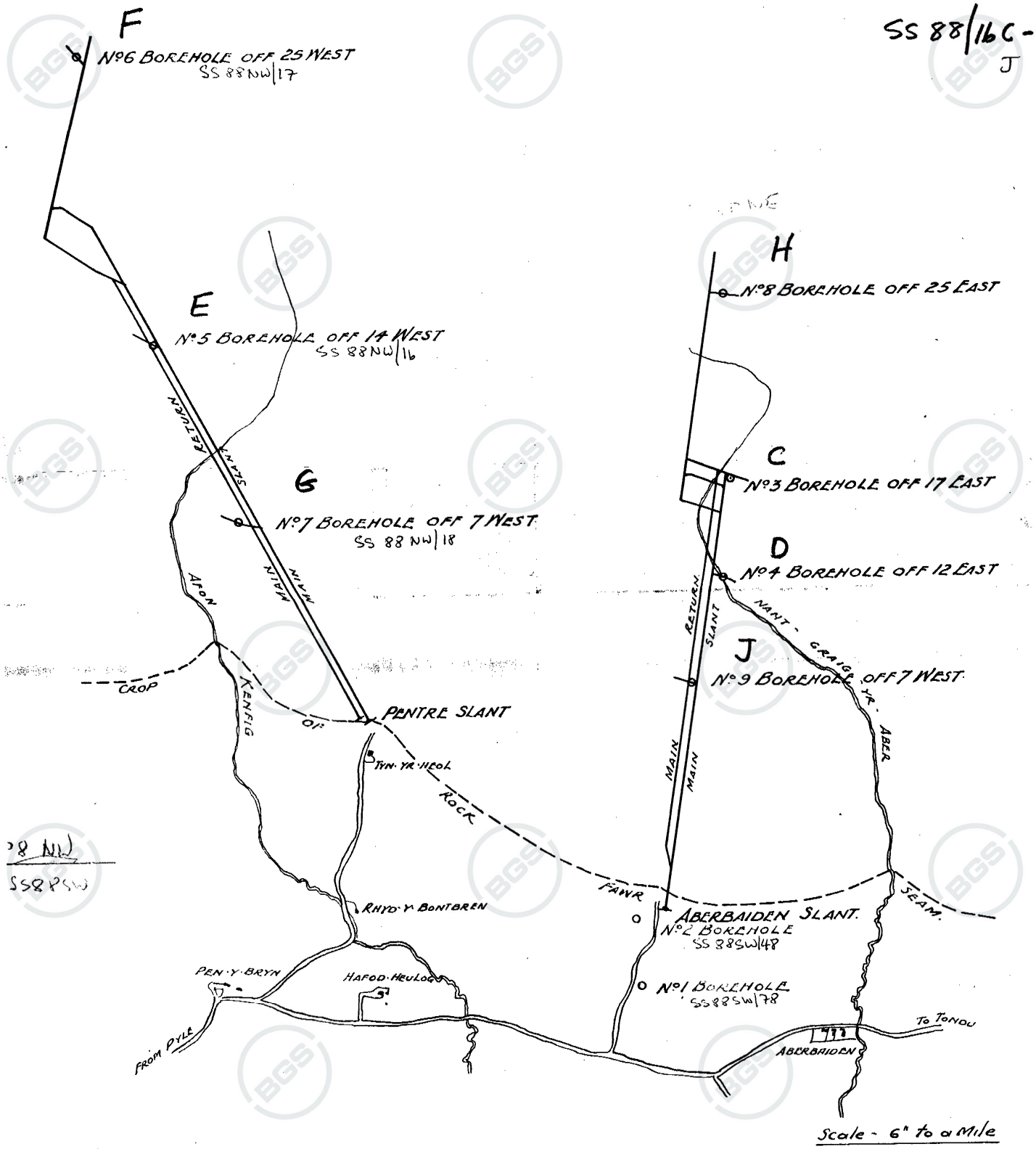
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EPSG: 27700 : 285210,185810

SS 88 /16 H

BALDWINS LTD – ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C - J



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BGS ID: 372606 : BGS Reference: SS88NE30
EPSG: 27700 : 285210,185810

SS88/16D 248 15

75

20.11.37

Hard Shaly Rock.	From	234 feet to 239 feet.
Strong Dark Grey Shale.	"	239 feet to 245 feet.
Broken Black Shale.	"	245 feet to 247 ft 6 ins.
Dark Grey Shale.	"	247 ft 6 ins to 267 feet.

27.11.37

Dark Grey Shale.	"	267 feet to 273 feet.
Dark [redacted] Shale with Ironstone Nodules.	"	273 feet to 295 feet.
Very [redacted] Grey Shale.	"	295 feet to 302 ft 6 ins.
Dark Grey Shale.	"	302 ft 6 ins to 304 ft 6 ins.

4.12.37

Dark Grey Shale with Ironstone Nodules.	"	304 ft 6 ins to 307 feet.
Dark Grey Shale.	"	307 feet to 311 feet.
Dark Grey Shale with Ironstone Nodules.	"	311 feet to 316 ft 6 ins.
Dark Grey Shale.	"	316 ft 6 ins to 331 feet.
Strong Dark Grey Shale.	"	331 feet to 332 ft 6 ins.

11.12.37

Dark Grey Shale.	"	332 ft 6 ins to 340 feet.
Hard Broken Grey Rock.	"	340 ft to 343 feet.
Hard Shaly Rock.	"	343 feet to 346 ft 3 ins.
Strong Dark Grey Shale.	"	346 ft 3 ins to 353 ft 6 ins.
Dark Grey Shale with Ironstone Bands.	"	353 ft 6 ins to 364 feet.

18.12.37

Dark Grey Shale with Ironstone Bands.	"	364 feet to 366 ft 9 ins.
Dark Grey Shale.	"	366 ft 9 ins to 368 ft 2 ins.
Broken Dark Grey Shale.	"	368 ft 2 ins to 368 ft 8 ins
COAL.	"	368 ft 8 ins to 370 ft 2 ins.
Soft Grey Fireclay.	"	370 ft 2 ins to 370 ft 11 ins.
Strong Grey Fireclay.	"	370 ft 11 ins to 371 ft 6 ins.
Grey Sandy Fireclay.	"	371 ft 6 ins to 373 ft 4 ins.
Shaly Fireclay with Ironstone Nodules.	"	373 ft 4 ins to 375 ft 4 ins.
Strong Sandy Shale.	"	375 ft 4 ins to 378 feet.
Dark Grey Fireclay.	"	378 feet to 380 ft 3 ins.
Hard Grey Rock.	"	380 ft 3 ins to 381 ft 6 ins.
Left down hole.	"	381 ft 6 ins to 382 feet.

Copied for Gland. file 6' 34

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SS 88/16J

BALDWINS LTD – ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C-J

F
No 6 BOREHOLE OFF 25 WEST
SS 88NW/17

E
No 5 BOREHOLE OFF 14 WEST
SS 88NW/16

G
No 7 BOREHOLE OFF 7 WEST
SS 88 NW/18

SS88 NE

H
No 8 BOREHOLE OFF 25 EAST

C
No 3 BOREHOLE OFF 17 EAST

D
No 4 BOREHOLE OFF 12 EAST

J
No 9 BOREHOLE OFF 7 WEST

ABERBAIDEN SLANT.
No 2 BOREHOLE
SS 88SW/48

No 1 BOREHOLE
SS88SW/78

PENTRE SLANT

RETURN SLANT

MAIN

MAIN

MAIN

RETURN

CROP

RHYD-Y-BONTBREN

PEN-Y-BRYN

HAFOD-HEULOG

TYN-YR-HEOL

ROCK

FAWR

SEAM

NANT-GRAIG-YR-ABER

FROM DYLE

To TONDU

ABERBAIDEN

Scale - 6" to a Mile

SS 88 NW

SS 88 SW

88 SE

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372609 : BGS Reference: SS88NE33
EPSG: 27700 : 285392,185575

FORM P 70
SERIES 680

Section of MARGAM BOREHOLE NO.7 (Craig-y-Aber)

Purpose To prove the succession down to the Gellideg seam

Exact Site N.G.R. E.285392. N.185575

Level at which bore commenced relative to O.D. 10,379.74 ft*

Date of sinking or boring July 1976

Sinker or borer NATIONAL COAL BOARD

6-INCH MAP	B/H REGD. No.
SS 88 NE/33 (County, Sheet and Qtr.)	
1" : 248 (Nat. Grid, Sheet & Qtr.)	

Attach tracing from a map or sketch map if possible

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	THICKNESS in*	DEPTH ft*	DEPTH in*
H.Q. size core	CORING COMMENCED AT			1003	3½
	Sandstone, light grey, very coarse grained (some quartz grains up to ¼"), massive, coarsening downwards. Bottom 6 in. is grit. A few grains are chloritised and some scattered rosy quartz? Felspatic individual grains are subrounded	3	8½	1007	0
	Sharp erosive base onto Sandstone, medium grey, fine grained with laminations of light grey coarse grained sandstone and occasional band of grit. Some laminations are planty. 3 in. grit band at 1007'6" with erosive base onto		9	1007	9
	Mudstone, medium grey, occasional thin iron stone band. Poorly bedded. Open vertical joint at 1008'6". Small specks of pyrites on polished surface at 1009'11". Wormy from 1010'0", becoming fairly well bedded	3	6	1011	3
Dip 13° @ 1010'6"	Sandstone, medium grey, medium grained. Slightly quartzitic. Dark silty laminations especially top 6 in. micaceous. Carbonaceous wisps at 1013/-. Massive in base. Erosive base onto	3	5	1014	8
	Mudstone, silty, grey, light grey, sandy laminations in top 3 in. Sandy band @ 1015/- Scattered plant debris, fairly massive. Closed vertical joint at 1015/6. 2 in. muddy band at 1016/6 packed with plant debris (and large Calamites) Some are coaly with pyrite replacement. Scattered roots below. 2 in. sandy band at 1018/-	3	10	1018	6
				.../	

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372609 : BGS Reference: SS88NE33
EPSG: 27700 : 285392,185575

FORM P 71
SERIES 880

6-INCH MAP

Section of MARGAM BOREHOLE NO.7 (Craig-y Aber)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	THICKNESS in*	DEPTH ft*	DEPTH in*
	B/F			1018	6
	Siltstone, grey with light grey sandy laminations. Occasional roots, sandy bands locally. Large lens of sandstone at 1022/-	4	0	1022	6
	Quartzite, light grey, massive with vertical quartz filled veins at 1022/9 and horizontal slickensided quartz parting with pyrite crystals at 1023/-. Pyrite film on vertical veining at 1025/-. Silty laminations develop from 1024/9. Some partings are packed with plant debris	3	0	1025	6
Dip 12° @ 1029/6	Sandstone, fine grained, medium grey with silty laminations and bands, planty partings, sandstone is cross-bedded with load structures	3	6	1028	0
	Mudstone, silty, grey with sandy laminations and thin bands. Scattered plant debris. Sub-vertical joint with pyrite infill at 1030/9. Ironstone bands from 1037/-	13	0	1041	0
	Siltstone, coarse grained, grey with occasional sandy lamination. Massive. Scattered plant debris. Sandy locally	1	0	1042	0
	Sandstone, fine grained, grey, massive, scattered plant debris, slightly micaceous, silty bands develop from 1044/-	3	0	1045	0
Dip 9°@ 1045/6	Siltstone, grey, sandy bands locally. Scattered plant debris. Two 70° degrees joints with quartz and pyrite infill at 1046/6	5	0	1050	0
	Mudstone, silty, grey, scattered plant debris and sandy bands. Tough, becoming massive	9	6	1059	6
Dip 12° @ 1066/6	Mudstone, medium grey, slightly silty, barren in top. Several polished surfaces with small crystals at 1061/8. Vertical joint surface with pyrite film from 1062/- to 1063/- Fairly soft down to 1063/-, becoming firmer. Faintly wormy from 1063/2, becoming wormy, some large worm burrows. Thin ironstone bands from 1063/6. Pyrite infilling worm burrow at 1065/-. Pinhead ironstone blebs just below. Silty from 1068/6 to 1069/-. Vertical joint and pyrite fill at 1069/4. Crushed shell fragment with pyrite replacement at 1070/3. Scattered pinhead ironstone. Vertical joint with pyrite infill at 1071/-. ½" soft, sheared ground parallel to bedding at 1071/3. Crushed mussel fragment at 1071/6. Vertical jointing at 1071/6 and at 1072/6 Lingula shell at 1072/2. Faint ~~C.~~ carbonaria to 1076/- becoming			***/	

XPU.918

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372609 : BGS Reference: SS88NE33
EPSG: 27700 : 285392,185575

FORM P 71
SERIES 680

6-INCH MAP	B.H.
SS 88NE/33	

Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	in*	DEPTH ft*	in*
	B/F			1059	6
	Mudstone, soft and friable at 1072/6 to 1073/-. Mudstone, becoming dark grey from 1075/-. 8" of vertical pyrite filled jointing at 1075/- and at 1077/6 Scattered pinhead ironstone from 1076/- Wormy. Slickensided mainly towards base. Darker in bottom 2 in. Dip c. 12 degrees	20	8	1080	2
	COAL, core	1	1	[illegible]	3
	Mudstone, brownish grey with listric surfaces and roots - seatearth. Some flaky layers, darker below 1083/- to 1083/3. Passing into	2	0	1083	3
	Mudstone, dark grey to black, numerous listric surfaces. Occasional plants. Patches of sphaerosiderite. Slightly silty bands below 1084/- Seatearth. Passing into	1	3	1084	6
	Mudstone, silty, grey. Plant remains, stems and cordaites leaves. Irregular bedding. Passing into	3	0	1087	6
	Ironstone, sheared		6	1088	0
	Mudstone, slightly silty. Grey. Plant stems and cordaites leaves. Patches of ironstone. Annularia. Film of pyrite in vertical joint. Dip at 1090'0 - 15°. Passing into	7	0	1095	0
	Mudstone, silty. Rare small plant fragments. Dip c. 25° at 1096/- and 15° at 1099/6. Passing into	4	6	1099	6
	Sandstone, light grey, micaceous with darker silty bands. Passing into	1	0	1100	6
	Mudstone, silty, grey with a few plant stems and cordaites leaves. Passing into	1	3	1101	9
	Siltstone, grey with thin sandy bands - faintly striped. Comminuted plant fragments layers. Dip 15 degrees. Faint vertical joint, mineralised Passing into	7	3	1109	0
	Siltstone, muddy, grey with occasional thin sandy bands and wisps layers of comminuted plant fragments. Passing into	9	0	1118	0
	Sandstone, light grey, coarse, micaceous, massive. Occasional small ironstone pebbles and flattened siltstone pebbles at 1119/6 to 1120/- Some thin coalified plant layers. Few inclusions or coaly streaks but coarser below 1135/-. Passing into	36	3	1154	3
	Mudstone, grey. Thin ironstone layers. Listric surfaces and slickensides parallel to bedding. Dip 15 degrees darker below 1158/3. Wormy bands Planolites at 1159/6 . Passing				

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FORM P 71
SERIES 680

6-INCH MAP

Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	in*	DEPTH ft*	in*
	B/F			1160	0
	Mudstone, black, fissile. Pimply.Ostracods? at 1160/8. Fish scales. A few pyrite blebs. Pyrite film in oblique joint at 1060/10.Passing into				
	Mudstone, grey. Thin ironstone bands and associated pressure markings. Some slickensiding, wormy.Bottom 1 inch black and carbonaceous	4	3	1164	3
	COAL, core	1	9	1166	0
	Mudstone, grey with roots and listric surfaces - seatearth. Passing into	1	0	1167	0
	Sandstone, with roots, including Stigmaria - seatearth. Passing into	1	9	1168	9
	Siltstone, grey, muddy - with plant stems and bark impressions. Dip c. 17°. Passing into	1	7	1170	4
	Siltstone/sandstone striped beds, carbonaceous layers. Passing into		5	1170	9
	Mudstone, grey. Faintly wormy. Occasional plant stems. Dip 18°.Passing into	1	2	1171	11
	Mudstone, dark grey to black in bottom 2". Fish fragments ? Mussel		5	1172	4
	COAL, core	1	4	1173	8
	Mudstone, slickensided, ½" coal band at base 45 degrees junction with next item		1	1173	9
	Mudstone, slightly silty, brown with roots - seatearth. Passing into	3	0	1176	9
	Mudstone, slightly silty, grey with roots and ironstone nodules - seatearth. Passing into	2	9	1179	6
	Mudstone, with plant remains, stems and a few roots. Sheared at 1181/5. Passing into	2	6	1182	0
	Mudstone, very slightly silty. A few plants, leaflets etc. A few listric surfaces and a little slickensiding Dip 15 degrees	2	7	1184	7
	COAL, fragments		4	1184	11
	Black rashes		1	1185	0
	Dark grey rashes		6	1185	6
	Mudstone, grey with plant remains, stems and bark. Passing into	1	6	1187	0
	Siltstone, muddy, grey, plant remains and roots. Passing into	1	3	1188	3
	Mudstone, silty, grey, dip 15°.Passing into	1	9	1190	
	Siltstone/sandstone, striped beds. Passing into		4	1190	4
	Sandstone, light grey, stripey. Carbonaceous layers. Micaceous vertical joint, mineralised. Passing into	2	3	1192	7
	Siltstone/sandstone striped beds,carbonaceous layers . Passing into	3	5	1196	0
	Sandstone, light grey, micaceous, massive, carbonaceous layers. Passing into	6	6	1202	6
	Siltstone/sandstone, striped beds,carbonaceous layers, passing into	1	0	1203	6
	Mudstone, very slightly silty, wormy with G. carbonaria. Dip 15 degrees. Slickensided in bottom 3 in.	1	3	1204	9
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6-INCH
SS 88 NE /33

Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	in.	DEPTH ft.	in.
	B/F			1204	
	Dark grey rashes		2	1204	11
	COAL	1	8	1206	7
	Mudstone, dark brownish grey. Listricated surfaces and numerous roots - seatearth. Passing into	3	5	1208	0
	Siltstone, grey, seatearth with roots	1	0	1209	0
	Sandstone, grey with roots - seatearth		6	1209	6
	Siltstone, grey with roots - seatearth. Passing into	2	3	1211	9
	Mudstone, grey		6	1212	3
	Siltstone, grey	1	0	1213	3
	Mudstone, grey. Passing into		3	1213	6
	Siltstone, grey to dark grey - plant fragments. Passing into	1	1	1214	7
	Mudstone, dark grey to black. Coal streaks and plant remains. Pyrite films on plant stems	1	0	1215	7
	COAL. Siltstone, filled plant stem (1 in.) at maximum, near top of seam		3	1215	10
	Siltstone, black, carbonaceous. Passing into		1	1215	11
	Sandstone, current bedded - carbonaceous films and coaly streaks. Passing into	2	4	1218	3
	Siltstone, dark grey, carbonaceous layers. Passing into		9	1219	0
	Sandstone, grey. Passing into	1	0	1220	0
	Siltstone/sandstone striped beds. Coaly streaks, plant leaves and bark. Passing into		8	1220	8
	Sandstone, current bedded, carbonaceous layers. Small plant fragments. Passing into	1	10	1222	6
	Sandstone/siltstone striped beds. Passing into	1	0	1223	6
	Sandstone, light grey with darker grey bands. A few small plant fragments. Fine vertical joint infilled with quartz and pyrite. Passing into	2	0	1225	6
	Sandstone/siltstone, striped beds, carbonaceous layers. Passing into	2	0	1227	6
	Sandstone, light grey, carbonaceous layers. Vertical joint infilled with quartz. Passing into	1	0	1228	6
	Sandstone/siltstone striped beds, carbonaceous layers. Passing into	3	0	1231	6
	Sandstone, light grey with darker bands (stripey) carbonaceous layers. Vertical joint infilled with quartz Passing into	2	6	1234	0
	Siltstone/silty mudstone striped beds. Faintly wormy. Small plant fragments. Passing into	2	6	1236	6
	Mudstone, silty, grey with thin siltstone layers. A few plant fragments. Occasional polished surfaces. Dip at 1236/- - 15 degrees. Fine vertical joint at 1247/6 with pyrite. High angle slickenside at 1248/6 Passing into	12	6	1249	0

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FORM P 71
SERIES 680

6-INCH MAP

Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	THICKNESS in.	DEPTH ft.	DEPTH in.
	B/F			1249	0
	Mudstone, slightly silty, dark grey. Small Planolites to 1250/-. Small plant fragments. Occasional silty layers. Passing into	5	6	1254	6
	Mudstone, slightly silty, grey. Faintly wormy. A few plant fragments. Dip at 1260/- 14 degrees. Passing into	6	6	1261	0
? HORIZON OF FORAMINIFERA MARINE BAND	Mudstone, grey, occasional polished bedding planes. 1½" ironstone band at 1263/3. Faintly wormy. A few plant fragments 1264/- to 1265/-. Planolites ophthalmoides from 1267/-. Occasional small ironstone nodules and lenticles. 2" ironstone band at 1269/3 Numerous Planolites at 1270/-. Ironstone lenticles and nodules 1270/3 to 1271/7. Pimply. ?Ostracods 1271/6 to 1272/- . Ironstone nodules 1272/- to 1272/6 with associated pressure markings and again below 1274/-. Pyritic blob at 1275/-. Pimply at 1275/9. Dip 12 degrees at 1276/-. Frequent listric surfaces below 1277/-. Very flaky in bottom 3 in.	7	8	1278	8
	COAL, core and fragments	1	11	1280	7
	Mudstone, silty, brown with roots and listric surfaces - seatearth. Slickensided Passing into	4	2	1284	9
	Sandstone, grey. Passing into		9	1285	6
	Sphaerosiderite, brownish grey. Passing into		3	1285	9
	Sandstone, grey, fine grained. Passing into		9	1286	6
	Siltstone, fawn. Dip 10 degrees. Passing into	7	0	1293	6
	Siltstone, muddy, fawn-grey then grey. Occasional plant leaves. Irregular bedding. Passing into	2	0	1295	6
	Mudstone, grey. Irregular bedding. 3 in. ironstone at 1298/2. Passing into	3	3	1298	9
	Mudstone, silty, grey. Becomes less silty downwards. Passing into	1	6	1300	3
	Mudstone, grey, slightly silty. Pyrite, film in joint at 1300/6 to 1301/-. Sheared at 1301/- to 1302/9. Passing into	2	6	1302	9
	Mudstone, grey. Faintly wormy. Dip at 1303/- 12 degrees. Passing into	1	6	1304	3
	Mudstone, brownish-grey. Highly sheared and rashy. Main shear angle approx. 45 degrees	5	10	1310	1
	Coaly rashes, black		3	1310	4
	Mudstone, highly sheared, seatearth. Passing into	1	2	1311	6
	Mudstone, brownish grey with roots. Sheared seatearth, passing into	3	9	1315	3
	Sphaerosiderite, brownish grey	1	6	1316	9
	Mudstone, dark brownish grey. Sheared		8	1317	5
	COAL, fragments		1	1317	6
	Mudstone, dark grey to black. Sheared, plant remains. Coaly streaks		11	1318	5
	Coaly rashes		2	1318	7
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FORM P 71
SERIES 880

6-INCH MAP
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Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	in.	DEPTH ft.	in.
	B/F			1318	7
	Mudstone, dark grey to black. Highly sheared		7	1319	2
	Coaly rashes, ?small fault at base		2	1319	4
	Mudstone, silty, plant remains, stems and ?roots		8	1320	0
	Mudstone, grey. Thin silty bands. Planty layers. Passing into		8	1320	8
	Sandstone, grey with darker silty layers. Comminuted plant fragments. Current bedded. Oblique joint at 1324/6 infilled with quartz and pyrite crystals. Passing into	6	10	1327	6
	Siltstone, grey with carbonaceous layers. Passing into	1	6	1329	0
	Mudstone, slightly silty, grey. Planty layers. Dip at 1330/- - 15 degrees. Thin silty bands 1331/10 to 1332/2. Oblique slickenside at 1333/0. 3 in. ironstone band at 1336/-. Passing into	6	0	1335	-
	Mudstone, grey		9	1335	9
	COAL, 8 in. core and fragments	1	4	1337	1
	Mudstone, brown rashes		4	1337	5
	Mudstone, brown, roots and listric surfaces - seatearth	3	7	1341	0
	Mudstone, grey, plant remains, stems. Passing into	1	6	1342	6
	Siltstone, muddy grey. Passing into	1	9	1344	3
	Mudstone, silty, grey. Occasional plants. Sheared at 1345/- to 1345/6. Passing into	1	7	1345	10
	Siltstone, grey with Calamites, plant stems Passing into	1	0	1346	10
	Mudstone, silty, plant remains. 2 in. ironstone band at 1347/6. Dip 15 degrees at 1352/-. Calamites stems and cordaites leaves fairly frequent below 1350/-. Passing into	10	8	1357	6
Dip low @ 1364/8	Mudstone, grey. Plant remains. Mineralised fine vertical joint at 1360/-. Some well preserved plants and large plants, coaly plant at 1361/-. Sub-vertical open joint at 1361/6. Vertical open joint at 1362/6. Becoming less planty from 1363/-. Horizontal polished parting at 1364/-. Faint C. knchi at 1365/2 and 1365/6. Scattered plants at 1365/10. Some large plants - some are coaly. Scattered ironstone bands. Mudstone becoming darker grey, more fissile. 2 in. of soft clay at 1365/6. Sheared mudstone with mudstone pellets and ironstone pellet	9	7	1367	1
	COAL (fragments only) (10" recovered)	1	5	1369	0
	Seatearth, carbonaceous with polished surfaces roots		6	1369	6
	Seatearth mudstone, grey with roots, firm locally silty. Occasional slickensided parting dipping at 45 degrees from 1370/-. Core fragments only from 1371/3 to 1371/10	2	4	1371	10

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Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	in*	DEPTH ft*	in*
	B/F			1371	
	Sandstone, medium grained, light grey, quartzitic with carbonaceous partings. Vertical joint from 1371/10. Some quartz filled veining from 1372/6. Silty laminations develop from 1372/10. Muddy bands locally from 1373/6.	2	10	1374	6
	Mudstone, silty, grey with light grey sandy laminations, some are quartzitic. Some laminations are packed with plant debris. Irregular quartz filled veining from top. Some polished bedding planes. Core fragments only from 1375/6 to 1376/6. 9 ft. OF LOST GROUND at 1385/6. Core fragments only below 1385/6	10	10	1385	6
	Mudstone, dark grey, smooth with silky sheen. Numerous polished parting. 1 in. ironstone band at 1385/9 with quartz veining and millerite crystals. Bottom 6 in. tiny fragments only of canneloid mudstone	1	6	1387	0
	COAL (broken core and fragments)(4" recovered)		10	1387	10
	Seatearth, grey with roots, mudstone, silty locally. 1 in. fractured ground at 1389/10. Ferruginous bands from 1390/- becoming silty	4	3	1392	1
Dip 19° @ 1395/-	Mudstone, silty, grey with laminations of light grey sandstone. Some partings packed with plant debris, numerous load structures between sandy and muddy bands. 45 degrees mineralised parting at 1394/- Sandy laminations die out at 1393/6 and silty mudstone becomes less silty and planty 3 in. sandy band at 1394/9. Sandy laminae again from 1395/-. Several polished bedding surfaces	3	11	1396	6
	Fault gouge, soft, clayey rashes, grey, finely bedded and polished, very friable with occasional small fragments of mudstone. Some fragments of coal at 1397/6. Becoming darker grey with recognisable fragments of coal at 1400/6 to 1401/2. Rashes below are light brown with occasional coal fragments. Rashes becoming grey towards base	10	0	1406	6
Dip 11° @ 1410/-	Mudstone, silty, grey, firm with occasional sandy lamination and scattered thin sandy bands. Some laminations are planty. 2" ironstone band at 1408/4 with irregular quartz veining and small cavities some with Millerite crystals, fairly massive. Several polished bedding planes at 1412/6. Muddy locally	8	0	1414	6

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Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

6-INCH SS 88 NE 33

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	in.	DEPTH ft.	in.
	B/F			1414	0
	Mudstone, grey, slightly silty bands. Wormy at 1415/10. Occasional ferruginous bands. Several polished bedding planes at 1417/-. Mudstone becoming well bedded, soft and friable from				
PART OF CEFN COED MARINE BAND	1418/- to 1419/6. Fragment of Orbiculoidea (pyritised) at 1418/7. Coalified plant at 1419/4, scattered plant debris. ?Estheria fragment at 1420/9. Vaguely wormy at 1420/- Chubby worms in ferruginous band at 1421/5. Soft and friable again from 1422/- to 1423/-. Mudstone becoming locally slightly silty, dark grey and micaceous. 3 in. sheared, friable ground at 1423/3. Wormy from 1423/6. Planolites sp.				
Dip 8° @ 1423/9	at 1425/-. Mudstone becoming dark grey and slightly silty	13	6	1428	0
	Mudstone, silty, medium to dark grey, locally muddy. Occasional plant debris, some coalified. Slightly micaceous. Sandy laminations develop from 1429/6. Poorly bedded. Coalified				
Dip 10° @ 1436/6	plant at 1431/6. Massive from 1433/6. Ferruginous bands from 1435/- locally, with quartz veining, some with pyrites in quartz veins. Muddy bands and sandy laminations again from 1436/- and scattered plant debris. Coalified plant debris at 1439/3	14	9	144-	
	Mudstone, slightly silty, medium grey, slightly micaceous, poorly bedded. Ferruginous bands locally. Sub-vertical joint at 1445/-. Coalified plant with pyrite replacement at 1445/7, becoming muddy	4	3	1447	0
	Mudstone, grey, wormy, a few Planolites sp. at 1448/-. Ferruginous bands locally Soft and friable from 1449/- to 1451/-. Coalified plant remains at				
CEFN COED MARINE BAND	1449/3. Lingula shell at 1451/6 Scattered polished bedding surfaces				
Dip 8° @ 1453/-	from 1452/3. Scattered plant debris from 1453/- and sandy laminations developed from 1453/- to 1454/- Vertical joint at 1453/4. Ground soft and friable with polished bedding planes from 1454/6 to 1457/8 Core broken and fragmented from				
Dip 10° @ 1458/6	1455/6 to 1456/- and from 1457/- to 1457/8. Mudstone below is grey, barren and poorly bedded. Ferruginous bands locally. Occasional plant debris from 1460/6. Two 45 degrees polished partings at 1461/-. 70° joint from 1461/5. 45 degrees slickensided partings @ 1465/6				

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Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	Thickness ft.	in.	Depth ft.
	B/F			14[illegible]
	Polished bedding planes from 1466/- to 1469/6. Ground soft and friable from 1468/- to 1469/6. 3 in. rashes packed with polished surfaces at 1469/6. 6 to 8 in. of soft, crumbly rashes with solid mudstone between 1470/6 and a 1471/10	25	0	1472 6
	Mudstone, rashes, soft and friable, packed with polished surfaces and occasional ironstone bands	3		
Dip 10° @ 1476/6	Mudstone, dark grey, well-bedded, friable, occasional polished parting locally rashy. Ironstone nodules locally, pyrite infilled nodule at 1475/8. Mudstone becomes soft and friable from 1477/3. Vertical joint at 1477/4 with pyrite film. Coalified plant at 1478/2. Mudstone becoming carbonaceous. Core broken and friable. Numerous pyrite filled worm tubes from 1478/7 to 1479/8. Disseminated pyrites below. Crinoid ossicles and shell fragment at 1479/10. Bottom 2 in. packed with coalified plant remains	4	7	1[illegible]
	Seatearth, light brown with scattered roots and coalified plants. Mudstone. 45 degrees slickenside parting at 1482/- becoming darker and more planty. Irregular colouring of light to dark grey. 3 ft. of sphaerosiderite from 1483/-	7	1	1
	Mudstone, silty, grey, poorly bedded, scattered patches of sphaerosiderite. Scattered ironstone bands. 10" soft, friable ground at 1488/- 6 in. of sphaerosiderite from 1489/-	1	10	1490 6
Dip 14° @ 1495/-	Mudstone, grey, poorly bedded, top 3 in. broken. Ironstone band with sphaerosiderite below at 1490/8 Scattered large plant debris from 1491/6. Core is broken with occasional slickensided 45° parting. 6 in. of soft, friable core, from 1492/6. Core below is broken with polished surfaces and some slickensiding. Irregular quartz veining in 2 in. ironstone band at 1494/- Some laminations packed with plant debris. Annularia at 1496/3. Mudstone becomes friable and rashy from 1496/6	7	7	1497 7
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6-INCH
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Section of MARGAM BOREHOLE NO.7(Graig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	in*	DEPTH ft*	in*
	B/F			1497	
	Mudstone, rashes, dark grey packed with polished surfaces. Carbonaceous. A few small recognisable fragments of coal. Fragments of plenty mudstone with a few roots towards base	2	0	1499	7
	Mudstone, medium grey, packed with plants, some large, including Calamites. A few roots. Occasional polished surface. 70° mineralised parting at 1501/- with some irregular quartz veining with crystals of pyrites. Sandy laminations from 1501/6	2	5	1502	
	Mudstone, silty, grey with light grey sandy laminations, small scale cross-bedded. Occasional sandy band from 1503/-. Occasional polished bedding planes. 70 degrees quartz filled vein displacing laminations slightly at 1504/2. Sub-vertical vein with quartz and pyrite fill at 1505/-. Some laminations with scattered plant debris. 45° mineralised parting at 1510/-	9	0	1511	0
Dip 8° @ 1507/-	Sandstone, light grey, medium grained, quartzitic, top 1 ft. packed with silty laminations, cross-bedded. Only occasional carbonaceous wisp in bottom foot. Fracturing in base	2	0	1513	0
	Mudstone, grey, top is fractured with 45° polished surfaces, irregular fragments of quartz veined ironstone some irregular fragments of sandstone, mudstone fractured below	2	0	1515	0
	Seatearth, mudstone, grey with roots, firm slightly silty. Polished partings at 1515'6" becoming silty with thin sandy bands	1	2	1516	2
	Mudstone, silty, medium grey with thin light grey sandy laminations (dipping at 40 degrees). 4" ironstone band at 1517/2	1	4	1517	6
	Polished surface onto Sandstone, medium grained, quartzitic, irregular quartz veins. Carbonaceous wisps and silty laminations, some displaying slump structures. Sandstone is fractured locally and carbonaceous bands are irregular (some are pyritised) from 1520/-, closed and irregular fracture pattern with pyrite infilling the fractures to 1525/-. Laminations below becoming less disturbed	4	0	1521	6

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6-INCH

Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	in*	DEPTH ft*	in*
	B/F			1521	0
Vertical dip on laminations at 1527/-	Mudstone, grey, slightly silty, many polished surfaces, somewith pyrite film. Scattered roots. Ironstone band at 1529/6 . Closely spaced polished partings from 1524/-, becoming packed together - mudstone is fractured. Light grey laminations dipping at 50 degrees. Laminations highly contorted from 1526/6, dipping vertical at 1527/-, still some scattered roots. Long lens of ironstone with quartz veining (i.e. parallel to bedding) slickensiding from 1529/3,becoming very silty locally. Pyrite film on polished parting at 1532/3. Mudstone, rooty from 1531/6	13	0	1534	6
Dip 75° on laminations @ 1532/6	Sheared mudstone seatearth, soft and friable closely packed sheared ground partings dipping between 45 and 50° packed with roots. 6 in. of lost ground at 1538/6 4" of quartzite sandstone at 1539/-	5	0	1539	6
	Seatearth, mudstone with ironstone nodules packed with polished surfaces for 1 ft. becoming silty from 1540/6	2	6	1542	0
	Sandstone, quartzitic,medium becoming fine grained, light grey, coarse silty bands and laminae. Cross bedding. Some partings are micaceous and carbonaceous	5	6	1547	6
Dip 33° @ 1548/-	Mudstone, very silty, occasional sandy bands, medium grey, slightly micaceous. Occasional polished partings. Unfossiliferous. 6" fine grained sandstone band at 1549/-.Vertical quartz and pyrite filled vein from 1550/6. siltstone from 1551/- to 1552/3. Sandy bands below, cross bedded. Occasional carbonaceous				
Dip 27° @ 1553/-	parting passes into	7	0	1554	6
	Sandstone, quartzitic, fine to medium grained with dark grey silty laminations and wisps. Some cross bedding, becoming coarser grained downwards and more massive with carbonaceous wisps. Several low angled quartz veins at 1558/-. Vertical joint at 1559/10. Ends on a low angled polished parting	6	4	1560	10
	Mudstone, slightly silty with silty laminations, very silty in top 6 in. Poorly bedded. Several polished bedding planes. 4" of fractured ground with polished surfaces at 1563/6. 2" of sheared mudstone at 1564/-. Steeply inclined polished				
Dip 21° @ 1562/6	surfaces below, dipping at 50°	3	8	1564	6

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6-INCH SS 88 NE 33

Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft	in	DEPTH ft	in
	B/F			1564	0
	?Bastard seatearth - badly fractured, grey, massive siltstone with polished partings. Small patch of sphaerosiderite at 1569/-, becoming mudstone, silty, 3" sheared ground at 1569/6. Sphaerosiderite patches below	5	6	1570	0
	Mudstone, grey with scattered sphaerosiderite in top. Massive, irregular light brown colouring (clay ironstone?) some with pyrite filled centres. Becoming grey. Mudstone is firm, no fracturing. Mudstone fractured for 6 in. at 1572/3. 6" band of coarse grained siltstone, 2" sphaerosiderite from 1572/9. Dark grey below with disseminated pyrite. Ends on mineralised, low angled, parting	3	10	1573	10
Dip 16° @ 1571/6					
	Seatearth, soft brown, mudstone in top 6 in., becoming grey and firmer with some scattered pyrite. 30 degrees polished partings. Small patches of sphaerosiderite and large ironstone nodules. 3 in. sandy band at 1575/-	1	8	1575	6
Dip 45° @ 1575/-					
	Fault gouge, clay with mudstone fragments		6	1576	0
	Mudstone, sheared and contorted for 18 in., solid and low dip below. Mudstone is dark grey with numerous thin clay ironstone bands, some with small amounts of pyrite infill. Faintly wormy from 1579/6. Faint Planolites sp. at 1580/-. 2 in. sheared ground at 1580/2. Small plant debris from 1580/4, some are coalified, becoming very dark grey. 1 in. sheared and fractured ground at 1583/1. Mudstone below is grey. Millerite on horizontal polished surfaces at 1583/6. Thick ironstone bands from 1584/-. Mudstone, slightly silty from 1584/-. ?Mussel (internal cast ?) at 1584/6. Faint G. carbonaria at 1588/8. 5 in. of grey siltstone with plant debris at 1589/-. 2 in. of sheared mudstone at 1590/-. Mudstone fractured below and packed with polished surfaces. Millerite (very small amount) on some polished surfaces. Mudstone below is dark grey and smooth becoming carbonaceous and packed with polished partings. Thin coal bands in carbonaceous mudstone from 1591'4" packed with steep polished partings	16	8	1592	
Dip 6° @ 1580/6					
Dip 5° @ 1588/-					
	Mudstone rashes (fragments only)		2	1592	10
	Seatearth mudstone with roots becoming sandy downwards	3	2	1596	0

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6-INCH MAP

Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	Thickness ft.	Thickness in.	Depth ft.	Depth in.
	B/F				
	Sandstone, medium to fine grained, quartzitic with silty bands, light grey vertical joints from 1596/6 to 1600/6. Vertical quartz filled joint at 1601/-. 1 ft. silty band at 1602/6			1596	0
	Sandstone fractured below with several quartz filled vertical joints. Scattered pyrites on some joints. Numerous dark, silty laminations develop from 1605/-	11	3	1607	3
Dip 16° @ 1608/-	Mudstone, slightly silty, grey with silty bands. Vertical joint at 1608/6 with pyrite film, becoming muddy locally. Ironstone bands. Polished bedding planes below 1609/-. Scattered plant debris. 2 in. sheared ground at 1610/3 and 1610/6. Sheared at base	6	3	1613	6
	Fault gouge, clay with small fragments of mudstone		6	1614	
	Seatearth, muddy in top becoming silty, light brown with roots. 1 ft. sphaerosiderite from 1618/-, becoming grey at 1620/- with mottled green colouring and no roots	6	5	1620	5
Dip 16° @ 1624/6	Mudstone, silty, grey with very light green 'leached' colouring in top. Massive and unfossiliferous in top 6 in. Sandy band at 1623/-. Scattered plant debris. Siltstone locally. Irregular patches of ironstone. Light grey, sandy laminations from 1629/-, becoming	9	1	1629	6
	Siltstone, grey, massive with scattered plant debris. Neuropteris at 1630/3 and Calamites at 1635/-. 3 in. quartzitic sandstone band at 1634/6. Vertical joint with pyrite film.				
Dip 9° @ 1638/-	Some coalified plant debris. Several sandy bands from 1641/-. 16 in. of quartzitic sandstone with carbonaceous streaks and erosive base at 1641/10	15	6	1645	0
Dip 17° @ 1648/4	Sandstone, quartzitic, medium grained with several carbonaceous laminations and quartz filled vertical joint from top. Sharp, irregular, erosive base with fragments of mudstone in bottom 3 in.	2	6	1647	6
	Mudstone, silty, grey, with laminations of sandstone in top. Some partings packed with plant debris.	2	0	1649	0
	Sandstone, quartzitic, medium grained with mudstone bands and ironstone nodules at top. Occasional carbonaceous laminae below becoming massive				
	2'9" LOST CORE AT 1652/9, fragments of sandstone and mudstone core from 1652/9 to 1653/-. Vertical quartz veining from 1655/- to 1656/-			...?	

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G-III
SS 88 NE /33

Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	in.	DEPTHS ft.	in.
	B/F			1642	
	Pyrite film on joint at 1661/-. Carbonaceous wisps only below				
Dip on lamination at 1660/- is 30°	1662/6. Sub-vertical quartz veining at 1666/-, somepyrite in veining				
	near base. Sharp contact onto	18	6	1668	0
	Silty mudstone, grey with scattered large plant debris and roots. Large Stigmaria at 1668/6. Light grey thin sandy bands with ironstone nodules, becoming very silty locally				
Dip 17° @ 1672/6	Some large Calamites and planty partings, becoming striped at 1675/- rapidly alternating silty mudstone and light grey sandstone, some partings packed with plant debris, becoming less rooty, some partings are micaceous. 8 in. quartzitic sandstone band at 1681/2.Only occasional sandy laminae below				
Dip 17° @ 1682/3	1685/-, becoming less planty	18	0	1686	0
	Mudstone, grey, strong with scattered plant debris and ironstone bands, becoming wormy from 1690/- and slightly fissile. 5 in. ironstone band.				
ip 17° @ 1692/6	Vertical joint at 1695/6. Ironstone from 1697/-. 2 in. sheared ground at 1697/6. Mudstone broken below. Pyritised tubes and pimples below				
	1698/3 to 1705/-, becoming	17	0	1703	0
	Mudstone, smooth, dark grey from 1703/-. Small Lingula fragment at 1704/3				
Dip 3° @ 1704/-	1 in. finely sheared mudstone at 1706/-. 2 in. sheared ground at				
BAFOD BEULOG MARINE BAND	1706/8. Mudstone broken below for 1 ft. Ground soft and sheared locally. Small Lingula shell at				
	1709/8. 1 ft. sheared ground at 1710/6, becoming carbonaceous in				
Dip 21° @ 1709/6	base. Small Lingula shell in bottom 2 in. (bottom of core rubbed)				
	Pyritised fish plate in roof of coal	8	2	1712	2
	COAL (broken fragments)		11	1713	1
	Seatearth, muddy with roots, light brown, soft. Sheared for 1 ft. from 1712/6. Sphaerosiderite from 1714/6 to 1716/6, becoming grey with leached brown colouring from 1714/6. Grey and silty from 1716/-. Sandy from 1719/3, becoming quartzitic with plant remains(Stigmaria)	8	11	1722	0
Dip 28° at 1722/6 on laminations)	Sandstone, fine to medium grained, light grey quartzitic with silty laminations, micaceous, some are carbonaceous	3	0	1724	0
	Mudstone, silty, grey with partings packed with plant debris in the top, becoming				
				.../	

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6-INCH MAP

Section of MARGAM BOREHOLE NO.7 (Craig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	THICKNESS in.	DEPTH ft.	DEPTH in.
	B/F			1724	0
	Mudstone, grey with scattered plant debris, slightly silty, faintly wormy from 1725/-, bottom 1 ft. packed with polished partings	3	4	1727	8
Dip 18°@ 1724/8	Seatearth, muddy grey with roots becoming silty with large ironstone nodules. Stigmaria. Scattered plant debris, some are coalified	10	4	1738	0
Dip 11°@ 1744/-	Mudstone, silty, grey with roots and irregular light grey sandy bands locally very silty, scattered plant debris, some well preserved leaves. Vertical joint with pyrite film at 1741/- Sandy bands becoming thicker from 1742/- . 6 in. quartzitic sandstone band at 1743/1 with coal lens. Very planty partings from 1743/10. Some are carbonaceous. Very silty locally	7	0	1745	
Dip 9° @ 1749/-	Siltstone, massive, grey, scattered plant debris, becoming	6	0	1751	0
Dip 22° @ 1756/-	Mudstone, silty, fairly massive, grey with partings with plant debris. Some sandy laminations. Thin ferruginous bands locally and occasional polished partings. 45° mineralised parting at 1755/3, becoming muddy Less plant debris and sandy laminations from 1757/- (6" core fragments only from 1758/6)	10	0	1761	0
Dip 16° @ 1760/-	Mudstone, grey, occasional ironstone band. Slightly silty and slightly fissile Occasional polished bedding parting 1" sheared ground at 1761/8. Some siltier bands and planty partings.				
Dip 14°@ 1764/6	1 ft. of polished bedding, partings and shearing in darker grey mudstone at 1763/-. Silty bands to 1763/6. Vaguely wormy from 1763/-. Occasional polished parting from 1765/6.				
Dip 15° @ 1768/-	1 ft. of highly sheared mudstone from 1766/7. Closely packed shears below. 6'2" of highly sheared mudstone - only occasional band recognisable - from 1769/-. Mudstone below packed with polished partings. Sheared from 1775/6 to 1786/-. 6" ironstone band at 1776/-				
Dip 33° @ 1776/3	3" soft clay gouge in mudstone at 1776/6, 1" soft clay gouge in mudstone at 1776/10, 2" soft clay gouge at 1778/4. Core fragments from 1777/- to 1786/-. Mudstone, grey to dark grey, broken, 6 in. of clay gouge at 1780/6. 2 in. band of medium grey silty mudstone at 1781/10. 1 in. of clay gouge				
Dip 52°@ 1780/-	at 1783/9	25	0	1786	0
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Section of MARGAM No.7 SURFACE BOREHOLE (Graig-y-Abor)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft	in	DEPTHS ft	in
	B/F			1786	
	Mudstone, slightly silty, medium grey with silty bands, scattered plant debris from 1786/-. From 1787/- to 1788/6 core fragments only. Mudstone packed with polished partings and occasional sheared parting	2	6	1788	6
	Seatearth, mudstone, light brown in top, becoming grey with large ironstone nodules, packed with roots and large plants	1	6		
	Sandstone, light grey, fine grained, quartzitic with dark silty laminations, becoming contorted and irregular at 1791/6. 45 degrees slickensided and quartz filled parting at 1792/-	2	0	179	
	Mudstone, very silty, tough, medium grey with roots, massive, becoming	1	0	179	0
	Siltstone, rooty, grey with light grey quartzitic sandy laminations. 2 in. sandy bands at 1793/3. Scattered polished partings, compressional structures in sandstone bands. Only sandstone laminations from				
Dip 11° @ 1796/-	1796/6	5	0	1798	0
	Mudstone, silty, grey, rooty in top 1 ft. Closely spaced sandy laminations at 1799/- and quartzitic 4" sandy band at 1799/6. Some partings packed with plant debris. 6 in. sandy band at 1801/6 and at 1805/-, locally very silty. No thick sandy band from 1805/-. Occasional thick ironstone bands and muddy bands. Only scattered plant debris. Sandy laminations end 1810/-. Silty mudstone,				
Dip 2° @ 1806/6	poorly bedded. 1 ft. muddy band at 1812/-. 60 degrees joint from				
Dip 6° @ 1810/-	1813/- to 1813/6	15	0	1813	0
	Mudstone, grey, poorly bedded, slightly silty. Occasional silty bands and laminations. Occasional ironstone bands. Some partings packed with plant debris. Locally wormy, becoming less planty. Shell fragment (possible mussel) at 1818/3. 6 in. ferruginous band with numerous Millerite crystals at 1818/6. Ground below is badly broken with occasional shear plane	5	6	1818	6
	Mudstone, grey, well-bedded, broken with occasional shear. Wormy, occasional thin ironstone band. 2 in. sheared ground from 1819/10. Scattered plant debris				
	Chubby worms in ironstone at 1820/7				
Dip 23° @ 1823/4	Badly sheared ground 1820/7 to 1821/5				
	G. carbonaria at 1821/6. Sheared below to 1824/-	5	6	1824	0

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Section of MARGAM BOREHOLE NO.7 (Craig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	THICKNESS in.	DEPTH ft.	DEPTH in.
	B/F			1824	0
	Mudstone, carbonaceous, packed with polished surfaces, very carbonaceous in roof of coal	1	7	1825	7
	COAL (pyrite film on cleat), broken stick	1	2	1826	9
	Carbonaceous mudstone rashes		3	1827	0
	Seatearth, light brown with roots in top 2 ft. Silty and slightly quartzitic, sphaerosiderite from 1829/6 to 1833/6	6	6	1833	6
Dip 14° @ 1834/6	Mudstone, slightly silty, grey with leached brown colouring. Massive. 2 in. of fault gouge at 1834/10. Patches of sphaerosiderite. 6 in. of broken ground with slickensiding and shearing at 1836/2. Badly sheared and broken from 1837/6 to 1838/3. 9 in. core fragments from 1838/3. 9 in. of dark grey mudstone with leached appearance at 1839/-. Steep slickensided surfaces in compact mudstone to 1841/-	7	6	1841	0
	Sheared mudstone	1	0	1842	0
Dip 22° @ 1843/-	Mudstone, slightly silty, grey with occasional ironstone lenses and bands up to ½". Polished bedding planes. Scattered roots, poorly bedded. Very rooty locally. 1 in. sheared ground at 1843/10	2	6	1844	6
Dip 17° @ 1844/6	Mudstone, grey (no roots). Slightly wormy from 1844/6. 3 in. sheared ground at 1845/3. Dark grey from 1846/10 becoming micaceous and carbonaceous (no longer wormy). 3 in. packed with polished surfaces at 1847/3. Occasional plant debris, conneloid in bottom 2 in. Fish-scale in roof of:	3	4	1847	10
	COAL (stick) with irregular dirt band (coal 3 in., d. ¼ in.)		5	1848	3
	Seatearth, sandstone, large plants (including Stigmaria). Some are coalified, some dark silty bands. 1 in. carbonaceous planty mudstone in base	1	3	1849	6
	Seatearth, silty, mudstone, dark grey, large ironstone nodules. Muddy from 1849/-. 1 in. sheared ground at 1849/6. 1'7" of badly sheared ground (to clayey gouge) from 1850/2	2	3	1851	9
Dip 16° @ 1852/-	Mudstone, dark grey with roots, poorly bedded in top becoming fairly well bedded. Occasional ironstone bands, faintly wormy from 1854/6 to 1856/-. Faint P. montanus at 1855/-. Mudstone broken below to 1856/6. 1 in. sheared ground at base. Mudstone for 6" broken from 1857/6, becoming slightly wormy from 1858/-. Occasional plant debris, no roots, a few pyrite nodules - carbonaceous on roof -				
Dip 20° @ 1859/-	main pyrite band on top of coal	6	3	1858	
				.../	

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Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	Thickness ft.	Thickness in.	Depth ft.	Depth in.
High in sulphur	B/F			1855	
	COAL (thin dirt band 1" from top of coal and thin rashes band 1/5" from top)	3	1	1861	1
	Mudstone rashes (thin pyrite band on top of coal	2	7	1863	8
	COAL (1'4" recovered)	2	4	1867	0
	Seatearth, muddy, light brown, packed with steep polished partings. Very weak. Some large coaly plants, firm and silty from 1870/-. 2 in. sheared ground at 1871/-. 8 in. sphaerosiderite 1872/- and 6 in. of sphaerosiderite at 1873/8	8	6	1874	6
	Mudstone, silty, grey, fairly massive, rooty in top 6 in. Very silty locally	2	6	1877	0
	Siltstone, grey, massive with scattered plant debris, light grey sandy laminations and wisps from 1878/-. Occasional thick ferruginous band	4	6	1881	6
	Mudstone, silty, grey, poorly bedded, 9 in. ironstone band with quartz veining at 1882/6. Scattered plant debris,				
Dip 8° @ 1883/6	some partings are planty, passes into	4	0	1885	6
	Mudstone, slightly silty, grey, poorly bedded, scattered plant debris. Coaly parting at 1886/2, some coalified plant debris including Calamites	8		1886	2
	Mudstone, grey, poorly bedded, faintly wormy Scattered thick ironstone bands with associated shearing. 4 in. ironstone band at 1888/- with coalified plant debris. Mudstone below is rooty for 1 ft. Very planty below with Calamites becoming slightly silty from 1890/-. Some well preserved				
Dip 11° @ 1891/6	Alethopteris, locally silty	6	10	1893	0
	Mudstone, silty, grey, poorly bedded with large plant straps at 1895/-, becoming more massive with irregular fracture				
Dip 10° @ 1899/-	from 1896/-. Some large plant debris	6	10	1899	10
	Siltstone, medium grey, massive, very strong, scattered large plant debris	1	8	1901	6
	Mudstone, silty, grey, poorly bedded, scattered plant debris. 8 in. ironstone band at 1902/6, becoming massive. Closely spaced sandy laminations from 1903/- in mudstone fading out at 1905/-. 3 in. sandy band with irregular base at 1907/-. 6 in. of quartzitic sandstone at 1908/6 with sandy laminations below passes into	8	0	1909	6
	Siltstone, grey, massive with light grey, quartzitic, sandy laminations and bands, slightly micaceous, strong. Scattered plant debris. Occasional ironstone bands from 1911/6. Steep joint with quartz and pyrite fill at 1911/-. No sandy laminae or plant debris from 1913/6 to 1917/6.				
Dip 10° @ 1914/6					

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Section of MARGAM BOREHOLE NO. 7 (Graig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	Thickness ft.	Thickness in.	Depth ft.	Depth in.
	B/F			1909	6
	Micro cross-lamination in closely spaced sandy bands at 1916/-, rapidly alternating bands below to 1918/6				
	Light grey, quartzitic sandstone bands develop below and end abruptly at 1921/-	11	6	1921	0
	Sandstone, fine grained, medium grey, scattered plant debris with irregular bands of medium grained, light grey sandstone developing in base	1	6	1922	6
	Striped beds of silty mudstone and light grey quartzitic sandstone up to 4" silty partings are plenty and micaceous, ends abruptly on	1	9	1924	3
Dip 16° @ 1924/6	Mudstone, very silty, grey, poorly bedded. Very occasional sandy laminations. Some partings are packed with plant debris in top 1 ft. Faintly wormy from 1927/- in muddy bands. Fining down into	9	3	1933	6
Dip 9° @ 1933/-	Mudstone, grey, slightly silty, locally wormy. Faint C. kochi at 1934/- and at 1935/2. Scattered plant debris. Occasional ironstone bands. 7" silty bands at 1937/6. Sandy laminations below are terminated on a 45° polished parting. Contorted mudstone below to 1938/6. Mudstone broken below for 1'6" with polished bedding planes. 2 in. sheared mudstone at 1939/3. Small scale normal faulting in banded mudstone at 1941/-. Some coaly plant debris at 1941/6 with scattered plant debris below.				
Dip 11° @ 1942/-	G. carbonaria from 1943/-. 2" sheared mudstone at 1944/2. Solid mussel at 1944/6. P. montanus in ironstone at 1945/-. Scattered ironstone nodules. Regular 1"				
Dip 17° @ 1949/9	sheared ground at 6 to 9 in. intervals. 4" ironstone band at 1948/6 4" soft, sheared ground at 1950/- Mudstone broken below. Arrowhead				
Dip 23° @ 1954/-	plant at 1954/-. 3" sheared ground at 1955/6. Scattered plant debris. 3" sheared ground at 1957/3, mudstone broken below to 1958/6, Mudstone, dark grey from 1959/-, Hatchetite in ironstone at 1959/-, badly broken mudstone packed with polished partings below 1959/-, becoming carbonaceous and smooth. 5" sheared mudstone fragments from				
Dip 50° @ 1959/9	1962/-	29	2	1962	8
TWO FEET NINE (Faulted)	COAL (pyrite on cleat)		5	1963	1
	Rashes		1	1963	2
	Seatearth, muddy, broken and packed with polished surfaces		4	1963	6

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Section of MARGAM NO.7 BOREHOLE (Graig-y-Aber)

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	THICKNESS in*	DEPTH ft*	DEPTH in*
	B/F			1963	6
	Seatearth, brown, rashy, mudstone, packed with polished partings		6	1964	0
	Fault gouge, clay		2	1964	2
	Very carbonaceous mudstone, packed with polished partings		1	1964	3
	Seatearth, light brown, packed with plant debris. Occasional coal streak and numerous polished partings. Badly sheared in bottom 1 ft.	2	1	1966	4
	Sandstone, fine grained, medium grey, packed with plant debris, some large coalified plants		6	1966	10
Dip 25° @ 1969/-	Mudstone, dark grey with roots and plant debris, a few light grey sandy laminations. Occasional ironstone bands and nodules. Thin colour banding developing below 1970/- with silty bands. Slightly wormy in muddy bands, becoming	4	2	1971	0
Dip 23° @ 1973/-	Mudstone, Slightly silty, wormy, occasional parting with leaf impressions (Alethopteris). Scattered thin ironstone bands. Quite well bedded and firm. Silty bands end at 1978/- and plant debris. Occasional ironstone nodules producing irregular fracture. Signs of rubbing in roof of :-	9	2	1980	2
UPPER FOUR FEET SEAM	COAL (broken stick)		6	1980	8
	Mudstone rashes		1	1981	3
	COAL, pyrite on polished surfaces	4	2	1985	5
	Carbonaceous mudstone(fragments)		½	1985	5½
	COAL, polished partings in coal	3	3	1988	8½
	2" lost core at 1983/6				
	Rashes of seatearth		7½	1989	4
	Seatearth, muddy with roots, light brown with occasional ironstone nodules. 1" sheared ground at 1991/9. Large Calamites, 7" of quartz veined ironstone band at 1992/11. Sheared below. Large ironstone nodules	5	1	1994	5
Dip 7° @ 1995/-	Mudstone, silty, medium grey, scattered roots (in top) and plant debris - some large plants, poorly bedded. Light grey sandy wisps and laminae developing from 1996/6. 6" ironstone band at 1997/-. 2" sandy band at 1998/3, becoming very silty. 6" ironstone band at base.	6	4	2000	9
	Sandstone, light grey, medium grained, quartzitic with silty laminations in top 6 in. Cross-bedded becoming massive for 2 ft. from 2001/3. Silty laminations again below, silty bands below 2002/6. Some silty partings are carbonaceous	3	0	2003	9
				.../	

UPPER FOUR FEET SEAM

	Thickness
COAL	1'1"
Dirt	8"
COAL	7'4" @ 1994'6"

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FORM P 71
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6-INCH MAP

Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	THICKNESS in.	DEPTH ft.	DEPTH in.
	B/F			2003	9
Dip 14° @ 2004/10	Mudstone, very silty, grey, poorly bedded, scattered plant debris, fairly strong. Two 3 in. quartzitic sandy bands with erosive bases and coal lenses in top 1 ft. Some partings packed with plant debris and coalified. Vertical joint at 2007/-, produces irregular core. 4 in. ironstone band at 2007/6	6	3	2010	0
	Siltstone, grey, fairly massive, scattered plant debris. Occasional light grey sandy laminations, locally sandy. Vertical jointing at 2012/6	3	6	2013	6
Dip 14° @ 2013/-	Mudstone, silty, grey with occasional sandy laminations, scattered ironstone bands, scattered plant debris, poorly bedded. 1" closely packed sandy laminations at 2014/3. Some partings are packed with plant debris. Wormy from 2018/6	5	6	2019	0
Dip 13° @ 2022/-	Mudstone, slightly silty, bands to 2022/- grey, only occasional plant debris, wormy, faint G. carbonaria, becoming quite well bedded. Polished bedding planes every 1"/½" from 2019/6. Occasional thick ironstone band. 1" sheared ground in dark mudstone at 2021/4. C. kochi from 2022/-. G. carbonaria below				
Reduced to NQ at 2023/6	Slightly silty bands from 2022/-. 1" sheared ground in dark mudstone at 2023/-. Small shells at 2023/- (possible mussels). 8" rolled core fragments only from 2023/6. Dark grey mudstone, wormy. Arrow-head plant at 2024/-. Well bedded.				
LOWER FOUR FEET SEAM B.P.B. thickness COAL about 3'11" @ 2034'10" (casing shoe had slipped down into coal)(caved in floor)	Carbonaceous roof of coal	5	9	2024	9
	COAL (2 ft. of coal fragments recovered, pyrite on cleat)	3	8	2028	5
	Seatearth, grey, muddy with roots, soft in top, becoming firmer after 1 ft. becoming silty and packed with large plants - some coaly	1	7	2030	0
Dip 7° @ 2032/-	Mudstone, silty, grey, packed with plant debris and scattered roots. Occasional light grey sandy band. 4" sandy band at 2033/4	4	5	2034	5
	Sandstone, light grey, medium grained with silty wisps and laminations. Quartzitic. Some partings are carbonaceous, ironstone bands in top. Vertical quartz and pyrite filled veins from 2036/- to 2040/- 9" of silty mudstone with sandy laminae at 2036/6. Only carbonaceous wisps from 2038/- to 2040/- Silty laminations and occasional bands below	6	7	2041	0
Dip 8° @ 2042/-	Mudstone, silty, grey, scattered plant debris. Light grey sandy laminations and occasional thin sandy bands and carbonaceous wisps. Vertical			.../	

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6-INCH MAP
SS 88 NE /33

Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft	in	DEPTH ft	in
	B/F			2041	0
	quartz/pyrite filled veining from 2041/- to 2043/1. Occasional thick ironstone band. Some partings packed with plant debris. 5" sandy band at 2046/8 and ferruginous band below. Concentrated sandy laminations to 2048/1, becoming scattered below. Dip increasing	9	0	2050	0
Dip 10° @ 2048/6 Dip 27° @ 2050/-	Sandstone, light grey, medium grained, quartzitic with carbonaceous wisps and laminations. Laminations dipping steeply in top sandstone, broken below to 2051/5. Contorted mixture of sandstone, coal fragments and lenses, large plants, some pyrite to 2051/10. Highly dipping laminations below to 2053/1, decreasing below (dip 48° at 2052/10) (dip 31° at 2053/5). Silty laminations increasing in base	3	10	2053	10
	Mudstone, very silty, grey, massive, occasional large plants and occasional sandy laminations. Sandy bands from 2056/-. Sedimentarily disturbed	3	3	2057	1
	Mudstone, slightly silty, grey; from 2057/1 is badly broken and fractured to 2058/1 and highly sheared below to base. Bottom ½" is dark grey mudstone, carbonaceous with very thin coaly streaks. ½" clay fault gouge onto		9	2058	10
	Seatearth, grey, muddy with roots, becoming silty. Vertical quartz filled veins from 2060/- to 2061/-	2	0	2060	10
Dip 10° @ 2061/6	Mudstone, silty, grey, scattered roots, poorly bedded with scattered light grey sandy laminations. Vertical joint from 2062/- to 2063/1. Sandy bands develop from 2063/1	2	8	2063	6
	Siltstone, grey, poorly bedded, scattered plant debris, occasional sandy laminations and bands	2	2	2065	8
	Sandstone, light grey, medium grained, quartzitic with irregular carbonaceous wisps and laminations, cross-bedded throughout, sandstone broken with irregular quartz veining at 2066/4. Vertical quartz filled veins below to 2068/-. 3" ironstone band at 2067/9, becoming closely packed with silty bands in base, cross-bedded, passes into	3	4	2069	0
	Mudstone, silty, grey, some partings packed with plant debris, occasional light grey sandy laminations and thin bands - locally muddy - some muddy phases are slightly wormy.				
Dip 8° @ 2071/-	Poorly bedded, 3" sandstone band at 2070/6 with slickensiding,			.../	

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Section of MARGAM NO. 7 BOREHOLE (Graig-y-Aber)

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	THICKNESS in*	DEPTH ft*	DEPTH in*
	B/F			2069	0
	quartz filled parting in middle. Sandy laminations rare below, becoming muddy, steep quartz filled vein at 2072/-	4	6	2073	6
	Mudstone, slightly silty, grey, only occasional plant remains, poorly bedded, vertical joint from 2074/- to 2075/-, irregular fracture and tough in base	1	6	2075	0
	Fault gouge, clay with occasional fragments of mudstone closely pked shear planes	3	0	2078	0
	Mudstone, silty, grey, massive, tough. Scattered plant debris	1	0	2079	0
Dip 4° @ 2080/-	Mudstone, grey, slightly silty, badly broken in top 1/6. Occasional strong silty band. Vertical jointing from 2080/- to 2083/-. Occasional thick ironstone band. Scattered plant debris. Vertical joint from 2084/- to 2084/9 6" muddy band, wormy and sheared at 2084/5, becoming muddy and wormy. Scattered thin ironstone bands from 2088/-. 2" sheared ground at 2090/- Well bedded in muddy parts only	13	0	2092	0
Dip 6° @ 2093/-	Mudstone, grey, slightly silty locally, slightly fissile, wormy in parts, faint G. carbonaria. Scattered thin ironstone bands. Sheared in parts throughout. A little scattered plant debris becoming dark grey and carbonaceous at 2093/6, poorly bedded, mussel impression at 2093/6. Solid mussels at 2093/9. Mudstone, grey and slightly silty from 2095/- to 2095/10. Squashed mussel at 2096/- - mussel debris. Some coalified plant debris becoming planty onto -	4	5	2096	5
	COAL (fragments)		2	2096	7
	Seatearth, mudstone, badly sheared below to 2097/5, very planty with roots, mudstone, grey below, packed with plants and roots. 6" ironstone band at 2098/-. 3" highly sheared below Carbonaceous mudstone at 2099/-. Ground below sheared	4	5	2101	0
	onto coal		6	2101	6
SIX FEET SEAM B.P.B. thickness COAL 3'9" dirt 1'10" COAL 4'7" @ 2116'4" (floor uncertain)	COAL (about) Only 1'2" of small, coal fragments recovered - bottom estimated at 2111'6. 9'10" lost core at 2111'6"	10	0	2111	6
	Rashes of mudstone, brownish grey, becoming dark grey		7	2112	1
	Seatearth mudstone, carbonaceous with roots and coaly plants and polished surfaces. 2'6" badly sheared ground from 2112/6, becoming gouge at base, grey and silty, large ironstone nodules below. Stigmaria. 6" of sandstone, fine grained at base	4	5	2116	6

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Section of MARGAM BOREHOLE NO.7 (graig-y-Aber)

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	in*	ft
	B/F			2116 6
	Siltstone, grey, fairly massive, scattered roots in top, light grey sandy bands developing from 2118/-. 45° mineralised parting at 2118/9	2	6	2119 0
Dip 7° @ 2119/-	Mudstone, silty, grey, poorly bedded with scattered plant debris, slightly micaceous, scattered small ironstone nodule. Scattered large (4") quartz veined ironstone bands, locally muddy, coaly plants at 2121/5	3	0	2122 0
	Siltstone, becoming very silty from 2122/- to 2126/-, grey, massive. Scattered plant debris	4	0	2126 0
Dip 7° @ 2129/3	Silty mudstone with muddy bands, grey, poorly bedded, some large coalified plant debris including Calamites. Firm throughout	14	0	2140 0
	Siltstone, grey, fairly massive with light grey sandy bands in top 2/-., becoming locally fine grained sandstone. Scattered large plant debris, some is pyritised. Occasional thick ironstone band. Muddy in base	6	7	2146 7
Dip 10° @ 2144/6	Sandstone, medium grained, quartzitic. Very scattered carbonaceous wisps in top increasing in bottom 2". Vertical quartz veining throughout	1	5	2148 0
	Mudstone, silty, grey, slightly micaceous, poorly bedded. Scattered plant debris Occasional thin quartzitic sandstone band. Sandy from 2149/- to 2150/- Planty partings below and sandy laminations becoming bands	5	7	2153 7
Dip 8° @ 2152/-	Sandstone, packed with silty laminations in top 3", then 1 ft. of massive medium grained quartzitic sandstone, 3" silty mudstone band, 1'6" of medium grained light grey sandstone packed with silty laminations. Coal lenses and ironstone pellets, coaly plants at bottom (2156/10) with erosive base. Massive, medium to coarse grained sandstone with occasional carbonaceous wisp and parting Quartz veined in top 1 ft. Sharp erosive base at 2161/- onto	7	5	2161 0
	Mudstone, silty, grey, scattered large plants, 1" of carbonaceous mudstone packed with coalified plant debris in the top. 2" broken ground below. 6" ironstone band at 2161/9, becoming banded with light grey sandy bands to 2169/-. Large ironstone nodules from 2167/-. Scattered plant debris, silty in bottom 1 ft.	7	0	2168 0

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FORM P 71
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6-INCH MAP

Section of MARGAM BOREHOLE NO.7 (Grai-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	THICKNESS in.	DEPTH ft.	DEPTH in.
	B/F			2168	0
	Sandstone, medium grained, quartzitic, packed with carbonaceous bands in top 1/6 Massive below with sub-vertical quartz filled joints- ironstone fragments with irregular outline at 2170/2. Carbonaceous laminations and silty bands below. Steep quartz filled parting cutting out silty laminations at 2071/-. Closely spaced silty bands from 2072/- some are carbonaceous and micaceous down to 2075/9. Thick ironstone bands from 2074/- to 2075/7. 2" silty mudstone, badly broken at 2075/7. Sandstone is massive below with thick ironstone bands in top small irregular lenses of ironstone and carbonaceous wisps. sub-vertical joint in massive sandstone from 2177/5; silty wisps and ironstone lenses returning towards base - ending on large lens of ironstone at 2179/7. Massive for 1 ft. then packed with fragments of silty mudstone (some are laminated with sandy bands and ironstone)	14	3	2182	3
	Sharp contact				
	Mudstone, silty, grey, tough, massive, silty in top 1 ft., scattered large plant debris - broken locally, producing irregular fractures, badly sheared from 2186/- to 2187/-	4	9	2187	0
	Mudstone, slightly silty, grey, badly sheared down to coal, rooty in top, becoming very planty		10	2187	10
CAERAU	COAL (3'9" recovered)	4	9	2192	7
B.P.B. thickness COAL 4'9" @ 2200'3" (caved in roof)	Mudstone rashes		8	2193	3
	Seatearth, silty, medium grey with roots fairly firm, small ironstone nodules.	2	9	2196	0
Dip 2° @ 2198/-	Mudstone, silty with laminations of light grey sandstone to 2197/-, very poorly bedded with roots. Scattered plant debris and ironstone bands, becoming slightly silty from 2199/-	5	0	2201	0
Dip 10° @ 2204/-	Mudstone, grey with scattered roots and plant debris to 2206/-. Scattered thick ironstone bands. Well bedded. Faintly wormy from 2205/- to 2207/-. Faint C. kochi at 2205/6 . 3" sheared ground in dark grey fissile mudstone at 2207/-. Ghost mussel at 2207/6. Carbonaceous below to 2207/10, grey to dark grey below and slightly fissile. Mudstone sheared locally Small ironstone pimples at 2208/7 Thin ironstone bands below. Occasional bedding plane shear onto coal Vertical joint at 2210/-			.../	

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Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

	B/F			2201	0
	Mudstone, fissile with slightly silky sheen, mudstone very carbonaceous and smooth on to coal. Several 45 degrees joints in mudstone above coal	8	4	2209	4
RED VEIN SEAM	COAL (1'4" recovered)	2	10	2212	2
	Seatearth, muddy, friable to 2213/2, packed with roots and plants. Silty below and very planty. Sandy bands from 2215/- to 2216/- and large ironstone nodules from 2215/6. 1" soft sheared ground at 2217/-	6	0	2218	2
B.P.B. tailcaness COAL (about) 2'10" @ 2230'0" (caved in roof)	Mudstone, silty, grey, rooty in top, firm, 2 ft. of sheared ground with 6" of core fragments at 2222/- in muddy phase. Poorly bedded and broken mudstone with roots below to 2225/-. Dark grey locally below. Occasional thick ironstone band.				
Dip 8° @ 2227/-	Some partings packed with plant debris. Some sandy laminae to 2229/6. Good leaf impressions from 2229/- becoming quite well bedded. 8" broken ground at 2230/- with shearing - muddy band below	13	4	2231	6
Dip 22° @ 2230/3	Mudstone, slightly silty, grey with scattered plants, fairly firm, quite well bedded, wormy in muddy bands, carbonaceous parting at 2232/6.				
Dip 2° @ 2232/-	Scattered ironstone bands (thin) becoming	1	8	2233	2
	Mudstone, grey, smooth, dark grey locally. Solid mussel at 2233/3		4	2233	6
	COAL (core)		1	2233	7
	Seatearth, muddy, dark grey with roots, packed with plants, solid for 6 in. with polished partings, badly sheared below to 2235/6 to soft black rashes 2 in. sheared ground at 2235/10. Seatearth below is grey, slightly silty, firm with scattered ironstone nodules and sandy bands	3	7	2237	2
Dip 8° @ 2238/3	Mudstone, silty, grey, rooty in top, firm, poorly bedded, 3 in. sandy band at 2235/6. Scattered ironstone bands and occasional sandy band. 9 in. irregular ironstone band at 2239/-. Some partings packed with plant debris. Badly broken and sheared from 2241/- to 2243/9. (Muddy bands from 2240/9) 1 ft. rashes at base of sheared ground, mudstone broken below. Thick ironstone bands becoming	8	10	2247	0
	Mudstone, slightly silty, grey, scattered ironstone bands. 1 ft. broken ground with occasional shearing and polished parting from 2247/- in muddy band;			.../	

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Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	THICKNESS in.	DEPTH
	B/F			
Dip 18° @ 2248/6	Soft, sheared below from 2248/6 to 2249/9, becoming muddy. Several thick ironstone bands at 2249/10, firm and becoming more silty below. 1 ft. soft, sheared ground at 2251/2. Sheared broken ground in muddy phase from 2253/- to 2254/3	7	9	2253
Dip 15° @ 2251/6	Mudstone, silty, grey, scattered plant debris, firm, scattered light grey sandy laminations, some partings packed with plant debris, steep slickensided parting at 2256/-. Very silty locally, thin sandy bands from 2257/-			
Dip 10° @ 2257/-	plant straps at 2257/6. 2" sheared ground at 2258/1.4" band quartzite sandstone with carbonaceous wisps at 2261/-. Occasional thick ironstone band below, sandy below for 1'6". 9" of broken ground at 2263/-			
Dip 17° @ 2264/10	13" of sandstone from 2264/5, broken carbonaceous wisps are displaced by vertical joints. 3" broken ground at 2265/6. 1" sheared ground at 2268/-. Tiny fragments of mudstone below with clay gouge onto	14	10	2266
UPPER NINE FEET SEAM B.P.B. thickness COAL 5'6" @ 2280'11" (waved in floor)	COAL (only 2" recovered, thickness assumed from B.P.B. log, assumed lost ground of 5'4" here not recorded in driller's logs)	5	6	2272
	Seatearth, muddy, light brown with roots. Carbonaceous in top 1", 3" of sheared ground below. Seatearth broken and sheared below. Becoming slightly silty with large coaly plants, badly sheared to fault gouge from 2276/- to 2278/-	4	11	2279
Dip 23° @ 2281/-	Mudstone, silty, grey, no roots, broken in top, scattered slickensided partings. Broken below 2281/-. Badly sheared to rashes with only occasional solid core from 2281/6 to 2282/6			
Dip 22° @ 2283/-	Scattered plant debris and scattered roots. Thick ironstone band at 2283/3. Very silty and firm from 2285/6. Coalified plant debris at 2285/6, broken from 2287/- to 2288/5			
Dip 30° @ 2286/- Dip 34° @ 2288/8	Sandy bands from 2288/6. 2 in. sandy band at 2291/-. Some coaly plant debris at 2291/6	12	6	2292
	Reported 3'11" LOST CORE at 2297/10			
LOWER NINE FEET SEAM COAL 5'10" @ 2303'3"	COAL, 3" of coal fragments recovered based on B.P.B. Log thickness : 5'10"	5	10	2297

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	THICKNESS in.	DEPTH ft.	DEPTH in.
	B/F			2297	10
	Seatearth, carbonaceous in top, becoming grey, muddy, badly broken to 2300/4. Large irregular ironstone lenses from 2300/6. Broken ground and shearing at 2302/6.	5	0	2302	10
	Mudstone, silty, grey, micaceous, scattered roots and plant debris. Sheared and broken at 2303/-. Badly fractured, 3" thick ironstone band at 2303/6, broken below to 2304/6.				
Dip 9° @ 2305/-	1 in. gouge at 2305/4. 10" band of light grey sandstone with carbonaceous laminations from 2305/5				
	Broken below for 1 ft., becoming medium grey with muddy bands and still with occasional light grey sandy laminations, becoming well bedded, faint C. kochi at 2309/-, some partings becoming carbonaceous. Sandy band at 2300/-. Muddy bands are wormy.				
	Alternating bands of sandy/silty mudstone packed with plant debris and wormy mudstone, sandstone bands every 6" to 1 ft. Occasional thin ironstone band.				
	Sandy bands end at 2316/-				
	Only occasional plant debris.				
Dip 5° @ 2313/-	1ft.6" very silty band from 2319/-	17	0	2319	10
	Mudstone, slightly silty, grey, occasional ferruginous band, wormy. Scattered plant debris. Faint C. carbonaria at 2321/6. Slightly fissile but fairly strong. C. carbonaria at 2323/- becoming dark grey and fissile at 2322/6. 2 in. soft and friable ground at 2323/-. Carbonaceous from 2323/7. Mixed impression of roof	3	0	2322	0
BUTE SEAM	COAL, broken stick (3'4" recovered)	4	6	2327	4
COAL about 4'6" @ 2336'1"	Seatearth, soft, friable, badly sheared to 2330/-, light brown mudstone				
B.P.B. thickness	below becoming dark grey and silty and firm from 2330/- with large ironstone nodules and sandy bands from 2330/6. Vertical quartz filled veining from 2332/6 in quartzitic sandy band	5	11	2333	3
	Mudstone, silty, grey with sandy bands in top. Scattered plant debris, quite well bedded, scattered roots, some partings packed with plant debris. Occasional sandy band, thick ironstone bands, muddy bands producing thin colour banding. Sandy bands				
Dip 12° @ 2334/-	to 2337/-, becoming increasingly muddy ; muddy bands slightly				
	wormy from 2339/-, becoming less				
Dip 10° @ 2340/-	planty from 2340/-	7	9	2341	0
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	THICKNESS in*	DEPTH ft*	DEPTH in*
	B/F			2341	0
	Mudstone, slightly silty, grey, occasional silty band, wormy in parts, well bedded, very scattered plant debris Shell fragment (mussel?) at 2343/- Scattered ironstone band	2	6	2343	6
	Mudstone, grey, slightly fissile, scattered Fe bands, large mussel fragment at 2343/8, other shell debris. Squashed mussels at 2344/-. 1" sheared ground at 2344/4. Wormy				
AMMAN MARINE BAND	and slightly silty. 6" dark grey mudstone at 2344/6 and slightly silty below. Small Lingula at 2345/1. Several Lingulae at 2345/6 Large Lingula at 2345/8. Several small Lingulae at 2347/2 and below (End of Lingula phase at 2348/-) Small pyrite blebs from 2347/2. Soft and sheared at 2347/9 for 3" becoming dark smooth mudstone, becoming packed with pyrite blebs to 2349/1. Mudstone below is soft and friable. 1" sheared ground at 2344/8. Mudstone packed with plant debris, some coalified ends	6	9	2350	3
AMMAN RIDER	COAL		2	2350	5
	Seatearth, muddy, soft, roots, grey, some pyrite in ironstone nodule and on plant/root remains, becoming silty	2	7	2353	0
	Mudstone, silty, grey, scattered roots and plants - some pyritised. Vertically jointed at 2354/6. Small dark muddy bands. 3" sheared ground at 2355/6	4	1	2357	1
Dip 6° @ 2353/-	Seatearth, light brown, muddy, friable, becoming grey and silty with large ironstone nodules from 2359/-. Some coalified plant debris and large plants. 3" soft/sheared ground at 2360/-. Seatearth, muddy below, becoming silty	4	6	2361	7
	Mudstone, silty, grey, poorly bedded, scattered roots. Scattered large ironstone nodules, very planty bands from 2363/-. Scattered sandy bands and occasional laminations. Muddy				
Dip 7° @ 2364/-	bands from 2365/-	5	7	2366	7
	Mudstone, grey, soft and friable. Slightly silty locally. Scattered plant debris, occasional roots, thin ironstone bands, becoming locally sheared	1	8	2368	3
	Mixture of light grey, quartzitic sandstone and coaly streaks		4	2368	7
	Seatearth, light brown, roots and plant debris, muddy, large ironstone nodules, becoming silty and grey from 2370/- micaceous, large Stigmaria	4	5	2373	0

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FORM P 71
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6-INCH MAP
SS 88 NE/33

Section of MARGAM BOREHOLE NO.7 (Craig-y-Aber)

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	THICKNESS in.	DEPTH ft.	DEPTH in.
	B/F			2373	0
	Sandstone, quartzitic, medium grained, light grey, massive with irregular vertical quartz veining, dark grey with silty bands, developing in bottom 6"	1	7	2374	7
Dip 8° @ 2375/-	Mudstone, very silty, grey, scattered plant debris with light grey sandy wisps and thin bands and laminations to 2376/-. Some partings packed with plant debris, some coalified plant debris, becoming muddy and wormy	3	7	2378	2
	Mudstone, grey, soft and friable, sheared throughout, badly sheared in base to gouge	1	6	2379	8
	Sandstone, light grey, medium grained with irregular silty bands and laminations some packed with plant debris, scattered ironstone bands. 3 in. of vertical quartz veining at 2381/-. 6 in. silty band at 2382/6 with numerous silty bands below.				
Dip 11° @ 2383/-	Massive and fine grained in bottom 1 ft.	5	0	2384	8
	Mudstone, grey, slightly silty, scattered plant debris, faintly wormy, silty bands, scattered ironstone bands, G. carbonaria at 2386/2, steep joint at 2386/-. Silty bands are tough, becoming increasingly muddy. G. carbonaria from 2386/6. Chubby worms at 2386/9	2	4	2387	0
	Mudstone, grey, wormy, well bedded, soft and friable, occasional planty, silty band, becoming firm in base	2	7	2389	7
No coal shown on B.P.B. general logs	6 ft. lost core at 2396/7, 1'6" of chippings only below to 2397/1; mainly soft earth with coal fragments	7	6	2397	1
	Sandstone, light grey, medium grained - quartzitic; silty bands and laminations in top 2 ft. with occasional ironstone band. Micaceous, scattered roots in silty bands. Subvertical quartz veining at 2398/6. Massive below 2400/- with only occasional silty wisps. 3" carbonaceous laminations at 2403/-. Occasional carbonaceous laminations below and scattered irregular coal lenses to base, large and coalified plant debris. 2" packed with carbonaceous laminations and bands at 2405/6. Irregular quartz veining from 2407/9 to 2409/-. Vertical quartz veining from 2412/- to 2413/-. Thin coal band at 2414/6. Coaly wisps becoming irregular with ironstone lenses at 2415/-. 2" of silty mudstone at 2416/-. Sandstone broken up by silty mudstone, sandstone becomes lenses in mudstone	19	7	2416	8
	Mudstone, silty, grey, micaceous, tough		8	2417	4
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FORM F 71
SERIES 680

6-INCH MAP

Section of MARGAM BOREHOLE NO.7 (Craig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	THICKNESS in.	DEPTH ft.	DEPTH in.
	B/F			2417	4
	3'4" of LOST GROUND at 2420/ including COAL, 2" fragments of coal recovered				
YARD SEAM B.P.B. thickness COAL 3'6" @ 2429'0"	COAL	3	6	2420	10
	Seatearth, grey, silty with roots. Firm, large ironstone nodules, becoming muddy. Sub-vertical joint at 2423/-. Steep slickensided parting at 2424/- and 2425/1 becoming silty with light grey sandy laminae, very ferruginous	7	2	2428	0
Dip 25° on laminations at 2428/6	Mudstone, silty, grey with sandy laminations and bands, large plant debris including Calamites	1	0	2429	0
	Sandstone, fine grained with silty laminations light grey. Coal bands at 2429/6, 2429/3 and 2430/6	1	5	2431	1
	2'6" LOST GROUND between 2430/1 and 2432/1. driller reports some COAL loss in this				
UPPER SEVEN FEET B.P.B. thickness COAL 1'6" @ 2441'3"	COAL? (no recovery)	1	6	2432	7
	Seatearth, black, carbonaceous packed with plant debris and polished surfaces. 9" badly sheared ground from 2433/6. Light brown seatearth below with coalified plants and roots. 11" badly sheared ground from 2435/- 6" sphaerosiderite below. Grey from 2438/4. 1 ft. of gouge from 2439/- Seatearth below	7	11	2440	6
Dip 9° @ 2441/-	Mudstone, silty, grey, scattered plant debris poorly bedded, slickensided parting at 2443/4, leached appearance locally with irregular brown colouring. Steep joint at 2444/-, Scattered sandy bands from 2445/-, some well preserved plant debris. Medium grey, thick ironstone bands. Hutchetite in ironstone at 2446/-, becoming quite well bedded. Occasional polished parting and coalified plant, fairly				
Dip 15° @ 2447/-	massive again from 2450/- to 2453/- Muddy bands locally. Slickensided parting at 2454/6. Sandy bands again from 2455/-. 3" quartzitic sandy band at 2460/-. Irregular quartz vein (vertical) from 2460/6 for 2 ft.	20	0	2460	5
Dip 16° @ 2456/-	Sandstone, light grey, fine grained, locally medium grained with silty laminations 1 ft. of siltstone from 2463/-. Silty laminations in sandstone below	5	6	2466	6
Dip 17° @ 2467/-	Siltstone, grey with light grey thin sandy bands, scattered plant debris		6	2467	0
	Mudstone, silty, grey, well preserved plant debris, slickensided partings at 2467/10. locally very silty. Light grey sandy laminae from 2469/-. Slickensiding at 2469/6. Coalified plant				
Dip 17° @ 2472/-	debris at 2472/-, becoming light grey and very silty with 2" of sphaerosiderite from 2473/1 to 2474/6 2474/6 to 2475/1, tiny fragments of core	8	1	2475	1
				.../	

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6-INCH MAP SS 88 NE/33

Section of MORGAM BOREHOLE NO.7 (Craig-y-Aber)

GEOLOGICAL CLASSIFICATION	DESCRIPTION OF STRATA	THICKNESS ft.	in.	DEPTH ft.	in.
	B/F			2472	1
	Siltstone, grey, fairly massive, strong with occasional light grey sandstone laminations. Scattered plant debris, sandy locally, some large plant debris (including Calamites), becoming less silty	3	11	2479	0
	Mudstone, silty, grey, scattered plant debris. Scattered large ironstone nodules, firm. Some large plant debris. Large ironstone bands from 2482/-. Polished partings at 2482/3, becoming muddy. Some plant debris is coalified	4	6	2483	6
	Mudstone, slightly silty, grey, well preserved plant debris, some large plant debris including Calamites, fairly massive, locally very silty	2	0	2485	6
	Mudstone, very silty, scattered plant debris, some well preserved plants. Firm micaceous, locally very silty. Coalified plant debris at 2491/-. Quite well bedded. 3" ferruginous band at 2492/-. Some large plants (including Calamites) from 2492/3.				
	muddy phases, becoming mudstone, silty. 1 ft. muddy band with well preserved leaf from 2496/-. Large plants produce irregular break to core. Several polished surfaces at 2502/-	17	6	2503	0
	Mudstone, slightly silty, grey, well preserved plants. Large plants, some are coalified, scattered ironstone bands	2	6	2505	6
	Mudstone, silty, grey, firm, scattered quite well bedded plant debris, micaceous becoming muddy again with irregular break to core on large plant debris. Scattered ironstone bands	2	0	2507	6
	Mudstone, slightly silty, grey, plant debris, some large and plant straps. 3" of broken with polished surfaces at 2509/6, silty bands. 2" sandy band	1	5	2508	11
		1	8	2510	7
	Coal, no recovery				
	Seatearth, carbonaceous in top, becoming grey, muddy, quite friable. Large ironstone nodules. 1" sheared ground at 2511/-. Soft and sheared locally to 2514/-, firm below with large ironstone nodules, core fragments only in bottom 6 in. Sharp contact to	4	5	2515	0
	Quartzite, quartzite, light grey, medium grained, massive with vertical quartz veining from top to 2517/-. Only faint carbonaceous wisps in top increasing downwards. 6" sedimentary disturbed laminations from 2518/- Silty bands rapidly increasing at top	4	0	2519	0
				.../	

Dip 17° @ 2481/6

Dip 18° @ 2486/-

Dip 15° @ 2494/-

...BVEN PENT STEAM ...P.B. shows ...coal, 18" here

Dip 7° @ 2519/6

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6-INCH MAP	

*Delete as appropriate

Section of MARCAM BOREHOLE NO.7 (Craig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	THICKNESS in.	DEPTH ft.	DEPTH in.
	n/F			2519	0
	Mudstone, silty, grey with scattered roots, slightly micaceous, occasional sandy laminations to 2522/-. Some partings packed with plant debris. Occasional thick ironstone bands. Muddy bands below 2522/-, some				
Dip 7° @ 2520/-	are wormy. C. kochi at 2524/9	6	0	2525	0
	Mudstone, (slightly silty in top 1 ft.), firm well bedded, wormy, occasional ironstone band, small amount of scattered plant debris. Mussel fragment at 2526/9 becoming broken				
	with occasionally shear, 6" broken ground with polished surfaces onto	2	2	2527	2
SEVEN FEET B.P.B. thickness COAL (about) 2'4" (on general log only)	COAL (only 3" coal with ½" dirt band recovered 2/- lost ground at 2529/6	2	4	2529	6
	Seatearth, muddy, grey, badly sheared in top 6 in., packed with polished partings				
	locally sheared and friable 2 ft. gouge from 2531/6 with occasional seatearth fragment.				
	Seatearth below, slightly silty and firm. 1" sheared ground at 2536/- broken above, solid below	7	11½	2536	0
	Mudstone, very silty grey, scattered roots in top 3 ft. occasional ironstone nodules, becoming quite well bedded				
Dip 8° @ 2538/-	Some plant debris, fairly massive Thin sandy bands from 2540/- to 2545/-. Sandy laminae closely spaced from 2544/-, vertical joint from 2544/3. Some well preserved				
	plants and some partings packed with plant debris, locally muddy.				
Dip 7° @ 2546/-	2" sheared ground at 2546/3. 2" broken ground with polished partings at 2546/6, thin sandy bands again from 2547/-. Thick ironstone bands 3" badly broken				
	core fragments with clay gouge at 2548/7. Sub-vertical joint below. Locally very silty from 2547/-	15	8	2551	4
	Sandstone, medium grained, light grey, quartzitic, fine grained in top with				
Dip 6° @ 2560/-	plant remains. Sharp base onto	1	0	2552	8
	Mudstone, silty, grey, scattered plant remains Occasional sandy band - firm. 2" band at 2555/-. 6" ironstone band in top. Ironstone nodules				
	at 2555/6, locally very silty. 4" ironstone band at 2559/-, muddy below. 6" sandy band at				
Dip 9° @ 2564/-	2561/6. Some partings packed with plant debris. Muddy bands locally Sandy bands end 2565/-, becoming less plenty, 10" of ironstone at				
	2566/8	15	4	2568	0

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6-INCH MAP SS 88 NE/33

Section of MARLAIS BOREHOLE NO. 7 (Craig-y-Aber)

Geological Classification	Nature of Strata	Thickness ft.	Thickness in.	Depth ft.	Depth in.
	B/F			2568	0
	Mudstone, grey, smooth, firm. Occasional plant debris (small). Occasional polished bedding surface, slickensided parting at 2568/6. Vertical joint from 2569/- to 2570/- becoming slightly fissile from 2575/- 3" packed with polished surfaces and broken from 2576/1, becoming darker grey. Several polished surfaces with shearing at 2577/1				
Dip 5° @ 2575/-	Thin ironstone band with pyrite infill at 2577/4, becoming fissile. Chubby worms trails in thin ironstone at 2577/8, becoming very carbonaceous and smooth with polished partings from 2577/10. Core fragments only from 2578/- (about)	10	7	2578	7
FIVE FEET SEAM	COAL with one dirt band	c 5	0		
B.P.B. thickness	and 2" of siderite, partially replaced by	d 1	4		
COAL 5'0" (about)	pyrite at 2586/3 (9'9" recovered)	c 6	7		
dirt 1'4"	Seatearth, rashes in top, becoming firm and muddy	d	10		
COAL 6'7"	COAL (1'2" recovered)	c 4	0	2596	4
dirt 10"	6/10 lost ground between 2575/1 and 2605/1)				
COAL 4'0" @ 2605'1"	Seatearth, muddy grey, firm for 3 in. Sheared below for 4". Fairly firm, occasional polished surface to 2598/4. Sheared and friable for 6 in., becoming grey, muddy below. Soft and sheared for 6 in. from 2599/6, broken and friable below to 2600/-, becoming grey with large ironstone nodules. 2" sheared ground at 2602/-. Small patch of sphaerosiderit at 2603/-.				
Caved in floor, roof uncertain	6" ironstone band at 2603/6	7	8	2604	0
	Mudstone, silty, grey with laminations and thin bands of light grey sandstone. Occasional roots, tough, fairly massive.				
	scattered roots, sandy bands from 2606/-, becoming rapidly alternated				
Dip 5° @ 2606/6	with sandy laminations from 2606/6	3	3	2607	3
	Sandstone, medium to fine grained, light grey, quartzitic, silty laminations in top 6 in., becoming massive below. Vertical quartz filled vein at 2607/6				
	1 ft. broken core fragments only from 2609/-. Silty laminations again from 2612/3. Vertical quartz and pyrite filled veining from				
	2610/- to 2612/-	5	7	2612	10
	Mudstone, silty, grey with rapidly alternating sandy laminations in top 1 ft., becoming scattered below. Scattered plant debris. Several thick ironstone bands from 2615/-. Occasional				
Dip 15° @ 2619/-	muddy band	8	0	2620	10

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Form P 71
Series 680

6-INCH MAP

Section of MARGAM BOREHOLE NO.7/(Graig-y-Aber)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	THICKNESS in.	DEPTH ft.	DEPTH in.
	B/F			2620	10
	Mudstone, dark grey, slightly silty, packed with plant debris and plant straps		6	2621	4
FIVE QUARTERS SEAM B.P.B. thickness COAL 2'9" @ 2632'5"	COAL 1" coal fragments recovered 2'8", lost core at 2624/1 : reported coal?	? 2	9	2624	1
	Seatearth, muddy, packed with roots, firm, light brown, large Stigmaria, large ironstone nodules some with pyrite centres at 2627/-, becoming light grey and sandy from 2627/6. 1 ft. of sphaerosiderite from 2628/- Silty and grey from 2629/6	6	11	2631	0
	Mudstone, silty, grey with leached appearance, scattered plant debris and roots, poorly bedded	2	4	2633	4
	Sandstone, fine grained in top 6", becoming medium grained, quartzitic, massive to 2634/10. Occasional thick silty bands and laminations below. Vertical joint from 2634/6 to 2635/8 in massive sandstone. Cross bedded silty laminations below.				
Dip 6° @ 2644/6	2'3" core lost 2640/3, laminations becoming closely spaced at bottom	10	8	2644	0
	Mudstone, silty, grey, quite well bedded. Occasional light grey sandy laminations. Unfossiliferous. Very silty locally	9	0	2653	0
	Siltstone, grey, unfossiliferous, occasional sandy laminations and sandy bands from 2654/-. Quartz filled vertical vein at 2656/-. Numerous load structures in base	6	11	2659	11
	Sandstone, light grey, quartzitic, massive, fine to medium grained. Occasional micaceous silty wisp. Steep quartz filled vein at 2663/- and at 2665/10 6 in. silty band with sandy laminations from 2666/8. Unfossiliferous Numerous load structures in base	9	1	2669	0
	Mudstone, silty, grey, numerous light grey sandy laminations and occasional bands in top 2 ft. decreasing downwards to 2672/9, becoming very silty. Scattered well preserved leaves 2" sandy band at 2672/11 with numerous sandy laminations and bands below - rapidly alternating with silty mudstone. 6" of sedimentary disturbed laminations at 2675/6 10" sandy band below with vertical irregular quartz veining. Numerous sandy laminations below. 1" clay gouge at 2679/-. Scattered sandy laminations below 2678/-, locally striped beds. 3" ironstone band at 2684/-. Occasional sandy band from 2684/6. Steep joint plane displacing				
Dip 10° @ 2670/-					
Dip 8° @ 2680/-	ironstone band by 1" at 2688/-	20	0	2689	0
				.../	

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6-INCH MAP: SS 88 NE/33

Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	THICKNESS in.	DEPTH ft.	DEPTH in.
	B/F			2689	0
	Siltstone, grey, no sandy bands and only occasional laminations from 2680/- to 2692/6, sandy bands in base	4	0	2693	0
	Sandstone, light grey, quartzitic with silty bands	2	0	2695	0
	Striped beds, sandstone/siltstone rapidly alternating, occasional in silty bands	5	0	2700	0
p 6° at 2697/-	Sandstone, light grey, quartzitic, massive, medium grained with thick irregular sub vertical quartz veining throughout. Large ironstone and mudstone lenses in base	1	4	2701	4
	Mudstone, silty, grey, sandy laminations and occasional thin band o sandstone 2" ironstone band	5	3	2706	7
	Sandstone, light grey, medium grained, quartzitic, massive. Vertical quartz veining in top 6". Occasional silty laminations	1	4	2707	11
	Siltstone,,grey with sandy laminations and occasional thin sandy bands 10" massive sandy bands at 2711/2. Scattered plant debris. Sandy bands increasing in base, passes to	4	1	2712	0
	Sandstone, light grey, darker sandstone bands up to 1'6", massive, packed with silty laminations in top 2 ft., only occasional below. Quartzitic, medium grained, locally coarse; pellets of mudstone in top. Irregular vertical quartz veining and partially broken from 2712/1 to 2721/6. 2" badly broken with partially filled cavity at 2716/-. Sub-vertical joint at 2723/- and 2723/6. 2" irregular quartz veining in broken sandstone darker than above at 2725/6, several steep quartz filled veins below to base. Carbonaceous wisps at 2727/-	18	7	2731	3
ELLIDEG SEAM (	6'3" LOST CORE at 2736/10)				
OAL 5'7" @ 2745'11"	COAL (no recovery)	5	7	2736	10
.B. thickness	Seatearth, soft rashes for 1'4" becoming firm silty and grey at 2738/2, sandy from 2738/9	2	8	2739	6
	Sandstone, light grey, quartzitic with silty bands and laminations	5	0	2744	6
	Mudstone, silty, grey with scattered roots, occasional sandy laminations, 6" band of sandstone at 2746/3	2	6	2747	0
p 5° @ 2744/-	Sandstone, light gray, quartzitic with silty wisps	1	3	2748	3
	Mudstone, silty, grey with muddy bands, becoming slightly silty after 1 ft. and wormy. Scattered plant debris	2	3	2750	6

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Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	THICKNESS in*	DEPTH ft*	DEPTH in*
	B/F			2750	6
	Mudstone, silty, dark grey with scattered plant debris, some large plant debris. Occasional sandy laminations, badly broken with sub-vertical ing at 2753/6. Core broken with vertical joints to 2756/-. Scattered ironstone bands from 2755/- becoming	6	6	2757	0
	Mudstone, grey, slightly silty, vertical jointing at 2757/6, scattered thin ironstone bands. Occasional silty bands with plant debris and sandy laminations to 2758/-, wormy from 2757/-, faint G. carbonaria Carbonicola?, mussel shell at 2759/10	3	2	2760	2
Dip 12° @ 2761/-	Mudstone, silty, dark grey, micaceous, scattered plant debris large fish plate (rhizodopsis)	1	3	2761	5
	Mudstone, dark grey, smooth, scattered plant debris. (Carbonicola?), large Mussel at 2762/1, (calcified?) shell debris at 2762"7 and below for 6". 4" ironstone band at 2763/1. 1'3" lost ground at 2764/5. Broken ground below for 1 ft. Poor core recovery in badly sheared ground to 2767/6. Smooth dark grey carbonaceous mudstone below, Spirobis at 2768/1, becoming packed with				
Dip 6° @ 2768/-	polished partings from 2768/9 3 ft. LOST CORE at 2775/1, packed with polished partings and sheared to base	13	8	2775	1
	Mudstone, smooth, grey to dark grey, becoming canneloid at 2775/6. Scattered				
Dip 11° @ 2776/-	plant debris. Shells at 2776/6 becoming silty and packed with plant debris at 2777/-	2	9	2777	10
	Seatearth, muddy in top, becoming silty, sandy from 2779/- to 2780/-, large ironstone nodules at 2781/- Occasional sandy bands below. 2" rashes at 2782/1 1'9" LOST CORE between 2775/1 and 2785/1	7	3	2785	1
	END OF HOLE AT 2785/1				
	Cemented up from approx.2200' only (i.e. about Caerau seam). 517' of HX casing left in top of hole				

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PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88 NE/29-32

1": 248

FR 25 WEST
SW/17

SS88 NE

HOLE OFF 14 WEST
SS 88NW/16

Nº8 BOREHOLE OFF 25 EAST
SS 88 NE/31

Nº3 BOREHOLE OFF 17 EAST
SS 88 NE/29

Nº7 BOREHOLE OFF 7 WEST
SS 88 NW/18

Nº4 BOREHOLE OFF 12 EAST
SS 88NE/30

Nº9 BOREHOLE OFF 7 WEST
SS 88 NE/32

MAIN

PENTRE SLANT

TYN-YR-HEOL

ROCK

RETURN

SLANT

NANT-GRAIGE YR. ABER

MAIN

MAIN

RHYD-Y-BONTBREN

FAWR

SEAM

ABERBAIDEN SLANT.
Nº2 BOREHOLE
SS 88SW/48

HAFOD-HEULOG

Nº1 BOREHOLE
SS88SW/78

To TONDU

ABERBAIDEN

Scale - 6" to a Mile

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GLAM

SS 88 NE/32

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS. 8510. 8551

34 SW

Underground

BORE or SHAFT No 9, off No 7 W. Heading, Aberbaiden Slant Aberbaiden Colliery.

(See plan showing of site attached)

County Glam.

6-in. Map 34 SW.

Top of Bore surface level 68 ft. below O.D.

One-inch Map 248.

Communicated 8: 1: 38; by Baldwins, Ltd.

Date of sinking Sept. 1937 to Dec. 1937 Borer François Cementation Co. Ltd. (J. Golden. Borer)

Specimens Bc. 2079-2/31.

Rock Favr Seam 2'10" thick at Bore. Dip. Section drawn

Description.	Top of Bore 50 ins. below Rock Favr Seam ∴ add 10 inches to subsidiary figures	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Dark grey fireclay [shaly in part to 14']		1	6	1	6
Hard grey bork		17	.	18	6
Hard shaly rock [with shaly flakes]		2	.	20	6
Hard grey rock		5	6	26	.
Very hard broken grey rock [Sandstone bands 28'-34']		16	.	42	.
" " " with ironstone nodules & iron pyrites.		8	.	50	.
Very hard broken grey rock		4	9	54	9
Hard unbroken grey rock		11	9	66	6
Grey rock with ironstone nodules.		1	3	67	9
Shaly grey rock with "		1	6	69	3
Broken strong dark grey shale		3	11	73	2
Shaly rock with ironstone nodules		1	10	75	.
Grey rock with coal markings		2	6	77	6
Kirky shaly rock		4	.	81	6
Grey rock		24	6	106	.
Dark grey shale		2	3	108	3
Grey rock		5	9	114	.
Grey rock w. occasional coal markings		28	.	142	.
Grey rock		16	6	158	6
Grey rock w. coal vein & ironstone nodules		1	9	160	3
Coal		1	9	161	4
Black shale		.	4	161	8
Rotten fireclay		.	8	162	4
Strong sandy shale		10	8	173	.
Strong dark grey shale		9	1	182	1
Coal vein		.	5½	182	15
Shaly fireclay		.	8½	183	10
Dark grey shale		8	2	191	.
Broken greasy shale		3	5	194	5
Coal		.	2	194	7
Dark grey shale		7	11	202	6
Strong dark grey shale		3	.	205	6
Dark grey shale w. ironstone bands.		1	6	207	.
Broken dark grey shale		1	3	208	3
Coal		1	2	209	5
Strong grey fireclay		1	2	210	7
Sandy fireclay w. ironstone nodules		3	7	214	2
Black shale		2	3	216	5
Rotten grey fireclay		2	6	218	11
Shaly fireclay w. ironstone nodules		7	7	226	6

Notes by QE
Cores in 83 boxes
c. 4'7½" per box
(Box 73 missing = 337-341')
Not seen

Dip in these shales down 5° to 160' ... Dip varies from 6° to 50° with false bedding true dip c. 10-12°. The sandstone series is very similar to the same strata in all the Aberbaiden Colliery underground bores. When joints & broken, the vertical joints show some oper & small pyrites crystals.

Jointy

Ironstone pebbles at 56'-61'

Large shale flakes & many fish 70-71' in shale & sandy shale strata

With shale flakes as wide as the core 78-80' also a few ironstone pbs + Coal streaks + strong many Coal streaks 87-96'. Ironstone pbs. 93-94'. 97-98'.

Silty shale

With large shale flakes. Shaly in part w. Goodly plant 138-142'

With a few Goodly pebs + some Coal pebs & fair bituminous pebbles

Dip 12-14° at base, higher at top. Fairly good Coal in particles w. pyrites traces.

Dk. carbonaceous fireclay

1015' Slicked & rooty to 1158'. Silty to sandy & ironstone nodules mostly silty shale strata

8-10° Goodly plant, comparable to Anthoptera

Slicked & rooty

8-12° Shale w. Galmeites, few roots. With Naiadites, fairly slicked.

Not seen

Dip c.10° Clunchy w. roots to 1961; on silty shale

8-10° With index plants.

Ironstone balls up to ½ in. Broken & slicked without mussels or plants.

Fairly good Coal in particles w. pyrite

Fine to silty w. roots to

Fair to sandy

Dk. sandy fireclay + dk. black shale w. carbonaceous plants + poor Naiadites.

Fine to silty slicked fireclay w. nodules

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SS 88 NE 152 2

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS. 248/76

Folio

County Clare

6 in. Map 34 SW

Oil Bore N° 9 (cont)
N° 7 Heading, Aberbaiden Island.

Description.	THICKNESS. Feet.	Inches.	DEPTH. Feet.	Inches.
Brot forward			226	6
Dip. Dark grey strong silty shale with occasional thin bands of fine sandy shale. Dark grey shale with sandy bands.	4	6	231	
10-12° " " " soft finely jointed	1	6	232	6
" " " Sandy shale	1	6	234	
10-14° " " " Hard shaly rock	5		239	
10-12° " " " Strong dark grey shale	6		245	
" " " Broken black shale	2	6	247	6
Strong dk grey hard shale with 6-14° odd plant remains and Dark grey shale	19	6	267	
5-12° " " "	6		273	
For 275 to 302 ft. see over				
" " " W. ironstone nodules	22		295	
10-12° " " " Very dark grey shale	7	6	302	6
" " " Dark grey shale	2		304	6
Dark grey fine to silty shale with thin ironstone bands & nodules up to 1/2 inch poor broken in upper part with slickensides (bivalves not seen & either rare or absent)	2	6	307	
" " " W. ironstone nodules	4		311	
" " " W. ironstone nodules	5	6	316	6
" " "	14	6	331	
" " " Strong dark grey shale (Comply to shaly w. ironstone nodules)	1	6	332	6
8-14° shaly Dark grey shale	7	6	340	
5-10° Hard, grey, fine to coarse sandy shale with vertical joints & after ex. Hard broken grey rock	3		343	
cliffing fractures on joints Hard shaly rock	3	3	346	3
Dk fissile grey silty to fine shale 10-12° with macerated plants Strong dark grey shale	7	3	353	6
Dk grey fine shale with 10-12° calcareous ironstone bands & nodules up to 1 inch & one or two slickensided ironstone bands Dark grey shale w. ironstone bands	10	6	364	
" " " " " "	2	9	366	9
" " Fine & banded	1	5	368	2
" " Fine with a little ironstone & rare small Anthracosia broken		6	368	8
" " Hard, massive, dk coal with traces of pyrites. Coal in quantity Coal.	1	6	370	2
Rooty & slickensided. Soft grey fissile		9	370	11
Silty & rooty Strong		7	371	6
Fine grd sandy & rooty Grey sandy fissile	1	10	373	4
Strong grey silty & slicked rooty shale w. ironstone nodules Shaly fissile	2		375	4
Strong grey silty & fine sandy & rooty shale w. slickensides Strong sandy shale	2	8	378	
Dk to dk grey silty shale w. nodules Dark grey fissile	2	3	380	3
Hard grey sandy fine grained massive sandst. (pebbly & slickensided) Hard grey rock	1	3	381	6
A Templeman 18-2-38. Left down hole		6	382	

Details of Down Cors Marine Beds & associated shales 270 to 302 ft 6.

Dip 6-12°	Dark fine shale (dark bluish tinge in good light with a few flat ironstone nodules or lenticles, Naiadites Aviculopecten, ostracods, fish spine & poor fish remains & coprolites.	1		271
" "	Hard dark grey v. fine grd sandy (silty) & finely micaceous shale almost an ironstone, with Naiadites & fish scales & coprolites.		6	271 6
" 10-12°	Dark fine shale (dark bluish tinged) silty at top, some thin ironstone bands, Lingula & Myalina at top with carbonised plant stems. From 271 to 273 ft. fossils frequent Lingula Orbiculoidea, Anthracosia, Myalina & other Lamellibranch fragments. Almost barren 273-276 ft (Anthracosia, Fossils again frequent 276 to 280 ft Lingula Orbiculoidea, Anthracosia, Goniatites & other fossils; Lepidodendroid & plant stems, Goniatite Below 280 ft a little more ironstone in nodules & bands up to 1½ ins & the shales have a faint yellow tinge in places & with very scarce fossils (only a few Naiads at 288 & again c. 295 ft (Naiadites & Lam. fragt) near change to dark shale below.	23	6	295
	Strong black shale, comulpid in part with traces of ironstone nodules rare fish remains & coprolites & at base Lingula & Orbiculoidea Soft shale slicked & broken at base	7	6	302 6
	(The underlying shale is partly broken & slickensided and Naiadites could not be found in the usual place below Lingula)			

(The cores of the Marine Band have been under cover all the time & were quite unaffected by weathering.)

(B12267) Wt. 13119A—0014 5000 9.27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372608 : BGS Reference: SS88NE32
British National Grid (27700) : 285100,185510

(*11932) Wt.30370/0370 10,000 9/39 A.& E.W.Ltd. Gp.685

1"248

>> 88 NE 1st

Name and Number of Shaft or Bore given by Geological Survey: Glam.

County

6" Quarter Sheet

248

Underground b.h. A Pen Caden, Scale

A Pen Caden Colliery (Baldwins Ltd.) 1937

Geological Classification	Description	Thickness			Depth	
	Dark grey fireclay				1	6
	Very hard + broken grey rock	14	6		16	-
	Hard grey rock	2	6		18	6
	" shaly "	2	-		20	6
	Hard broken grey rock	15	6		36	-
	Very hard grey rock	4	-		40	-
	Very hard broken grey rock w. ironstone nodules and iron pyrites	7	-		47	-
	Very hard sp. limited fine rock	17	-		64	-
	" " grey rock	6	-		70	-
	" " broken sandy shale	3	2		73	2
	Broken grey rock w. ironstone nodules	1	10		75	-
	Hard grey rock	2	-		77	-
	" " " broken	19	6		96	6
	Hard grey rock	9	6		106	-
	Dark shale	2	-		108	-
	Grey rock	6	-		114	-
	" " very hard + broken	8	-		122	-
	" " very hard	30	-		152	-
	" " " " + broken	8	-		160	-
	Grey rock		3		160	3
	COAL	1	1		161	4
	Black shale		4		161	8
	Rotten fireclay	1	4		162	4
	Strong sandy shale	9	8		172	-
	Hard broken shaly rock	8	-		180	-
	Strong dark grey shale	10	-		190	-
	Broken " " " gravy	4	5		194	5
	COAL		2		194	7
	Dark grey shale	12	5		207	-
	" " " broken	1	1		208	1
	COAL	1	2		209	3
	Strong fireclay	1	3		210	6
	Sandy " w. ironstone nodules	3	8		214	2
	Black shale	2	3		216	5
	Rotten fireclay	2	6		218	11
	Rotten shaly fireclay w. ironstone nodules	7	7		226	6
	Dark grey shale w. sandy bands	4	6		231	-
	" " " w. soft fireclay joints		6		232	6
	Hard dark grey shaly rock	11	6		244	-
	Broken dark shale w. ironstone nodules	4	-		248	-
	Dark grey shale	31	-		279	-
	" " " w. ironstone nodules	16	-		295	-
	Black shale	7	6		302	6
	Dark grey shale		6		303	-
	" " " w. ironstone nodules	11	-		314	-
	Dark grey shale	17	-		331	-
	" " " strong	9	-		340	-
	Broken hard grey rock	3	-		343	-
	Hard shaly rock	2	-		345	-
	Strong dark grey shale	8	6		353	6
	Dark grey shale w. ironstone bands	13	3		366	9

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372608 : BGS Reference: SS88NE32
British National Grid (27700) : 285100,185510

(*11932) Wt.30370/0370 10,000 9/39 A.& E.W.Ltd. Gp.685

SS 88 NE/32

1"248

• Name and Number of Shaft or Bore given by Geological Survey: Underground bh No 5 Aberpenar Scout (cont.)

County Glam

6" Quarter Sheet 24 SW.

248/75

Geological Classification	Description	Thickness	Depth
	BC Fwd.		366 3
	Dark grey shale	1 6	368 3
	" " " Bolsam	4	368 7
	coal	1 6	370 1
	Rather grey fireclay	10	370 11
	Strong " "	7	371 6
	Hard sandy "	1 10	373 4
	Shaly fireclay w. ironstone nodules	2 -	375 4
	Strong sandy shale	2 6	378 -
	Dark grey fireclay	2 3	380 3
	Hard grey rock	1 3	381 6
	Core not drawn	6	382 -
	Sunk by François Cementation Co.		

Contact BGS: ngdc@bgs.ac.uk

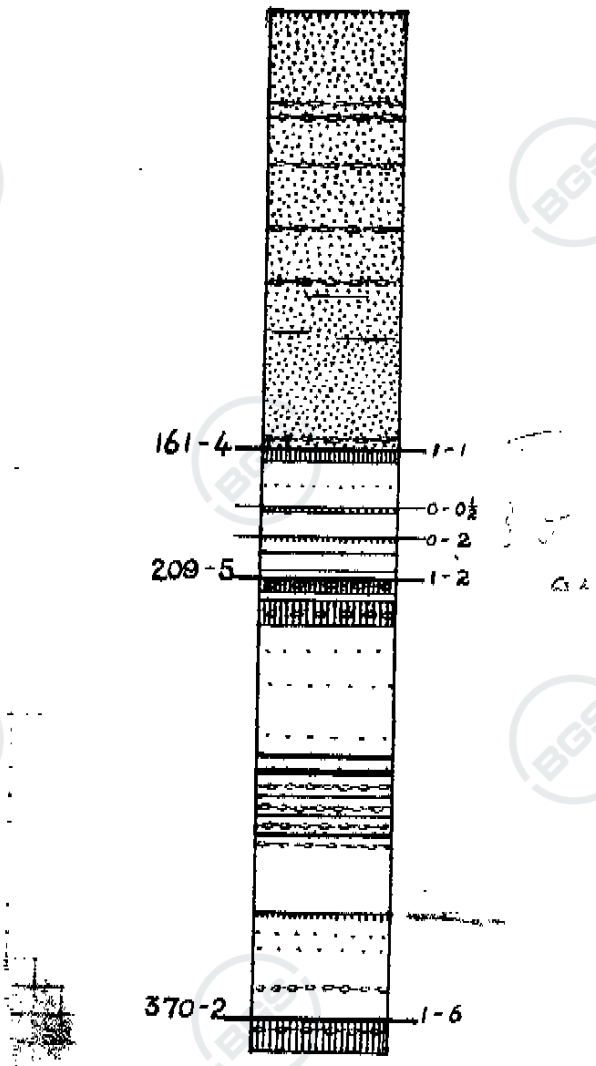
British Geological Survey

BGS ID: 372608 : BGS Reference: SS88NE32
British National Grid (27700) : 285100,185510

~~32 SW/7~~

ABERBAIDEN COLLIERY SS 88 NE/32 D
8510. 8551

No. 9 OFF No. 7 WEST HEADING



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

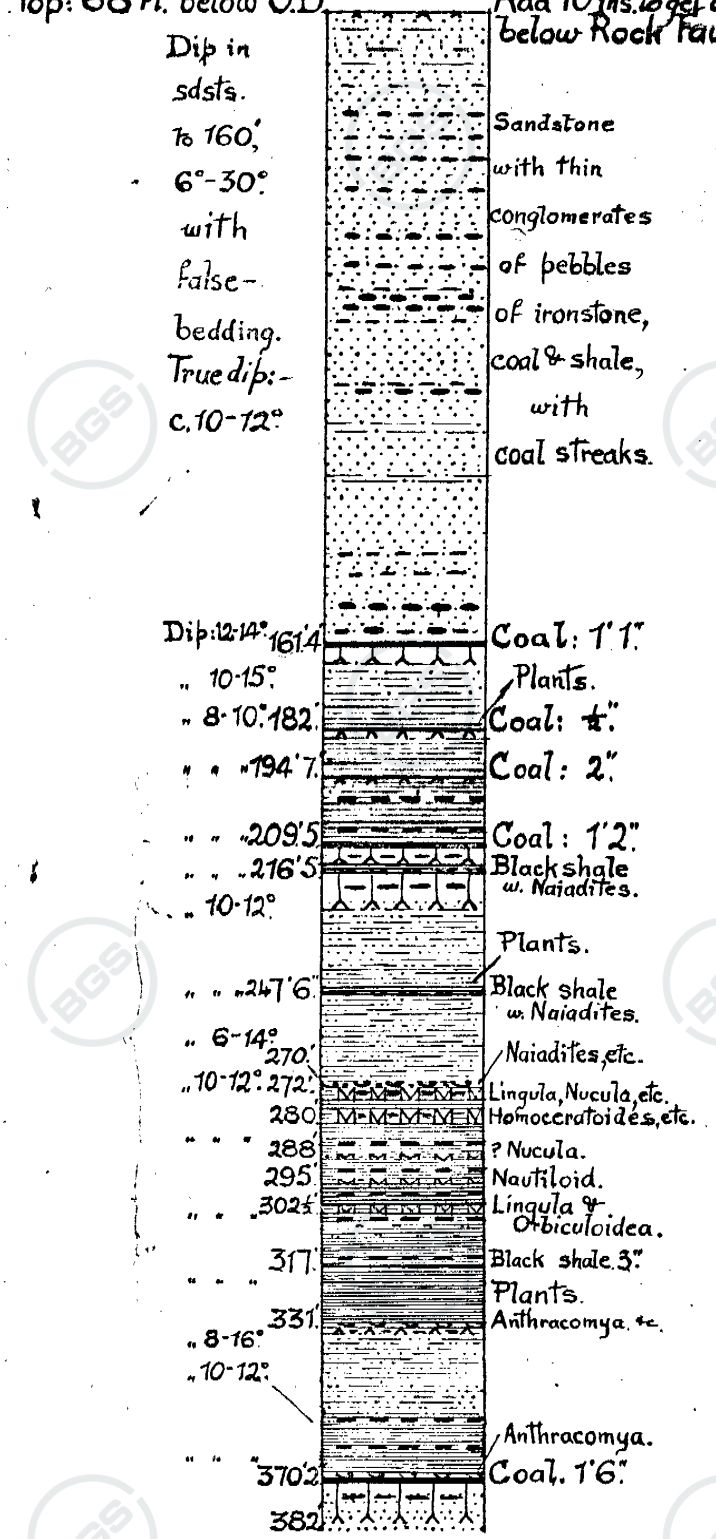
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Confidential. 24 SS 8 8 NE/32
8510. 8551 D

Aberbaiden U/Boring N°9
Aberbaiden Slant. (1938).

Top: 68 ft. below O.D.

Add 10 ins. to get distances below Rock Fawr Vein.



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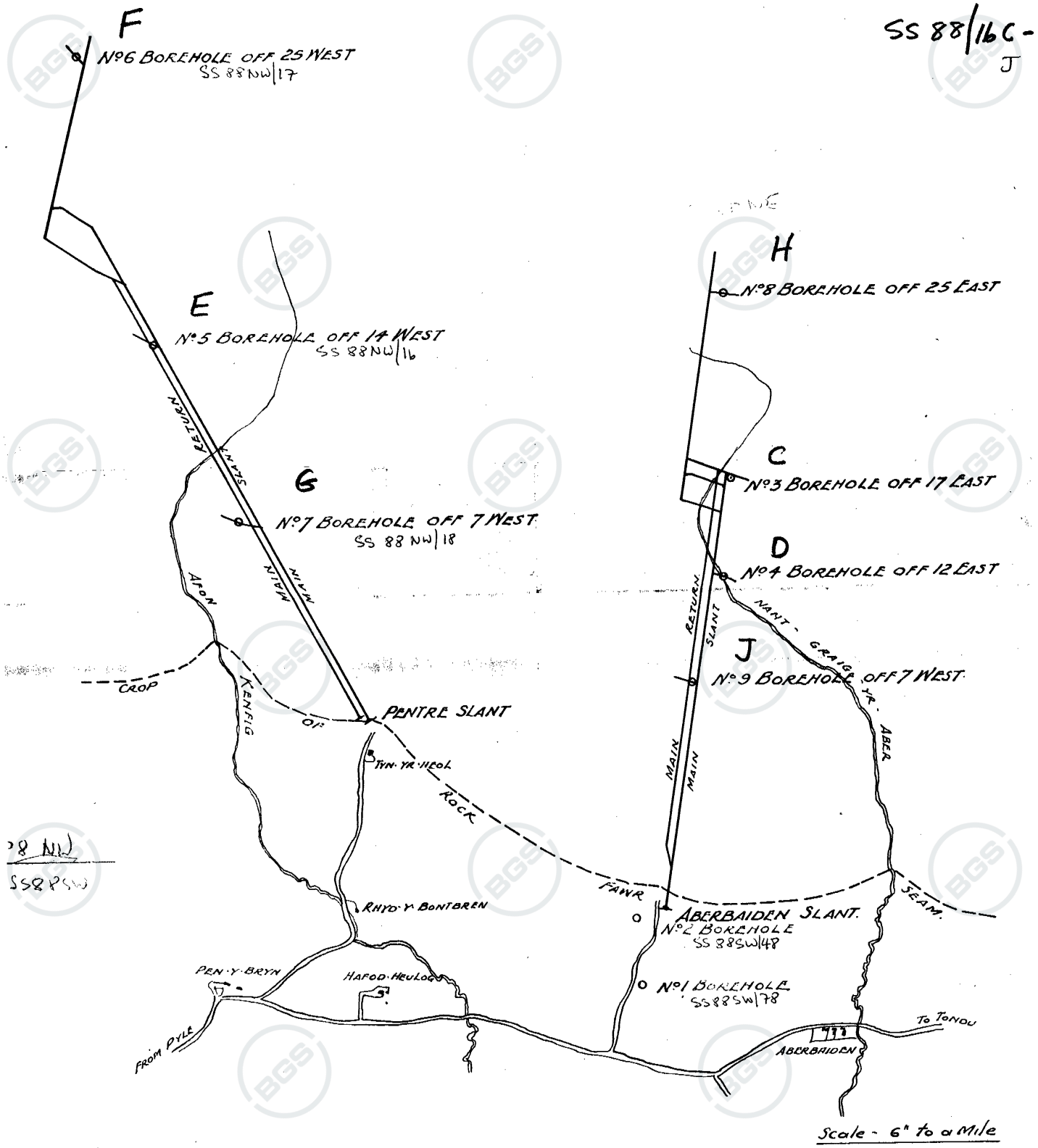
BGS ID: 372608 : BGS Reference: SS88NE32
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SS 88 /16 H

BALDWINS LTD – ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C - J



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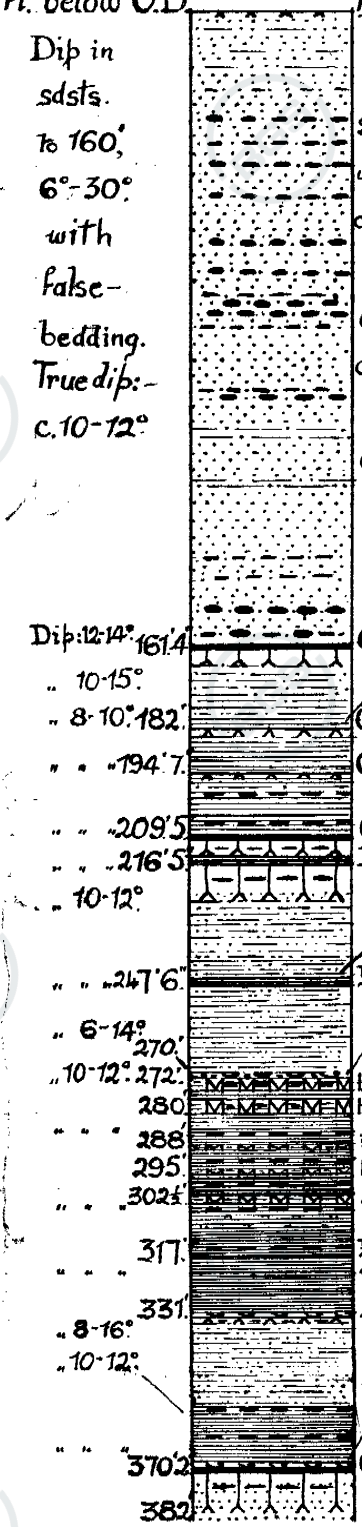
Confidential 240 Elev. 34.6" 48.1"

Aberbaiden U/Boring N° 9.
Aberbaiden Slant. (1938)

SS 88/16 J

Top: 68 ft. below O.D.

Add 10 ins. to get distances below Rock Fawr Vein.



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BGS ID: 372608 : BGS Reference: SS88NE32
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34SW/1

GLAM

Confidential

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS

248

1

34SW

Underground

BORE or SHAFT No. 9, off No. 7 W. Heading, Aberbaiden Slant Aberbaiden Colliery.

County Glam.

6-in. Map 34 SW.

GSM 700/506

(See plan tracing of site attached)

Top of Bore

Surface level 68 ft. below O.D.

One-inch Map 248. SS88/16J

SS 852 853

Communicated 8. 1. 38. by Baldwins, Ltd.

Date of sinking Sept. 1937 to Dec. 1937 Borer François Cementation Co. Ltd. (J. Golden, Borer)

Specimens Bc. 2079-2/31.

Rock Favr Seam 2'10" thick at Bore. Dip.

Section drawn

Description.	Top of Bore 10 ins. below Rock Favr Seam ∴ add 10 inches to underlined figures	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Dark grey fireclay		1	6	1	6
Hard grey bork [shaly in part to 14']		17	.	18	6
Hard shaly rock [with shaly flakes]		2	.	20	6
Hard grey rock		5	6	26	.
Very hard broken grey rock [Sandstone, 38'8" to 39'4"] with ironstone nodules & iron pyrites.		16	.	42	.
		8	.	50	.
Very hard broken grey rock		4	9	54	9
Hard unbroken grey rock		11	9	66	6
Grey rock with ironstone nodules.		1	3	67	9
Shaly grey rock with "		1	6	69	3
Broken strong dark grey shale		3	11	73	2
Shaly rock with ironstone nodules		1	10	75	.
Grey rock with coal markings		2	6	77	6
Kirky shaly rock		4	.	81	6
Grey rock		24	6	106	.
Dark grey shale		2	3	108	3
Grey rock		5	9	114	.
Grey rock w. occasional coal markings.		28	.	142	.
Grey rock		16	6	158	6
Grey rock w. coal vein & ironstone nodules.		1	9	160	3
Coal		1	1	161	4
Black shale		.	4	161	8
Rotten fireclay		.	8	162	4
Strong sandy shale		10	8	173	.
Strong dark grey shale		9	1	182	1
Coal vein		.	5	182	1½
Shaly fireclay		.	8½	182	10
Dark grey shale		8	2	191	.
Broken greasy shale		3	5	194	5
Coal		.	2	194	7
Dark grey shale		7	11	202	6
Strong dark grey shale		2	3	205	6
Dark grey shale w. ironstone bands.		1	6	207	.
Broken dark grey shale		1	3	208	3
Coal		1	2	209	5
Strong grey fireclay		1	2	210	7
Sandy fireclay w. ironstone nodules.		3	7	214	2
Black shale		2	3	216	5
Rotten grey fireclay		2	6	218	11
Shaly fireclay w. ironstone nodules		7	9	226	6

(B12268) Wt. 13119—0014 5000 9/27 G.P. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372608 : BGS Reference: SS88NE32
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GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

248

U/Bore No. 9 (cont) No. 7 Heading, Aberdulais Slant.

Folio

County Glam.

6 in. Map 34 SW

75

Description.	THICKNESS. Feet.	Inches.	DEPTH. Feet.	Inches.
Brot. forward	5588	16 J	226	6
Dip. Dark grey strong silty shale with occ. plant remains. 10-12° Dark grey shale with sandy bands.	4	6	231	
" " " " - soft friable joints	1	6	232	6
" " " " Sandy shale	1	6	234	
10-14° " " " " Hard shaly rock	5		239	
10-12° Dark grey shale with Strong dark grey shale	6		245	
" " " " Broken black shale	2	6	247	6
Strong dk grey silty shale with Dark grey shale	19	6	267	
6-14° " " plant remains in	6		273	
8-12° Dk grey fine to silty shale with	22		295	
For 273 & 302 ft. see over. " " W. ironstone nodules				
10-12° Strong dk grey fine shale with Vein dark grey shale	7	6	302	6
" " Dark grey shale with W. ironstone bodies & nodules (up to 12 in.)	1		304	6
" " " " W. ironstone nodules	2	6	307	
" " " "	4		311	
" " " " W. ironstone nodules	5	6	316	6
" " " "	14	6	331	
" " " " Strong dark grey shale (Strongly to shaly & slightly ironstone nodular)	1	6	332	6
Silty Dk grey shale with Dark grey shale	7	6	340	
8-12° Hard grey fine sandy shale with Hard Broken grey rock	3		343	
wide vertical joints filled with Hard shaly rock	3	3	346	3
silty & ferruginous joints Strong dark grey shale	7	3	353	6
10-12° Dk grey fine shale with Dark grey shale w/ ironstone bands	10	6	364	
10-12° Dk grey fine shale with ironstone bands & bands of shaly & fine sandy shale	2	9	366	9
" " Fine & banded " " "	1	5	368	2
" " Fine with a little ironstone " " broken		6	368	8
" " & rare small Anthracosia Hard recovery of Coal with traces of pyrites. Bitty in places. Coal.	1	6	370	2
Rooty & slickensided. Soft grey fireclay		9	370	11
Silty & rooty Strong "		7	371	6
Fine grained sandy & rooty Grey sandy fireclay	1	10	373	4
Dirty grey silty & shelled Shaly fireclay with W. ironstone nodules	2		375	4
root shale with ironstone nodules Strong sandy shale	2	8	378	
Slaty grey fine sandy shale with Dark grey fireclay	2	3	380	3
& rare small Anthracosia & slickensides Hard grey rock	1	3	381	6
Dk grey silty shale with W. nodules Left dust hole		6	382	
Hard grey sandy fine micaceous shale with plant remains & fish scales.				

A Templeman 18.2.38.

Details of Gwn Gors Marine Beds & associated shales 270 to 302 ft. 6 in.

Dip 8-12°	Dark fine shale (dark bluish tinge in good light) with a few flat ironstone nodules or bands, Naiadites Anthracosia, ostracods, fish spines & poor fish remains & coprolites.	1	271
" "	Hard dark grey v. fine grained sandy (silty) & finely micaceous shale almost an ironstone with Naiadites & fish scales & coprolites.	6	271 6
" " 10-12°	Dark fine shale (dark bluish tinge) silty at top sometimes ironstone bands, Naiadites & Modiola at top with carbonised plant stems. From 273 to 273 ft. 6 in. fairly frequent bands (reticulated, Naiadites, Modiola & other bivalves & Naiadites rare). Change to darker shale 273-276 ft. (containing fossils as before) frequent 276 ft. to 280 ft. Naiadites, Modiola, Anthracosia, Orthoceratites & plant stems. Lithological equivalent. Below 280 ft. a little more ironstone in nodules & bands up to 15 in. & the shales have a faint yellow tinge in places & more very scarce fossils (mud) a bivalve. Modiola at 288 ft. & again at 295 ft. (Naiadites & bivalves fragments near change to dark shale below.	23 6	295
	Strong black shale, carbonised in part in traces of ironstone nodules, rare fish remains & coprolites & at base Naiadites & Orbiculoidea. Laminated & broken at base	7 6	302 6

(The underlying shale is partly broken & slickensided and Naiadites could not be found in the usual place below Naiadites)

(The cores of the Marine Band have been under cover all the time & were quite unaffected by moisture & weathering.)

(B12267) Wt. 13119A—0014 5000 9.27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372608 : BGS Reference: SS88NE32
British National Grid (27700) : 285100,185510

(*11932) Wt.30370/0370 10,000 9/39 A.& E.W.Ltd. Gp.685

1/2

Name and Number of Shaft or Bore given by Geological Survey: Aberthaw Cement Co. Ltd. No 5 Aberthaw 1937 Sheet

1"=24"

County Glam.

6" Quarter Sheet SS 88 NE

248

SS88/16J

75

Geological Classification	Description	Thickness		Depth	
	Dark grey Limestone				
	Very hard & broken grey rock	14	6	16	-
	Hard grey rock	2	6	18	6
	" shaly "	2	-	20	6
	Hard broken grey rock	15	6	36	-
	Very hard grey rock	4	4	40	-
	Very hard broken grey rock w. ironstone nodules and iron pyrites	7	-	47	-
	Very hard splintered limestone rock	17	-	64	-
	" " grey rock	6	-	70	-
	" " broken sandy shale	3	2	73	2
	Broken grey rock w. ironstone nodules	1	10	75	-
	Hard grey rock	2	-	77	-
	" " " broken	19	6	96	6
	Hard grey rock	9	6	106	-
	Dark shale	3	-	109	-
	Grey rock	5	-	114	-
	" " very hard & broken	8	-	122	-
	" " very hard	30	-	152	-
	" " " " & broken	8	-	160	-
	Grey rock		3	160	3
	COAL	1	1	161	4
	Black shale		4	161	8
	Rotten limestone	1	4	162	4
	Strong sandy shale	9	8	172	-
	Hard broken shaly rock	8	-	180	-
	Strong dark grey shale	10	-	190	-
	Broken " " " , greasy	4	5	194	5
	COAL		2	194	7
	Dark grey shale	12	5	207	-
	" " " broken	1	1	208	1
	COAL	1	2	209	3
	Strong limestone	1	3	210	6
	Sandy " w. ironstone nodules	3	8	214	2
	Black shale	2	3	216	5
	Rotten limestone	2	6	218	11
	Rotten shaly limestone w. ironstone nodules	7	7	226	6
	Dark grey shale w. sandy bands	4	6	231	-
	" " " w. soft limestone joints		6	232	6
	Hard dark grey shaly rock	11	6	244	-
	Broken dark shale w. ironstone nodules	4	-	248	-
	Dark grey shale	31	-	279	-
	" " " w. ironstone nodules	16	-	295	-
	Black shale	7	6	302	6
	Dark grey shale		6	303	-
	" " " w. ironstone nodules	11	-	314	-
	Dark grey shale	17	-	331	-
	" " " , strong	9	-	340	-
	Broken hard grey rock	3	-	343	-
	Hard shaly rock	2	-	345	-
	Strong dark grey shale	8	6	353	6
	Dark grey shale w. ironstone bands	13	3	366	9

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372608 : BGS Reference: SS88NE32
British National Grid (27700) : 285100,185510

2/2

(*11932) Wt.30370/0370 10,000 9/39 A.& E.W.Ltd. Gp.685

• Name and Number of Shaft or Bore given by Geological Survey: 1"248

U.A.Bore No 5 Abstract 1933 (cont.)

County Glam 6" Quarter Sheet 34 SW.

248/34SW.

Geological Classification	Description	Thickness			Depth	
		SS88/16J.			75	
	Bt. Fnd.				361	2
	Dark grey shale		1	6	362	8
	" " " , Ironstone			4	363	7
	Coal		1	6	370	1
	Rotten grey fireclay			10	370	11
	Strong " "			7	371	6
	Hard sandy "		1	10	373	4
	Shaly fireclay w. ironstone nodules		2	-	375	4
	Strong sandy shale		2	6	378	-
	Dark grey fireclay		2	3	380	3
	Hard grey rock		1	3	381	6
	Core not drawn			6	382	-
	Sunk by François Compétition Co.					

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372608 : BGS Reference: SS88NE32
British National Grid (27700) : 285100,185510

DPL/BB

ABERBAIDEN COLLIERY

2/8/75 2/8/75 75

SS88/16 J

Record of ground passed through in No: 9 Borehole - No: 7 West Heading, Aberbaiden Slant.

11.9.37	
Dark Grey Fireclay.	From - to 1 ft 6 ins.
Hard Grey Rock.	" 1 ft 6 ins to 18 ft 6 ins.
Hard Shaly Rock.	" 18 ft 6 ins to 20 ft 6 ins.
Hard Grey Rock.	" 20 ft 6 ins to 26 feet.
18.9.37	
Very Hard Broken Grey Rock.	" 26 feet to 42 feet.
25.9.37	
Very Hard Broken Grey Rock with Ironstone Nodules and Iron Pyrites.	" 42 feet to 50 feet.
2.10.37	
Very Hard Broken Grey Rock.	" 50 feet to 54 ft 9 ins.
Hard Unbroken Grey Rock.	" 54 ft 9 ins to 66 ft 6 ins.
Grey Rock with Ironstone Nodules.	" 66 ft 6 ins to 67 ft 9 ins.
18.10.37	
Shaly Grey Rock with Ironstone Nodules.	" 67 ft 9 ins to 69 ft 3 ins.
Broken Strong Dark Grey Shale.	" 69 ft 3 ins to 73 ft 2 ins.
Shaly Rock with Ironstone Nodules.	" 73 ft 2 ins to 75 feet.
Grey Rock with Coal Markings,	" 75 feet to 77 ft 6 ins.
Grey Shaly Rock.	" 77 ft 6 ins to 81 ft 6 ins.
Grey Rock.	" 81 ft 6 ins to 106 feet.
Dark Grey Shale.	" 106 feet to 108 ft 3 ins.
Grey Rock.	" 108 ft 3 ins to 114 feet.
23.10.37	
Grey Rock with occasional coal markings.	" 114 feet to 142 feet.
30.10.37	
Grey Rock.	" 142 feet to 158 ft 6 ins.
Grey Rock with Coal Vein and Ironstone Nodules.	" 158 ft 6 ins to 160 ft 3 ins.
COAL.	" 160 ft 3 ins to 161 ft 4 ins.
Black Shale.	" 161 ft 4 ins to 161 ft 8 ins.
Rotten Fireclay.	" 161 ft 8 ins to 162 ft 4 ins.
Strong Sandy Shale.	" 162 ft 4 ins to 173 feet.
6.11.37	
Strong Dark Grey Shale.	" 173 feet to 182 ft 1 in.
Coal Vein.	" 182 feet 1 in to 182ft 1½ ins.
Shaly Fireclay.	" 182 1½ ins to 182 ft 10 ins.
Dark Grey Shale.	" 182 ft 10 ins to 191 feet.
Broken Greasy Shale.	" 191 feet to 194 ft 5 ins.
COAL.	" 194 ft 5 ins to 194 ft 7 ins.
Dark Grey Shale.	" 194 ft 7 ins to 202 ft 6 ins.
Strong Dark Grey Shale.	" 202 ft 6 ins to 205 ft 6 ins.
13.11.37	
Dark Grey Shale with Ironstone Bands.	" 205 ft 6 ins to 207 feet.
Broken Dark Grey Shale.	" 207 feet to 208 ft 3 ins.
COAL.	" 208 ft 3 ins to 209 ft 5 ins.
Strong Grey Fireclay.	" 209 ft 5 ins to 210 ft 7 ins.
Sandy Fireclay with Ironstone Nodules.	" 210 ft 7 ins to 214 ft 2 ins.
Black Shale.	" 214 ft 2 ins to 216 ft 5 ins.
Rotten Grey Fireclay.	" 216 ft 5 ins to 218 ft 11 ins.
Shaly Fireclay with Ironstone Nodules.	" 218 ft 11 ins to 226 ft 6 ins.
Dark Grey Shale with Sandy Bands.	" 226 ft 6 ins to 231 feet.
Dark Grey Shale with Soft Fireclay Joints.	" 231 feet to 232 ft 6 ins.
Sandy Shale.	" 232 ft 6 ins to 234 feet.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372608 : BGS Reference: SS88NE32
British National Grid (27700) : 285100,185510

SS88/16J

BALDWINS LTD – ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS88/16C-J

F
No 6 BOREHOLE OFF 25 WEST
SS 88 NW/17

E
No 5 BOREHOLE OFF 14 WEST
SS 88 NW/16

G
No 7 BOREHOLE OFF 7 WEST
SS 88 NW/18

SS88 NE

H
No 8 BOREHOLE OFF 25 EAST

C
No 3 BOREHOLE OFF 17 EAST

D
No 4 BOREHOLE OFF 12 EAST

J
No 9 BOREHOLE OFF 7 WEST

ABERBAIDEN SLANT.
No 2 BOREHOLE
SS 88 SW/48

No 1 BOREHOLE
SS88SW/78

PENTRE SLANT

TYN-YR-HEOL

RHYD-Y-BONTBREN

PEN-Y-BRYN

HAFOD-HEULOG

ABERBAIDEN

TO TONDU

FROM PYLE

CROP

RETURN SLANT

MAIN

NANT-GRAIG-YR-ABER

ROCK

FAWR

SEAM.

SS 88 NW

SS 88 SW

Scale - 6" to a Mile

88 SE

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372897 : BGS Reference: SS88SW48
EPSG: 27700 : 284920,184830

GLAM.

34 SW

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES

SS 88 SW/48

8492 8483

Coun 6-in.

BORE or SHAFT No 2 Aberbaiden.

100 yds. SW of Aberbaiden Cott.

331·66 101·09m nr. Kenfig Hill

Surface level ~~347 ft~~ above O.D. One-inch Map 248

Communicated 1·3·35 by Messrs Baldwins Ltd, Swansea

Date of sinking Jan-Feb 1935 Borer Francis Cementation Co Ltd (Borer T Glydden)

Specimens BB. 2748-2768. Vert. Sect. drawn

Notes by A.I.
Cores at site in boxes (22×2½)
Boxes uncovered & cores now weathered
Cores 9½ in to 7 in at outcrop.

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Box 1 (10'-21') Not made. Soft & pale brown. Not seen except for shale nods. Brown sand & clay	7		7	
Brown clay	4		11	
Fine gravel & sand	2		13	
Dip c. 30° N of this & other bores. Grey fireclay (No rootlets in core, well laminated)	17		30	
Grey shale (not finely but roughly varvic shale)	14		44	
Grey fireclay with ironstone nodules	16		60	
Grey shale	6		66	
Dark grey shale	6		72	
Grey shale	8		80	
Very dark grey shale	7		87	
Grey shale	1		88	
Grey shale	30		118	
Grey sandstone	5		123	
Grey shale	4		127	
Grey shale	5		132	
Dark grey shale (No identifiable plants)	15		147	6
Coal	2	8	150	2
Dark grey fireclay	4	10	155	

(B12268) Wt. 15[illegible]-0014 5000 9/27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372897 : BGS Reference: SS88SW48
EPSG: 27700 : 284920,184830

No 1

ABERBAIDEN NO: 2 BOREHOLE

RECORD OF STRATA

SS 88 SW/48

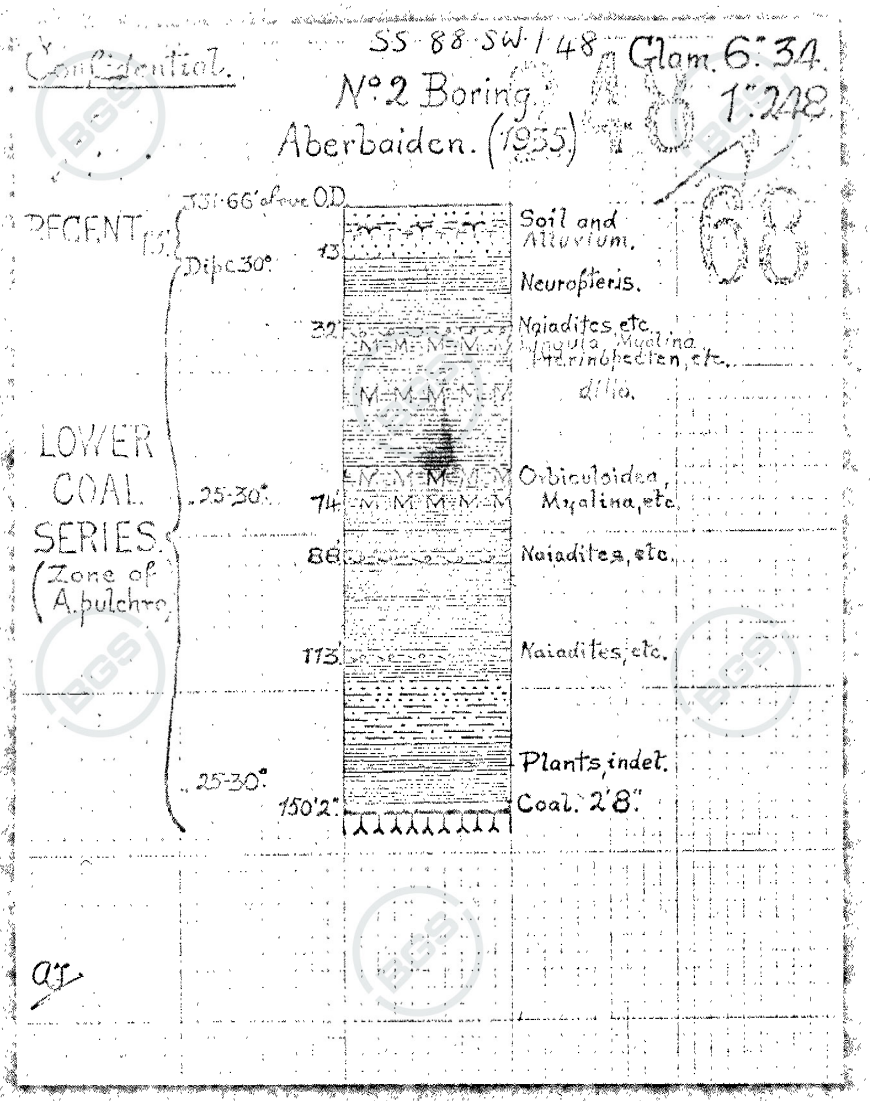
8492.8483

	From	0ft	to 7ft	Brown Sand and Clay
			2.13	
		7ft	to 11ft	Brown Clay
			3.35	
		11ft	to 13ft	Fine Gravel and Sand
			3.96	
19.1.35		13ft	to 30ft	Grey Fireclay
		30ft	to 44ft	Grey Shale
		44ft	to 60ft	Grey Fireclay with Ironstone Nodules
		60ft	to 66ft	Grey Shale
		66ft	to 72ft	Dark Grey Shale
26.1.35		72ft	to 80ft	Grey Shale
		80ft	to 87ft	Grey Shale
		87ft	to 88ft	Very Dark Grey Shale
		88ft	to 118ft	Grey Shale
		118ft	to 123ft	Grey Sandstone
2.2.35		123ft	to 127ft	Grey Shale
		127ft	to 132ft	Grey Shale
		132ft	to 147ft	Dark Grey Shale
		147ft	to 147'6"	Dark Grey Shale
		147'6"	to 150'2"	COAL
9.2.35		150'2"	to 155ft	Dark Grey Fireclay
			47.24	

Copied for
G. Edm
34 SW.

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EPSG: 27700 : 284920,184830



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British Geological Survey

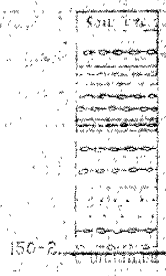
BGS ID: 372897 : BGS Reference: SS88SW48
EPSG: 27700 : 284920,184830

~~3 Swt~~

SS 88 SW/48
8492 8483

ABERBAIDEN COLLIERY.

No. 2 KERRIG HILL, 100 yd. S.W. OF ABERBAIDEN COLLIERY. SLANT



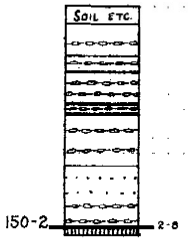
Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372897 : BGS Reference: SS88SW48
EPSG: 27700 : 284920,184830

~~345W/6~~
SS 88 SW/48
8492 8483D

ABERBAIDEN COLLIERY

No. 2 KENFIG HILL, 100 yd S.W. OF ABERBAIDEN COLLIERY SLANT



Confidential.

SS 88 SW/48 D Glam. 6" 34.

N°2 Boring. 48 1"248.

Aberbaiden. (1935)

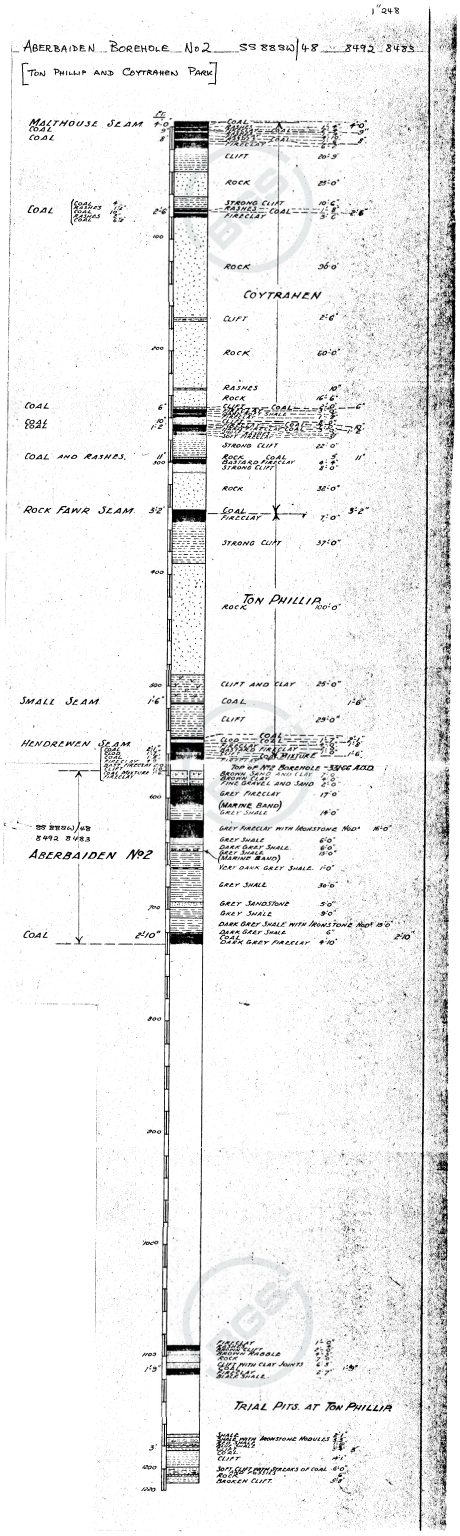
68

331·66' above O.D.

RECENT 13'		13'	Soil and Alluvium.
	Dip c. 30°		Neuropteris.
		32'	Naiadites, etc. Lingula, Myalina, Pterinopecten, etc.
			ditto.
LOWER COAL SERIES. (Zone of A. pulchra)	25-30°	74'	Orbiculoidea, Myalina, etc.
		86'	Naiadites, etc.
		113'	Naiadites, etc.
	25-30°		Plants, indet.
		150'2"	Coal. 2'8"

QJ

Contact BGS: ngdc@bgs.ac.uk


1"=48
ABERBAIDEN BOREHOLE No 2 SS 88 SW 48 8492 8483
[TON PHILLIP AND COYTRAHEN PARK]
MALTHOUSE SEAM
COAL
COAL
CLIFT
ROCK
COAL
STRONG CLIFT
ROCK
COYTRAHEN
CLIFT
ROCK
RASHES
ROCK
COAL
COAL
STRONG CLIFT
COAL AND RASHES
ROCK
ROCK FAWR SEAM
COAL
STRONG CLIFT
TON PHILLIP
ROCK
CLIFT AND CLAY
SMALL SEAM
COAL
CLIFT
HENDREWEN SEAM
COAL
GREY FIRECLAY
(MARINE BAND)
GREY SHALE
GREY FIRECLAY WITH IRONSTONE NOD
GREY SHALE
DARK GREY SHALE
GREY SHALE
(MARINE BAND)
VERY DARK GREY SHALE
GREY SHALE
GREY SANDSTONE
GREY SHALE
DARK GREY SHALE WITH IRONSTONE NOD
DARK GREY SHALE
COAL
DARK GREY FIRECLAY
SS 88 SW 48
8493 8483
ABERBAIDEN No2
COAL
TRIAL PITS AT TON PHILLIP

SS88SW

NUMB	BSUFF	SITE	BOREHOLE NAME	DEPTH	EASTING	NORTHING	COMMENTS	CONF	OD LEVEL	DATE
34		KW	PYLE BY-PASS A48. 21	16.76	280840	0182030		1		
35		KW	PYLE BY-PASS A48. 22	11.58	280900	0181820		1		
36		KW	PYLE BY-PASS A48. 23	10.97	280920	0181800		1		
37		KW	PYLE BY-PASS A48. 24	10.97	280990	0181800		1		
38		KW	PYLE BY-PASS A48. 25	12.5	281000	0181770		1		
39		KW	PYLE BY-PASS A48. 26	12.19	281780	0181200		1		
40		KW	PYLE BY-PASS A48. 27	8.23	281870	0181200		1		
41		KW	PYLE BY-PASS A48. 27A	4.88	281860	0181150	PYLE SEE MOTORWAYS	1		
42		KW	PYLE BY-PASS A48. 28	6.4	281890	0181160	PYLE	1		
43		KW	PYLE BY-PASS A48. 29	7.32	282040	0181170	PYLE	1		
44		KW	PYLE BY-PASS A48. 30	3.35	282030	0181140	PYLE	1		
45		KW	PYLE BY-PASS A48. 31	6.1	282190	0181140	PYLE	1		
46		KW	PYLE BY-PASS A48. 32	6.1	284130	0180740	PYLE	1		
47		KW	PYLE BY-PASS A48. 35	5.49	284150	0180720	PYLE	1		
48		KW	ABERBAIDEN COLLIERY 2	45.72	284920	0184830	PYLE	1		
49		KW	BRIDGEND BY-PASS BH.1	20.09	284130	0180920		1		
50		KW	BRIDGEND BY-PASS BH.2	13.99	284600	0181020		1		
51		KW	NEWLANDS COLLIERY NO.1 PIT	138.46	281080	0183500	PYLE	1		
52		KW	NEWLANDS COLLIERY, NORTH OF NEWLANDS SHAFT	32.31	281120	0183730	PYLE	1		
53		KW	NEWLANDS COLLIERY, DRIFT FROM NO.10 WEST IN SOUTH	26.65	280760	0183990	PYLE SITE 16	1		
54		KW	NEWLANDS COLLIERY NO.3 SOUTH	176.78	280260	0184110	PYLE SITE 17	1		
55		KW	NEWLANDS COLLIERY SCHEME NO.2	51.61	280130	0184240	PYLE SITE 18	1		
56		KW	NEWLANDS COLLIERY, MAIN DRIFT TO CAEGARW	51.66	280210	0184270	PYLE SITE 19	1		
57		KW	NEWLANDS COLLIERY, MAIN DRIFT SOUTH TO CAEGARW	36.5	281050	0183730	PYLE SITE 20	1		
58		KW	CORNELLY QUARRIES BH.97	16.76	283420	0180130	PYLE	1		
59		KW	CORNELLY QUARRIES BH.98	22.86	283440	0180240	PYLE	1		
60		KW	CORNELLY QUARRIES BH.99	45.72	283930	0180260	PYLE	1		
61		KW	CORNELLY QUARRIES, PYLE BH.100	45.72	283550	0180030		1		
62		KW	CORNELLY QUARRIES, PYLE BH.102	52.43	283660	0180110		1		
63		KW	CORNELLY QUARRIES, PYLE BH.103	60.96	283700	0180110		1		
64		KW	CORNELLY QUARRIES, PYLE BH.104	57.91	283690	0180040		1		
65		KW	CORNELLY QUARRIES, PYLE BH.108	57.91	283910	0180180		1		
66		KW	CORNELLY QUARRIES, PYLE BH.109A	72.54	283910	0180100		1		

British Geological Survey

BGS ID: 373102 : BGS Reference: SS88SW253
EPSG: 27700 : 284900,184800

NGRC

BOREHOLE RECORDS

ADJUSTMENT FORM

QUARTER SHEET SS88SW.

BH REGISTRATION NUMBER 251-267.

RECORDS ENTERED AND HELD BY WALLINGFORD

BH REGISTRATION NUMBER(S)

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 373102 : BGS Reference: SS88SW253
EPSG: 27700 : 284900,184800

Confidential.

Glam. 6. 34.

No. 2 Boring. Aberbaiden. (1935.)

1" 248.

331·66' above OD

RECENT 13'

Dip c 30°

LOWER COAL SERIES. (Zone of A. pulchra)

25-30°

25-30°

13'	Soil and Alluvium.
	Neuropteris.
32'	Naiadites, etc.
	Lingula, Myalina, Pterinopecten, etc.
	ditto.
74'	Orbiculoidea, Myalina, etc.
88'	Naiadites, etc.
113'	Naiadites, etc.
	Plants, indet.
150'2"	Coal. 2'8"

SS88/166

AJ

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British Geological Survey
BGS ID: 373102 : BGS Reference: SS88SW253
EPSG: 27700 : 284900,184800

GLAM

34SW/6

Completed

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

SS 84 SW 248

SS849 848

DECLASSIFIED 68

34SW

BORE or SHAFT No. 2 Aberbaiden

County Glam.

6-in. Map 34 SW.

100 yds. SW. of Aberbaiden Colliery Plant GSM 7000/430 447.

nr. Kenfig Hill

331·66

Surface level 347 ft. above O.D. One-inch Map 248 SS 88 NE

Communicated 1·3·35 by Messrs Baldwins Ltd, Swansea

Date of sinking Jan-Feb 1935 Borer Francis Cementation Co Ltd (Borer F. Godden)

Specimens BB. 2748–2768. Vert. Sect. drawn

Notes by A.I.

Cores at site in box (22×5½)

Boys uncovered 0 core, now weathered

Bore 9½ in to 7 in at bottom.

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Brown sand & clay	7	.	7	.
Brown clay	4	.	11	.
Fine gravel & sand	2	.	13	.
Grey fireclay (No rootlets in core, well laminated)	17	.	30	.
Grey shale (not fireclay but mostly marine shale)	14	.	44	.
Grey fireclay with nonstone nodules	16	.	60	.
Grey shale with indet. shell frags & fish scales & fossil sandst. & limestone	6	.	66	.
Dark grey shale	6	.	72	.
Grey shale	8	.	80	.
"	7	.	87	.
Very dark grey shale	1	.	88	.
Grey shale	30	.	118	.
Grey sandstone	5	.	123	.
Grey shale	4	.	127	.
Grey shale	5	.	132	.
Dark grey shale (No identifiable plants)	15	6	147	6
Coal	2	8	150	2
Dark grey fireclay	4	10	155	.

(B12268) Wt. 13119—0014 5000 9/27 Gp. 169 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 373102 : BGS Reference: SS88SW253
EPSG: 27700 : 284900,184800

(*11932) Wt.80370/0370 10,000 9/39 A. & E.W.Ltd. Gp.685

CONFIDENTIAL

Name and Number of Shaft or Bore given by Geological Survey: 24 1"248

County Glam.

6" Quarter Sheet 34 SW.

Bull at Kenfig Hill, A.P. Leyshon, Esq. No. 2.
Baldwins Ltd. 1935

68 SS88/46

DECLASSIFIED
10 SEP 1999
RECEIVED

Geological Classification	Description	Thickness	Depth
	No 2		
	Brown sand + clay	7 -	7 -
	Brown clay	4 -	11 -
	Fine gravel + sand	2 -	13 -
	Grey fireclay	17 -	30 -
	Dark grey shale	14 -	44 -
	Grey fireclay w. ironstone nodules	16 -	60 -
	Grey shale	6 -	66 -
	" " , dark	6 -	72 -
	Grey shale	15 -	87 -
	Very dark shale	1 -	88 -
	Grey shale	13 -	101 -
	Strong dark grey fireclay	13 -	114 -
	Grey shale	4 -	118 -
	" sandstone	5 -	123 -
	" shale	9 -	132 -
	Dark grey shale w. ironstone bands	15 6	147 6
	Coal	2 6	150 2
	Grey fireclay	4 10	155 -
	Sunk by, + information from Messrs. François Construction Co.		
	Information collected from F.C. Co., June, 1941		

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 373102 : BGS Reference: SS88SW253
EPSG: 27700 : 284900,184800

ABERGAVENNY NO: 2 BOREHOLE

RECORD OF STRATA

248
68
SS 88/16B

	From 0ft	to 7ft	Brown Sand and Clay
	7ft	to 11ft	Brown Clay
	11ft	to 13ft	Fine Gravel and Sand
19.1.35	13ft	to 30ft	Grey Fireclay
	30ft	to 44ft	Grey Shale
	44ft	to 60ft	Grey Fireclay with Ironstone Nodules
	60ft	to 66ft	Grey Shale
	66ft	to 72ft	Dark Grey Shale
26.1.35	72ft	to 80ft	Grey Shale
	80ft	to 87ft	Grey Shale
	87ft	to 88ft	Very Dark Grey Shale
	88ft	to 118ft	Grey Shale
	118ft	to 123ft	Grey Sandstone
2.2.35	123ft	to 127ft	Grey Shale
	127ft	to 132ft	Grey Shale
	132ft	to 147ft	Dark Grey Shale
	147ft	to 147'6"	Dark Grey Shale
	147'6"	to 150'2"	COAL
9.2.35	150'2"	to 155ft	Dark Grey Fireclay

Copied for C. Elam 34 SW

Contact BGS: ngdc@bgs.ac.uk

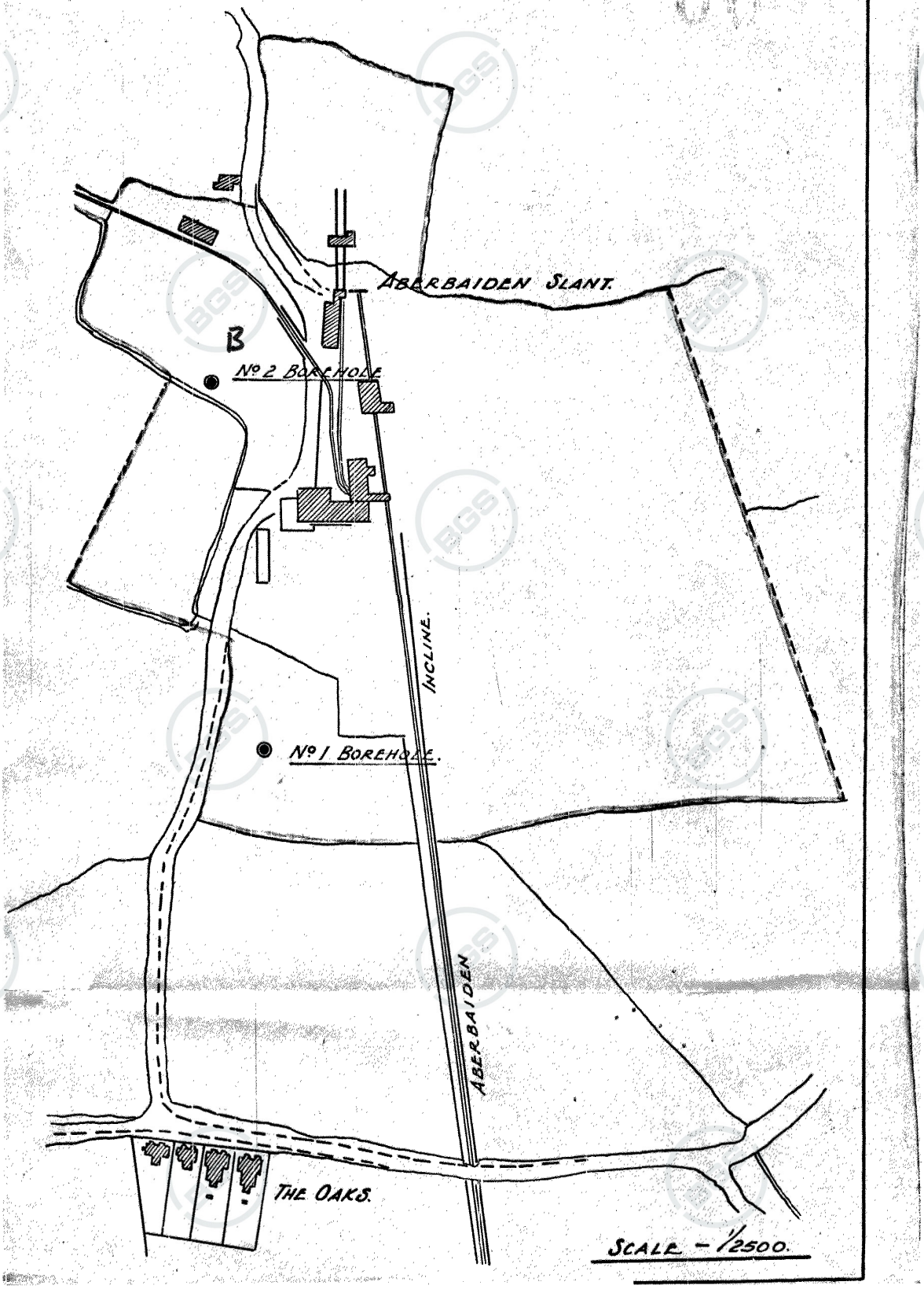
British Geological Survey

BGS ID: 373102 : BGS Reference: SS88SW253
EPSG: 27700 : 284900,184800

SS88 16

ABERBAIDEN COLLIERY.

PLAN SHEWING SITES OF Nos 1 & 2 BOREHOLES.



Contact BGS: ngdc@bgs.ac.uk

NGRC

BOREHOLE RECORDS

ADJUSTMENT FORM

QUARTER SHEET SS88SW.

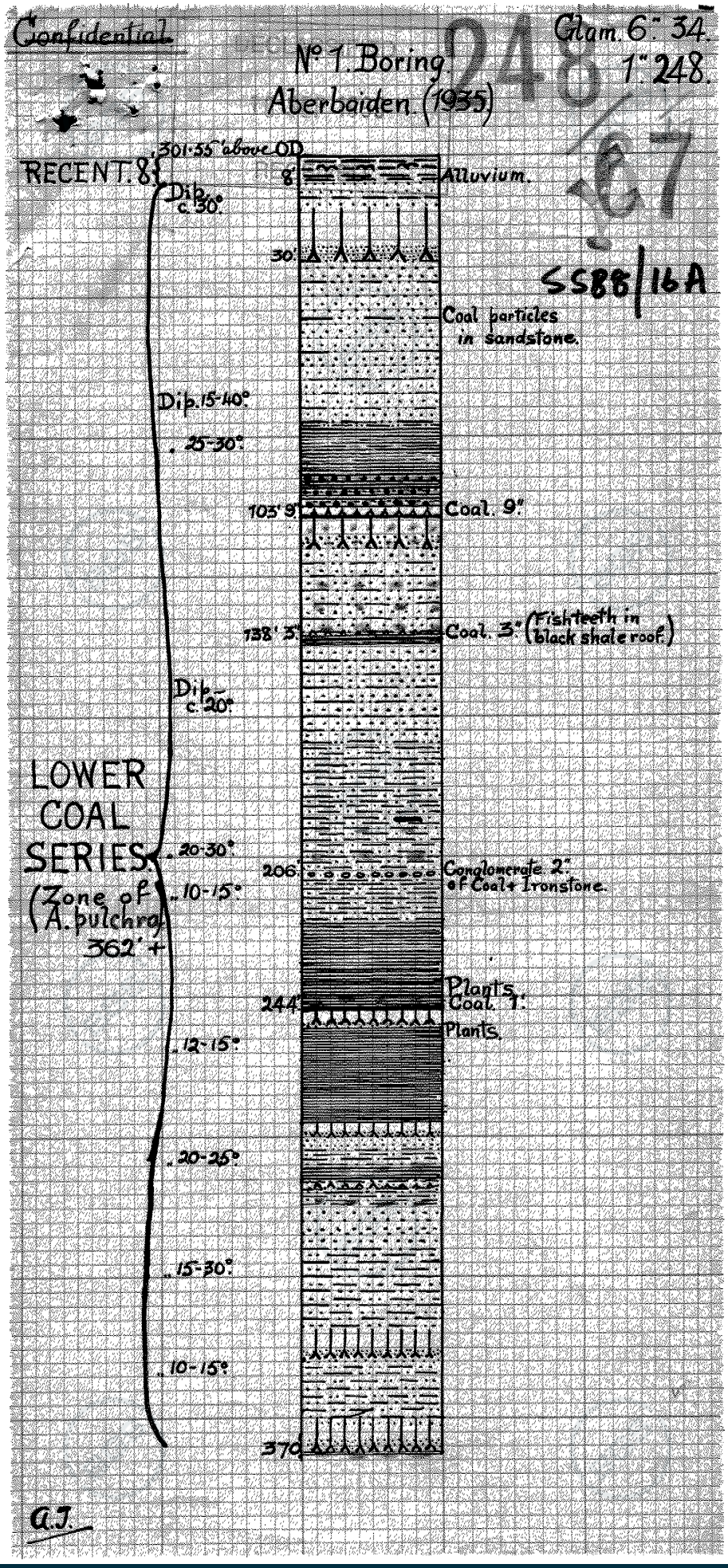
BH REGISTRATION NUMBER 251-267.

RECORDS ENTERED AND HELD BY WALLINGFORD

BH REGISTRATION NUMBER(S)

British Geological Survey

BGS ID: 373101 : BGS Reference: SS88SW252
British National Grid (27700) : 284900,184600



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 373101 : BGS Reference: SS88SW252
British National Grid (27700) : 284900,184600

GLAM

34SW

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

DECLASSIFIED 8 SEP 1995

248 SW 1

67

County Glam

6-in. Map 34 SW.

BORE or SHAFT No: 1 Aberbaiden c. 280 yds S. 16° W. 100 yds SW. of Aberbaiden Colliery Slant nr. Kenfig Hill

GSM 7000/420 7000/447

SS849 846

Surface level 301.55 300 ft. above O.D.

One-inch Map 248 SS88/16A

Communicated 1-3-35. by Baldwins, Ltd, Swansea

Date of sinking Sept/Dec, 1934 Borer Francois Cementation Co. Ltd (J. Godden - Borer)

Specimens Bb. 2738-2747. Vert. Sect. drawn

Notes by GF

Cores in 3 pt. boxes at site

27 Borers 27 ft. — 28 3 pc.

Borer with lids & cores all good order.

Bore 1 - 10 to 26 pc. Core 6 in

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Not seen Only 1 pt of brown sandy & micaceous shale seen				
Brown clay	8	.	8	.
Soft brown sandstone	7	.	15	.
Grey fireclay	4	.	19	.
Dark grey fireclay	6	.	25	.
Lighter grey fireclay	5	.	30	.
Grey shaly sandstone	18	.	48	.
Grey sandstone	9	.	57	.
Grey shaly sandstone	19	.	76	.
Dark grey shale	13	.	89	.
Dark grey shale with ironstone nodules	11	.	100	.
Dark grey fireclay with " "	3	.	103	.
Coal		9	103	9
Dark grey fireclay with ironstone nodules	1	3	105	.
Dark grey shale " " "	2	.	107	.
Grey shaly sandstone with " " "	3	.	110	.
Dark grey fireclay " " "	1	.	111	.
Grey sandstone	1	.	112	.
Grey shaly sandstone	5	.	117	.
Grey sandstone	2	.	119	.
Grey shaly sandstone with ironstone nodules.	17	.	136	.
Grey fireclay	1	.	137	.
Black shale with traces of coal	1	.	138	.
Coal		3	138	3
Black shale with ironstone nodules.		3	139	6
Grey shaly sandstone	27	6	167	.
Grey sandy shale dark (with few bands of ironstone)	36	.	203	.
Grey sandstone with veins of coal	3	.	206	.
Dark grey sandy shale (ironstone nodules)	12	.	218	.
Dark grey shale (Plants 336-340 Calamites)	22	.	240	.
Dark grey shale with ironstone nodules	2	.	242	.
Dark grey shale	1	.	243	.
Coal	1	.	244	.
Strong dark grey fireclay (from 250 to 265 ft. soft slaty mostly with coal in veins)	21	.	265	.
Very friable dark grey fireclay (as above, not fireclay)	11	.	276	.
Rotten black fireclay	1	.	277	.
Dark grey shale with ironstone nodules	3	.	280	.
Hard grey rock with spar joints.	3	.	283	.
Dark grey shale with ironstone bands	9	.	292	.

(B12268) Wt. 13119—0014 5000 9/27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 373101 : BGS Reference: SS88SW252
British National Grid (27700) : 284900,184600

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS. 248 2/67

BORE or SHAFT No. 1, Aberbaiden (cont)

County Glam.
6-in. Map 34 SW.
GSM

Surface level ____ O.D. ____ One-inch Map SS88/16A

Communicated ____ by ____

Date of sinking ____ Borer ____

Specimens

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Brot forward			292	.
Dark grey shale with bands of nonstone.	8	.	300	.
Hard grey sandstone	10	.	310	.
Dark grey sandy shale	24	.	334	.
Dark grey fissile clay	9	.	343	.
Dark grey sandy shale	27	.	370	.

(B12268) Wt. 13119—0014 5000 9/27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 373101 : BGS Reference: SS88SW252
British National Grid (27700) : 284900,184600

(11932) Wt.30370/0370 10,000 9/39 A & E (Pty) Ltd. Gp.685

343W/3

CONFIDENTIAL TO CONFIDENCE

Name and Number of Shaft or Bore given by Geological Survey: Aberavon No 1 Bit at Kenfig Hill for Messrs Baldwins Ltd

SS 88 SW 2 (74)

County Glam.

6" Quarter Sheet 34 SW.

DESCRIBED 1934

10 SEP 1999

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Geological Classification	Description	Thickness	Depth
	Brown clay		5 -
	Soft brown sandstone	7 -	12 -
	Grey limeclay, dark	10 -	22 -
	" " light	5 -	27 -
	Grey shaly sandstone	18 -	45 -
	Grey sandstone	28 -	73 -
	Dark grey shale	4 -	77 -
	" " "	9 -	86 -
	" " " w. ironstone nodules	14 -	100 -
	COAL	3	100 3
	Dark grey limeclay w. ironstone nodules	1 3	101 6
	" " shale " " "	2 -	103 6
	Grey shaly sdst. " " "	3 -	106 6
	Dark grey limeclay " " "	1 -	107 6
	Grey sandstone	1 -	108 6
	" " , shaly	5 -	113 6
	" "	2 -	115 6
	" " , shaly	1 -	116 6
	" shaly sandstone w. ironstone nodules	15 -	131 6
	Grey limeclay	2 -	133 6
	Very dark shale w. traces of coal	1 -	134 6
	COAL	3	134 9
	Very dark shale w. ironstone nodules	1 3	136 -
	Grey shaly sandstone	56 6	192 6
	" sandy shale	5 -	197 6
	Grey sandstone w. veins of coal	3 -	200 6
	Grey sandy shale	28 -	228 6
	Grey shale	6 -	234 6
	" " w. ironstone nodules	2 -	236 6
	Grey shale	1 -	237 6
	COAL	1 -	238 6
	Fireclay, strong dark grey	10 -	248 6
	" " " "	11 -	259 6
	Very friable dark grey limeclay	11 -	270 6
	Rotten black limeclay	1 -	271 6
	Dark grey shale w. ironstone nodules	3 -	274 6
	" " shaly sandstone	2 -	276 6
	Hard grey rock w. spar joints	1 -	277 6
	Dark grey shale w. ironstone bands	9 -	286 6
	" " " " hard "	6 -	292 6
	Hard broken grey sandstone	10 -	302 6
	Dark grey sandy shale	24 -	326 6
	" " limeclay	9 -	335 6
	" " sandy shale	27 -	362 6

Sunk by François Construction Co. to proved strata.

Information collected from F.C. Co.

June, 1941

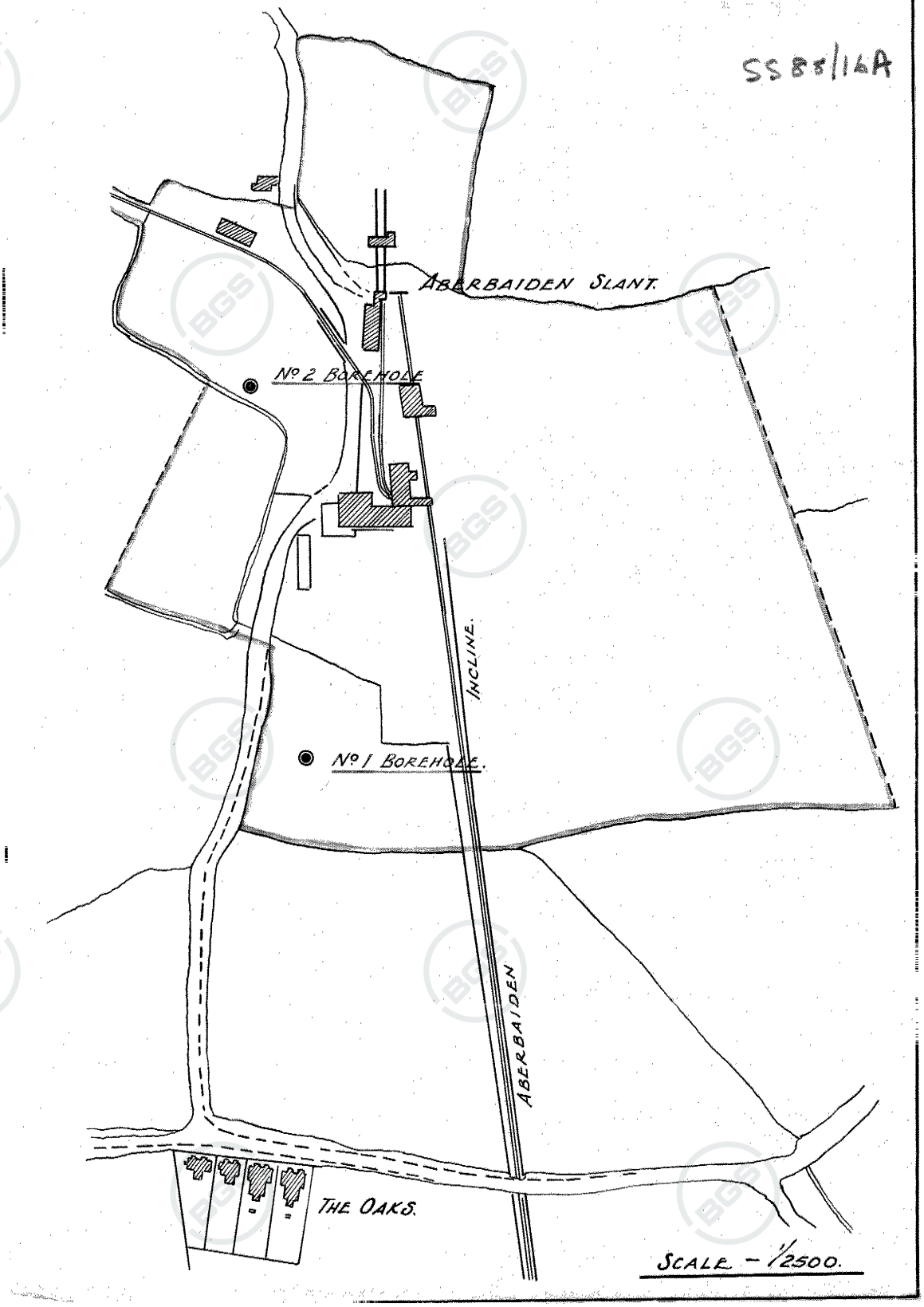
British Geological Survey

BGS ID: 373101 : BGS Reference: SS88SW252
British National Grid (27700) : 284900,184600

ABERBAIDEN COLLIERY.

PLAN SHEWING SITES OF Nos 1 & 2 BOREHOLES.

SS 88/16A



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372927 : BGS Reference: SS88SW78
British National Grid (27700) : 284910,184600

(*11932) Wt.30370/0370 10,000 9/39 A.& E.W.Ltd. Gp.685

Name and Number of Shaft or Bore given by Geological Survey: Aberdeen

B.H. at Kenfig Hill for Messrs. Bedd

1934

SS 88 SW/78

8491. 8460.

Geological Classification	DESCRIPTION					
	Brown clay				8	-
	Soft brown sandstone	7	-		15	-
	Grey fireclay, dark	10	-		25	-
	" " , light	5	-		30	-
	Grey shaly sandstone	18	-		48	-
	Grey sandstone	28	-		76	-
	Dark grey shale	4	-		80	-
	" " "	2	-		82	-
	" " " w. ironstone nodules	14	-		103	-
	COAL		9		103	9
	Dark grey fireclay w. ironstone nodules	1	3		105	-
	" " shale " " "	2	-		107	-
	Grey shaly silt " " "	3	-		110	-
	Dark grey fireclay " " "	1	-		111	-
	Grey sandstone	1	-		112	-
	" " , shaly	5	-		117	-
	" " "	2	-		119	-
	" " , shaly	1	-		120	-
	" shaly sandstone w. ironstone nodules	15	-		135	-
	Grey fireclay	2	-		137	-
	Very dark shale w. traces of coal	1	-		138	-
	COAL		3		138	3
	Very dark shale w. ironstone nodules	1	3		139	6
	Grey shaly sandstone	58	6		198	-
	" sandy shale	5	-		203	-
	Grey sandstone w. veins of coal	3	-		206	-
	Grey sandy shale	28	-		234	-
	Grey shale	6	-		240	-
	" " w. ironstone nodules	2	-		242	-
	Grey shale	1	-		243	-
	COAL	1	-		244	-
	Fireclay, strong dark grey	10	-		254	-
	" " " "	11	-		265	-
	Very fine dark grey fireclay	11	-		276	-
	Pattin Rock fireclay	1	-		277	-
	Dark grey shale w. ironstone nodules	3	-		280	-
	" " shaly sandstone	2	-		282	-
	Hard grey rock w. spar joints	1	-		283	-
	Dark grey shale w. ironstone bands	9	-		292	-
	" " " " hard	8	-		300	-
	Hard Pelsall grey sandstone	10	-		310	-
	Dark grey sandy shale	24	-		334	-
	" " fireclay	9	-		343	-
	" " sandy shale	27	-		370	-
	Sunk by Francois Construction Co.					
	to proved strata					
	Information collected from F.C.Co.,					
	June, 1934					

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372927 : BGS Reference: SS88SW78
British National Grid (27700) : 284910,184600

(*11932) Wt.30370/0370 10,000 9/39 A.& E.W.Ltd. Gp.685

1"248

SS88SW 18

Name and Number of Shaft or Bore given by Geological Survey: Bore at Kenfig Hill, Aberkenfig, for Messrs Buckleys Ltd. 1935

248

County Glam.

Quarter Sheet 32 SE.

64

Geological Classification	Description	Thickness			Depth		
	No 2						
	Brown sand + clay		7	-		7	-
	Brown clay		4	-		11	-
	Fine gravel + sand		2	-		13	-
	Grey fireclay		17	-		30	-
	Dark grey shale		14	-		44	-
	Grey fireclay w. ironstone nodules		16	-		60	-
	Grey shale		6	-		66	-
	" " , dark		6	-		72	-
	Grey shale		15	-		87	-
	Very dark shale		1	-		88	-
	Grey shale		13	-		101	-
	Strong dark grey fireclay		13	-		114	-
	Grey shale		1	-		115	-
	" sandstone		5	-		123	-
	" shale		9	-		132	-
	Dark grey shale w. ironstone bands		15	6		147	6
	COAL		2	6		150	2
	Grey fireclay		4	10		155	-
	Sinks by, + information from Messrs. François Construction Co.						
	Information collected from F.C. Co, June, 1935						

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

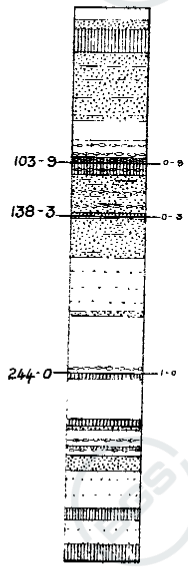
BGS ID: 372927 : BGS Reference: SS88SW78
British National Grid (27700) : 284910,184600

~~3 SW/5~~

SS 88 SW/78
8491. 8460 D

ABERBAIDEN COLLIERY

No. 1 KENFIG HILL, 280YD S. BY W OF ABERBAIDEN COLLIERY SLANT



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372739 : BGS Reference: SS88SE62
British National Grid (27700) : 285656,184760

SS 88 SE/62

The N C B Margam No. 5 Borehole, Aberbaiden, Glamorgan.

Introduction: The borehole is one of four deep boreholes drilled in 1975–1976 as part of an exploration programme designed to prove coal reserves in the Margam area with a view to sinking a new mine. The programme is the continuation of an earlier one carried out in 1954-5 during which Margam Boreholes No. 1 - 4 were drilled. A W Woodland logged these holes (see Pontypridd and Maesteg Memoir). The present borehole was logged and a faunal collection made by W J Barclay.

Summary log.

N C B MARGAM BOREHOLE NO. 5 [SS 8565 8476] O.D. 85.27m

	Depth to base
CARBONIFEROUS	
No core	60.00
Middle Coal Measures	
Upper Cwmgorse Marine Band	60.46
Hafod COAL	82.64
Lower Cwmgorse Marine Band	104.24
Foraminifera Marine Band	138.70
Lower Pentre COAL	181.08
Gorllwyn Coal	208.73
Cefn Coed Marine Band	243.55
Brittanic Marine Band	280.80
Hafod Henlog Marine Band	293.95
Two Feet Nine COAL	338.01
?Upper Four Feet COAL	354.22
?Lower Four Feet COAL	366.06
Upper Six Feet COAL	394.15
Lower Six Feet COAL	398.15
Caerau Vein COAL	419.78
Red Vein COAL	426.52
Upper Nine Feet COAL	452.26
Lower Nine Feet COAL	469.07
Bute COAL	478.73
Amman Marine Band	485.43
Lower Coal Measures	
Yard COAL	508.17
?Lower Seven Feet COAL	536.16
FAULT ZONE	589.20
Middle Coal Measures	
Amman Marine Band	594.08
Lower Coal Measures	
Yard COAL	613.59
Lower Seven Feet COAL	650.30
Five Feet COAL	663.31
Danllwyd COAL	673.68
FAULT ZONE	
Middle Coal Measures	
?Caerau	711.68
Bottom of borehole	719.17m

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Stratigraphy: The detailed stratigraphy of this area is well known through the work of Woodland and Evans (1964), and is not elaborated on here. However, some significant features are summarised as follows.

Marine Bands: The best developed are the Cefn Coed and Amman horizons. The Cefn Coed Marine Band yielded a poor faunal assemblage compared to the nearby Aberbaiden Farm outcrop (Ramsbottom, 1952), but the basal fossiliferous beds were very crushed and two to three metres were unrecovered. The marine beds form the base of a thick cyclothem consisting of dark burrowed mudstones containing scattered fish debris and many layers of sideritic ironstone. This is identical to the Black Pins Mine Ground of the Abergavenny district. The Amman Marine Band, penetrated twice, is represented by lingula-bearing mudstones. However, the beds below the Aberbaiden Thrust have a greater abundance of lingula and may represent a more distal facies than those above. The Foraminifera Marine Band is characterised by a thick P. opthalmoides phase, the base of the Band and underlying Pentre Rider Coal being absent due to faulting.

Coal Seams. The Pentre Group of coals are much disturbed and correlations uncertain. A much thicker sequence than anticipated suggests repetition by thrusting. The only good coal was the ?Lower Pentre at 181.08m which contains a parting with ?tonstein laminae. Confirmation of the tonstein would support correlation as the Lower Pentre as this seam contains a tonstein in the Newport district (Squirrell and Downing, 1969).

The Two-Feet Nine roof beds were extremely loose, the core being in polished, slickensided 'biscuits'. The presence of P. Montanus associated with sideritic layers was a characteristic feature.

The Four-Feet and Six Feet seams showed poor, disturbed sections. A diversion was made for the Six Feet on completion of the borehole, and a similar disturbed section was obtained. The presence of C. Kochi is a distinctive feature of the higher roof beds of this seam.

A two-coal section was recorded at the horizon of the Caerau, with both leaves having plant debris in their roof beds, but two solid mussels were also found in the roof of the lower leaf.

The Caerau to Red Vein interval showed some faulting, and a good mussel band was present in the roof of the Red Vein.

The Red Vein to Upper Nine Feet interval showed some faulting, with C. Kochi the most common fossil.

The Upper Nine Feet (2.38m) and the Lower Nine Feet (1.61m in two leaves) gave good coal sections, as did the Bute (1.32m), the latter having solid mussels in its roof.

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The Yard (1.10m) also gave a good section, but the underlying Seven Feet was represented by two, possibly three thin coals.

Below the ?Lower Seven Feet a thrust complex was penetrated and the Amman Rider, Yard and Seven Feet (again in two or three leaves) were repeated.

The Five-Feet (2.70m) and the Danllwyd (1.00) were good coals but under the latter another thrust zone was penetrated, and the Gellideg was not proved.

The correlation of the short run of beds drilled below this thrust at 695.87m to the base of the borehole at 719.17m remains in doubt. I consider that the coal proved at 711.68m is best correlated as the Caerau, while R H Price (NCB) believes that it is the Bute. However, palaeontological evidence is not yet available to confirm correlation.

Structure: Average dip in the borehole is c. 15 - 20°. The most important structural element proved is the two thrust fault zones, together comprising the Aberbaiden Thrust (new name). This previously undetected thrust is probably an extension of the Margam Thrust Belt, north of its previously known limit (the Kenfig Thrust), and is of great significance in that it provides a southern limit to proposed new mining development in the structurally simpler ground to the north. The top element in the complex has a displacement of c. 110 metres. Displacement of the bottom element depends on correlation of the coal at 111.68m. If this is the Caerau, a displacement of c. 184metres occurs and if it is the Bute, 122 metres. In the vicinity of these thrusts, monoclinally folded, disturbed strata occur, and similar conditions existed at the base of the borehole, suggesting that possibly a further thrust was about to be penetrated. Thus total proved displacement is at least 232 metres, may be 294 metres, and could possibly be even more.

A thrust of this magnitude must therefore make considerable changes to the geological map (Woodland 1949). Also, it may solve an anomaly in the correlation of the Five Feet seam in the nearby Margam No. 4 Borehole (Woodland and Evans, 1964, p.346), where two coals, separated by 162 feet are correlated as the Upper and Lower Five Feet Seams. It is suggested that the Aberbaiden Thrust was penetrated in this borehole, and that the two seams are the same one (Five Feet of Margam No. 5 Borehole) repeated by the thrust.

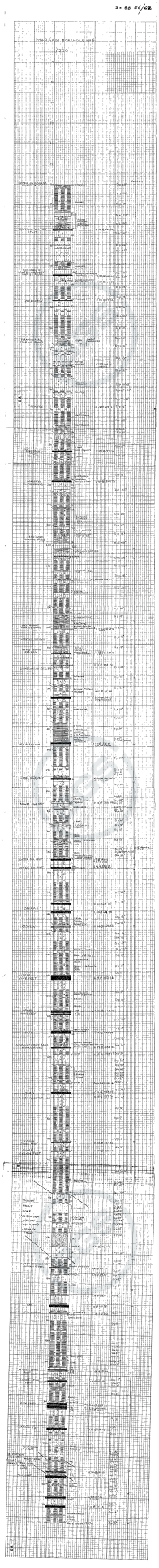
References:

Squirrell and Downing 1969. Geology of the Country around Newport (Mem).
Ramsbottom, 1952. Bull. Geol. Surv. Gt. Brit. No. 4, 8-30.
Woodland and Evans, 1964. The Geology of the South Wales Coalfield, Part IV, Pontypridd and Maesteg.

W. J. Barclay.

W J Barclay

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IGS 11th (Rev.) 2000 8/74

Institute of Geological Sciences

RECORD OF SHAFT OR BOREHOLE

6-in or 1:10 000 Map Registration No.

SS 88 SE /62

Name and Number of Shaft or Borehole: Margam Borehole N°5

National Grid Reference

SS 8565.8476
285 655.584 E
184 759 575 N.

For whom made NCB

Town or Village _____ *County* Glamorgan

Exact site (reference to a fixed point on 1-in or 1:50 000 Map)

1-in or 1:50 000 New Series Map No. 248

Enter 'C' if Confidential

Purpose for which made Coal exploration.

Ground level at shaft / bore *relative to O.D.* 273.68 ft 83.420m m. *If not ground level give O.D. of beginning of* shaft / bore 279.75ft. 85.270m m.

Made by Foraky Ltd. *Date of sinking* March–April 7

Information from Borehole core examination. *Examined by* W. J. Barclay.

Specimen Numbers and Additional Notes

Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
Dip 25° at 60.00	Open hole. No core.	60.00	60.00
Dip 5° at 60.20	Mudstone, medium grey, slightly silty; vague worm traces; sheared 60.20–60.30; scattered planolites sp; lingula at 60.20;		
MCM Dip 25° at 60.50	bedding plane shear at 60.45	0.46	60.46
	Sandstone, medium grey, fine-grained;		
	some carbonaceous planty laminae.	0.09	60.55
Dip 23° at 60.65	Seatearth-mudstone, medium grey, rootlets, plant debris and coal wisps; pyrite wisps; laminated to 60.60; silty 60.60 to 60.83 with		
	ironstone concretions.	0.28	60.83
Dip 23° at 61.10	Sandstone, medium grey, fine-grained; current laminated carbonaceous wisps; vertically jointed; ironstone clast at 60.93; silty parting at 60.93; tough, quartzitic; jointed 61.00–61.10; silty mudstone (1cm bed) at 61.10; striped 61.14–61.27		

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British Geological Survey

BGS ID: 372739 : BGS Reference: SS88SE62
British National Grid (27700) : 285656,184760

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Name and Number of Shaft or Borehole : Margam Borehole N°5

6-in or 1:10 000 Map Registration No. SS88SE/62

National Grid Reference

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		60·83
	Coarsens down to fine-medium grained by base; erosion surface at 61·40	0·57	61·40
	Mudstone, medium grey; silty at top, fining down; pyrite burrowfills 61·40 to		
Dip 23° at 61·60	61·60; planty shale with some coalified debris at 61·60	0·25	61·65
	Seatearth: silty mudstone, medium grey,		
	rootlets and plant debris; passes down into	0·35	62·00
	Silty mudstone, medium grey; well-		
	laminated silty laminae; siltstone 62·05 to		
	62·20; some plant debris throughout.	0·30	62·30
	Siltstone, medium grey; ripple-drift		
	laminated.	0·45	62·45
Dip 26° at 62·50	Silty mudstone, medium grey, fines		
	downwards to 63·10, coarsens below 63·10;		
	low-angled shears at 62·95; passes		
	down into	1·20	63·65
	Siltstone, medium grey, finely comminuted		
	plant debris; current laminated; vertically		
	jointed; passes down into	0·45	64·10
	Sandstone, medium grey, fine-grained,		
	current-laminated, finely micaceous,		
	plant debris; passes down into	0·50	64·60
Dip 22° at 64·70	Siltstone, medium grey, fine-grained sandstone		
	band 64·70–64·75; plant debris throughout;		
	current laminated; burrows at 65·40;		
Dip 22° at 65·50	jointed 66·25–66·35 and 66·45–66·50;		
Dip 21° at 66·40	sedimentary deformation structures 66·45		
	to 66·60; core recovery complete from 60·00		
	to 66·94; (possibly slight loss at 60·00);		
Dip 35° at 68·25	In run 66·94 to 76·00: 1·80 m core lost;		
	Shear planes 68·05–68·30; passes into	3·75	68·35
	Silty mudstone, medium grey; ? No mussel		
	at 68·40; siltsone in part; 18° joint at 68·70;		
Dip 22° at 69·40	28° joint at 69·00; ? No mussel at 69·17; plant		
Dip 19° at 70·80	fragments occasionally seen; jointed 70·00		
	to 71·80; passes down into ~~fine to slightly sandy mudstone~~	4·55	72·90



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Name and Number of Shaft or Borehole : Margam Borehole N°5

6-in or 1:10 000 Map Registration No. SS88SE/62

National Grid Reference

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		72.90
Dip 20° at 73.40	Mudstone, medium grey, slightly silty; jointed 73.10 – 73.30; vague worm traces throughout to 73.90; jointed 73.90; core badly broken with clay gouge in parts, with jointing + shearing 73.90–74.20;		
Dip c. 5° at c. 74.20	leaf impression at 74.00; ferruginous at 74.07; core broken 74.07 – 74.14; gouge and fragments 74.14 – 74.20.	1.30	74.20
	Core lost	1.80	76.00
Dip 20° at 76.05 faecal pellets	Mudstone, medium grey, slightly silty, smooth, 'wormy'; ostracods 76.10 – 76.13; shearing with some gouge at 76.13; harder bed 76.13 to 76.21; ironstone nodule at 76.21; ostracods planolites and some small pyrite burrowfills 76.21 to 76.30; jointed 76.21 to 76.30; ?estheria at 76.23; ostracods to 76.37; mussels 76.37, 76.40; buff ironstone beds throughout;		
Dip 18° at 76.40	polished bedding plane at 76.50; estheria at 76.60; silty mudstone 76.60 to 78.05; plant		
Dip 20° at 77.17	debris 76.70; mussels 77.00; estheria 77.02; polished bedding plane 77.17; mussel fragment 77.25; plant		
Dip 20° at 77.56	debris to 77.33; polished bedding planes at 77.33+77.37; mussel, estheria 77.66; polished bedding plane 77.70; sphaerosiderite 77.70 to 78.00;		
	mussel fragment 78.00; polished bedding plane 78.05; siltstone band with plant debris 78.05 to 78.15; estheria 78.40; polished bedding		
Dip 22° at 78.70	plane with worm trails 78.46; polished bedding planes 78.58, 78.65; slickensided joints 78.80 to 79.07; worm trails to 79.07; polished bedding planes 79.07, 79.11; 'wormy' to 79.38;		
Dip 20° at 79.44	fish fragment 79.38; jointed 79.30 to 79.40; bedding plane shear 79.40; polished bedding plane 79.44; worm traces to 79.75; ? burrows at 79.75; mussel fragment 79.85; worm traces		
Dip 20°	to 80.00; solid mussel and fragments at 80.00, 80.02; polished bedding plane 80.06; mussels 80.07		

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Name and Number of Shaft or Borehole : Margam Borehole N°5

6-in or 1:10 000 Map Registration No. SS88SE/62

National Grid Reference

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		76.00
	jointed 80.06 to 80.23; leaf impressions 80.08; bedding plane shear 80.23; polished joints 80.23 to 80.30; shearing 80.40 to 80.55; polished bedding planes 80.55, 80.75; ironstone wisps to 80.93; abundant worm trails 80.93; mussel fragments 81.02; fish fragment 81.10; ostracods 81.10 to 81.20; estheria, mussel fragments, ostracods 81.20; scattered ostracods 81.20 to		
Dip 19° at 81.45	81.45; pyrite knots 81.45; listric surfaces 81.50; worm traces, scattered ostracods to 81.77; bedding plane shear at 81.77; sheared joints 81.77 to 81.95; bedding plane shears 81.95, 82.00, 82.06, 82.10, 82.16; ironstone wisps thanyhent; much shearing 82.16 to 82.23; darker fine mudstone with small fish fragments, pyrite coated joints and pyrite films in basal 2cms.	6.30	82.30
? HARD BOTTOM SEAT	COAL; thin shale partings; solid stick to 82.60, broken 82.60 to base	0.34	82.64
	Seatearth: mudstone; medium grey and buff to 83.50; medium grey to 83.70; coal films 83.70; shearing at 83.71; bedded below c 84.00; silty bed 84.20 to 84.27;		
Dip 22° at 84.00	polished bedding planes 84.27, 84.30; ironstone bed 84.60 to 84.73; sheared 84.83 to 85.00; core broken 85.00 to 85.15;		
	silty 85.15 to base; sharp but normal contact with	3.40	86.04
	Sandstone - seatearth; medium grey, fine grained, hard, abundant plant and rootlet debris; current laminated; passes into	0.21	86.25
	Siltstone, medium grey, plant debris; passes down into	0.25	86.50
Dip 20° at 87.00	Silty mudstone, medium grey, plant debris; sandy wisps in base, passing into	1.30	87.80
	Sandstone, medium grey, fine grained, quartzitic, vertically jointed, current laminated passes into	0.20	88.00

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British Geological Survey

BGS ID: 372739 : BGS Reference: SS88SE62
British National Grid (27700) : 285656,184760

Institute of Geological Sciences

Name and Number of Shaft or Borehole : Margam Borehole N°5

6-in or 1:10 000 Map Registration No. SS88SE/62

National Grid Reference

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		88.00
	Siltstone, medium grey, striped, cross-laminated; sphaerosiderite; sharp but normal base	0.20	88.20
Dip 20° at 88.70	Sandstone, pale to medium grey, medium grained, quartzitic; well laminated, jointed to 88.50; finer grained with cross-laminated striping, plant debris throughout to 88.85; sharp, but normal change at 88.85 to coarser, medium grained, massive sandstone to 89.10; dark streaks with sphaerosiderite 89.10 to 89.55; massive to 90.02; ironstone and mudstone chips 90.02 to 90.04; erosion surface at 90.04; mudstone bed 90.04 to 90.05; medium grained sandstone with silty streaks to 90.20; ripple-laminated striped beds 90.20 to 90.40; massive bed 90.40 to 91.20; mudstone chips and one large lump at 91.20 to 91.27; striped with planty, micaceous, sphaerosiderite		
Dip 22° at 90.40	streaks 91.30 to 91.45; ironstone bed 91.45 to 91.49; erosion surface 91.49; dark streaks 91.49 to 91.85; parallel bedded		
Dip 10° at 91.90	streaks 91.85 to 91.93; massive to 92.35;		
Dip 10° at 92.36	striped 92.35 to 92.40; thin, parallel		
Dip 13° at 93.18	laminae 92.40 to 92.70; massive 92.70		
Dip 26° at 93.50	to 93.17; striped 93.17 to 93.22; dark		
Dip 25° at 93.75	laminae 93.22 to 93.80; massive 93.80 to 94.10; core broken 94.10 to 94.60; tough, medium to coarse grained quartzitic		
	sandstone, cross bedded 94.10 to 94.20; medium grained, cross-bedded sandstone 94.60 to 94.91; mudstone chips at 94.91; dark, micaceous, carbonaceous, sphaerosiderite		
	streaks to 95.50; medium to coarse grained, massive sandstone to 96.70, with some dark wisps; massive 96.70 to 97.70, carbonaceous debris throughout; coaly wisps and some		
	mudstone chips 97.70 to base.	9.80	98.00

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National Grid Reference

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		98.00
	Erosion surface at 98.00.		
	Striped beds, medium grey; interlaminated darker mudstone and lighter siltstone; closely spaced 70° jointing, joints slickensided; plant debris, and some bioturbation throughout; siltstone laminae decrease		
Dip 16° at 98.50	below c 98.50; by 99.00 silty mudstone with		
	some ripple laminated siltstone streaks;		
Dip 18° at 99.00	fine grained, ripple laminated sandstone beds from 99.22 to 99.27 and 99.30 to		
	99.50; intensely bioturbated mudstone at 99.50		
	to 99.52; ripple laminated sandstone bed		
	from 99.70 to 99.80, with silty mudstone		
Dip 17° at 100.00	wisps; passes down into	c. 2.00	100.00
	Mudstone, medium grey, slightly silty		
	mussel fragments 100.20 to 100.25; worm		
	burrows at 100.25 ("chubby worms"); slickensided		
	joint 100.36 to 100.48; ironstone bed 100.48 to		
	100.50; mussel fragment 100.35; burrows to		
	100.53; slickensided joints 100.53 to 100.73;		
	shell fragments 100.53; hard silty mudstone		
	bed from 100.53 to 101.25; shell fragments		
	100.55; worm burrows throughout; mussel		
	100.58; mussel fragments 100.73; scattered		
	plant debris and worm traces 100.73 to		
Dip 18° at 101.30	101.25; worm traces abundant 101.25 to		
	101.45; broken, rolled fragments 101.45 to		
Dip 15° at 101.40	101.58; polished bedding plane with clay		
	gouge at 101.45; broken ironstone fragments		
	at 101.52; polished bedding plane at		
	101.52; harder, silty mudstone fragments		
	101.52 to 101.58; slickensided, finer mudstone		
	101.58 to 101.69; Planolites ophthalmoides		
	at 101.69; slickensided from 101.69 to 101.72;		
	shell fragments at 101.72; ironstone bed		
	101.75 to 101.77, with slickensides above and		
	below; broken fragments and gouge from		

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National Grid Reference

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		100.00
	101.79 to 101.84; ironstone bed 101.84 to 101.92.	1.92	101.92
	Core lost.	2.19	104.11
	Mudstone, medium grey, slightly silty; very "wormy" with G. carbonaria; mussel fragment, ?estheria fragment at 104.20; polished bedding planes and		
Dip 15° at 104.24	gouge at 104.22 to 104.24	0.13	104.24
	COAL; stick intact.	0.37	104.61
	Seatearth. mudstone, medium grey; silty below about 105.00, passing		
Dip 25° at 106.00	down into silty mudstone - seatearth; Sharp base, but non-erosional contact with:	1.53	106.14
	Striped beds; medium grey; ripple. laminated fine grained sandstone and		
Dip 20° at 106.20	silty mudstone; passes into	0.06	106.20
	Sandstone, medium-grey, fine-grained cross-laminated dark carbonaceous laminae;		
Dip 22° at 107.00	deformed ripples at 106.70; passes into	0.60	106.80
	Siltstone, medium grey; plant debris; passes down into c.	0.35	107.15
	Mudstone, medium grey, slightly silty, fining downwards; scattered plant debris;		
?crinoid stem at 107.35	slickensides 107.32; by 107.35, medium to dark grey, scattered mussel fragments		
	and ostracods; slickensides 107.38 to 107.41;		
	fish scales 107.42; slickensides and polished bedding planes 107.42 to base; mudstone is		
Dip 20° at 107.54	now dark grey, and carneloid with carbonaceous fragments, ostracods, fish scale at 107.54	0.41	107.56
	COAL; Core in fragments	0.33	107.89
	Seatearth: mudstone, medium grey; shear		
	and gouge at 108.00, 108.70; silty mudstone		
	below c 109.00; siltstone below 109.75; ironstone		
	bed 109.94 to 110.06;	3.17	110.06
	Mudstone, medium grey; silty to 111.00;		
	silty below 111.15; rootlet and plant debris		

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National Grid Reference

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		110·06
Dip 18° at 111·60	throughout; ironstone nodule 111·38 to 111·43; passes down into	1·54	111·60
	Silty mudstone, medium grey, hard; scattered rootlets and plant debris; polished bedding plane at 112·38; passes into c.	0·90	112·50
	Siltstone, medium grey, hard; scattered plant debris, sandy wisps at 112·80.		
Dip 20° at 113·50	ripple-laminated sandstone streaks to 113·45; jointed 113·45 – 113·55; polished bedding plane at 113·55; silty mudstone with worm markings 113·55 to 113·91; polished bedding plane 113·91; siltstone with cross-laminated sandstone laminae from 113·91 to 114·10; silty mudstone 114·10 to 114·37; polished bedding plane at 114·37; siltstone with sandstone laminae 114·37 to 114·46; cross-laminated siltstone and sandstone 114·46 to 114·60; siltstone		
Dip 20° at 114·65	with sandstone laminae 114·60 to 114·72; cross-laminated siltstone and sandstone 114·72 to 115·00; siltstone with some sandstone wisps to 115·10; silty mudstone to 115·20; siltstone and sandstone (20°), cross-laminated 115·20 to 115·50; siltstone with some sandstone wisps to 115·56; ironstone nodule 115·56; silty mudstone to 115·58;		
Dip 18° at 115·87	polished bedding plane 115·58; siltstone with some cross-laminated sandstone wisps to 115·87; polished bedding plane at 115·87; silty mudstone to 115·93; sandstone bed 115·93 to 115·94;		
	erosion surface at 115·94; siltstone to 116·14.	3·64	116·14
	Mudstone, medium grey, silty at top, fining down to slightly silty at base; mussel 116·30; slickensides and polished bedding planes 116·50 to base; mussel		
Dip 19° at 116·72	fragment 116·65; plant debris 116·65 to base; polished bedding plane 116·72	0·58	116·72
	Sheared, crushed mudstone and gouge	0·04	116·76

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		116·76
	COAL, slickensided top; pyrite films	0·36	117·12
	Seatearth, pale to medium grey, faint green tint; mudstone to c 117·50, silty mudstone below 117·50; grades into bastard seatearth c. 118·00; pale to medium grey green to 118·87; sandy wisps at 118·87; fine-grained sandstone bed 118·87 to 118·90, with sphaerosiderite;		
Dip 15° at 119·20	bastard seatearth, grey-green, with abundant sphaerosiderite to 119·65; slickensided 119·65; ~~to 119~~ mottled medium grey and green to 119·92; bedding plane shearing with gouge at 119·92.	2·80	119·92
	Sandstone, dusky grey at top, impure with ripple-laminated carbonaceous wisps; slickensided jointing with pyrite and calcite 119·92 to 120·30; medium-grey, medium grained, tough, with much carbonaceous		
Dip 20° at 120·75	debris; quartzitic to 120·40; massive bed, with faint streaks to 120·75; carbonaceous wisps and siltstone streaks to 121·00; laminated, micaceous, carbonaceous parting to 121·03; massive, with faint cross-lamination to 121·40; medium grey, with faint green		
Dip 22° at 121·60	tint; striped 121·40 to base; coal fragments at 121·45.	1·68	121·60
	Striped beds; flaser bedded sandstone and silty mudstone; many carbonaceous films	0·66	122·26
	Sandstone, medium grey, fine-grained, ferruginous, very tough and flinty;		
Dip 20° at 122·54	vertically jointed with pyrite and calcite.	0·28	122·54
	Sandstone, medium grey, fine-grained, faint wisps; siltstone 122·63 to 122·64; siltstone with silty mudstone and sandstone		
	striped to 122·90; sandstone bed, with mudstone chips at base; convolute, deformed base; 122·90 to 123·00; siltstone and sandstone		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		122·54
	with sedimentary deformation structures 123·00 to 123·63; polished bedding plane at 123·63	1·09	123·63
Dip 20° at 124·20	Siltstone and silty mudstone, medium grey; sandstone streaks to 123·65; polished bedding plane 123·65; sandstone streaks 123·70 to 124·20; bedding plane shear with some gouge at 124·20; plant debris throughout; vertically jointed 132·00; worm markings 132·00 to 132·20 and 132·25 to 132·40 in silty mudstone; polished bedding plane 132·81; worm markings to 133·55; planolites ophthalmoides at 133·55 worm markings to 133·76; polished bedding plane at 133·76; passes down into	11·10	134·73
Dip 20° 127·40 to 134·35	Mudstone, medium grey, silty at top, fining downwards; abundant P. ophthalmoides, scattered pyritous knots to 135·54; shell fragment 135·54; abundant P. ophthalmoides to 136·10; cluster of Lingula mytiloides at 136·10; small ironstone nodules throughout; vertically jointed 136·10 to 136·30; abundant P. ophthalmoides to 136·50 with abundant ironstone nibs and nodules; silty band 136·50 to 136·75; slickensided jointing 136·50 to 136·58; polished bedding planes at 136·58, 136·75 and 136·78; abundant P. ophthalmoides 136·75 to 137·20; steep joint 136·58 to 137·20; ironstone at 137·20; polished bedding plane and some slickensides 137·20; abundant P. ophthalmoides 137·20 to 137·40; scattered pyrite knots 137·40 to 137·60, with abundant P. ophthalmoides; shell fragment 137·50; 70° slickensided joint from 137·60 to 137·85, P. ophthalmoides throughout; closely spaced slickensided surfaces 137·85 to 138·70 with many polished bedding		
Dip 20° at 135·54			
Dip 20° at 136·14			
Dip 17° at 137·22			

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		134.73
	planes and slickensided jointing; shearing increasing towards 138.70; P. ophthalmoides and ironstone nodules throughout.	3.97	138.70
FAULT	Gouge and sheared shale, top and bottom approximately parallel to bedding. Probable fault.	0.12	138.82
Dips c. 20° at 139.00	Seatearth. mudstone, buff/grey; slickensided with 30° shears; sphaerosiderite abundant sphaerosiderite 139.50 to 140.60; polished bedding planes, slickensides throughout to 140.83; shear band at 140.83; sphaerosiderite scattered throughout, locally abundant; siltstone below 141.00, passing down into sandstone at c.141.37; fractured and calcite veined 141.37 to 141.65; shear clay gouge		
Dip 27° at 141.65	film at 141.65; possible small fault.	2.83	141.65
	Sandstone, medium grey, fine-grained, massive, with wispy bedding; vertically jointed, and tough to 142.00; striped, cross-laminated bed 142.00 to 142.10, oblique slickensided shears; soft seatearth. mudstone bed 142.10 to 142.15; disturbed, fractured Sandstone with 55° slickensided shears and microfaulting of laminations 142.15 to 142.38.	0.73	142.38
	Seatearth. mudstone; medium grey, bedded; many polished bedding planes. gouge film at 142.60; slickensided 142.60 to 142.80; siltstone 142.80 to 143.20.		
Dip c.23° at 143.40	hard, sphaerosideritic bed 143.62 to 143.68; scattered sphaerosiderite concentrations 143.68 to 144.14; 22° shear with some gouge at 144.14; tough, sandy, sphaerosiderite bed 144.37 to 144.57; listric surfaces and slickensides throughout from 142.50 to 145.00; slickensides 145.00 to 145.30. abundant plant debris 145.30 to 145.55		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		142.38
Dip 25° at 145.00 Dip 20° at 145.60	rootlets 145.55 to 145.90; slickensided surfaces (40°) (possibly bedding planes) from 145.90 to 146.45 with abundant plant debris; ironstone nodule with calcite concretions 146.45 to 146.49	4.11	146.49
Dips 17° to 25° at 146.75 Dip 30° at 147.10	Shale, dark, carbonaceous, with abundant coal laminae ("rashings")	0.51	147.00
	Shale, dark, carbonaceous, sheared; gouge 147.10 to 147.47;	0.47	147.47
	Seatearth - mudstone, dark grey, with stone coal laminae	0.33	147.80
	Shale, dark, sheared; coal laminae	0.10	147.90
Dip 22° at 148.20	Shale, dark, carbonaceous, sheared; coal films 148.00 to 148.28	0.38	148.28
	Coal, with shale laminae ("Inferior Coal")	0.22	148.50
	Seatearth. mudstone, dark grey, carbonaceous 40° sheared surface at 148.53; ? small fault.	0.03	148.53
	Seatearth. mudstone; medium grey; slickensides and listric surfaces.	0.27	148.80
	Gouge and Seatearth. mudstone fragments (end of drilling run).	0.14	148.94
	Siltstone - seatearth; sandstone in part; ironstone bed 149.73 to 149.84; tough, flinty ferruginous beds 150.10 to 150.35, with calcite and pyrite filled joints; slickensides from 150.35 to 150.75 (closely spaced 46° surfaces) striped silty and sandy laminae 150.70 to 150.87; normal junction with:-	1.93	150.87
Dips 22° at 151.30 & 151.72.	Siltstone, medium grey; scattered plant and rootlet debris; joint 151.50 to 151.67; polished bedding plane at 151.72; passes down into:-	1.13	152.00
	Sandstone, medium grey, fine-grained, cross-laminated; polished joint 152.50 to 152.70; erosion surface at 152.70	0.70	152.70
	Siltstone, medium grey, slickensides, scattered plant debris, slickensided bedding		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		152.70
Dip 37° at 152.83	planes at 152.83 and 152.90, gouge film		
Dip 42° at 152.90	at 152.90; silty mudstone bed from 153.00		
	to 153.20; slickensides from 153.20 to 153.85;		
Dip c.38° at 153.70	plant debris, including leaf impressions 153.20		
	to 153.85; passes down into c.	1.15	153.85
	Bastard seatearth. silty mudstone,		
	medium grey, unbedded; slickensides;		
	low angled slickensided surface at 153.97.		
	?Possible fault plane.	0.12	153.97
	Seatearth. mudstone; medium grey,		
	highly slickensided, sheared and friable;		
	Core in fragments towards 154.12	0.15	154.12
	Bastard seatearth, silty mudstone		
	drab, medium grey with a faint green		
	tint; unbedded; slickensides, sphaerosiderite fragment		
	a few carbonaceous traces; sandy bed		
	154.30 to 154.40; smooth 15° surface at		
	154.87; sandy bed 155.00 to 155.30;		
	20° surface at 155.25; very tough sandstone		
	bed 156.00 to 156.35; 55° slickensided		
	surfaces 156.36 to 156.50; slightly		
	mottled, drab medium grey below 156.50;		
	40° slickensided surface at 156.70; 170		
Dip 30-35° at 158.00	surface at 157.32; vague bedding at c		
	158.00; 22° slickensided surface at 158.15;		
	slickensides 158.15 to 158.27; core broken		
	158.27 to 158.33; slickensided to 158.45;		
	silty mudstone-seatearth 158.45 to 158.75,		
	slickensided; coal films at 158.75; much		
	slickensiding to 158.90; 30° shear with		
	gouge at 158.90; slickensided, with some		
	coal films to 159.40; closely spaced 57°		
Dip 53° at 159.80	slickensided planes (? bedding planes) 159.40		
	to 159.80; seatearth. mudstone with 'wormy' patches		
	and ironstone nodules to c. 160.00, with		
Dip 63° at 160.00	steeply dipping sheared bedding planes;		
	silty below 160.00, with abundant plant debris		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		154.12
	and slickensided bedding planes; passes down into	6.46	160.58
Dip 55° at 160.40 Dip 45° at 160.58	Silty mudstone, medium to dark grey, sheer with gouge film at 160.58; abundant plant debris throughout; steeply (c.40°) dipping, slickensided 161.00 to 161.34; ironstones throughout.	0.76	161.34
	Sheared carbonaceous shale and gouge: small fault	0.10	161.44
Dip 20° at 161.57	Shale, dark grey, carbonaceous, and Coal films ("Rashings")	0.13	161.57
Dip 20° at 162.00	Seatearth. mudstone, dark grey, carbonaceous to 161.60; medium grey to 161.82; slickensided; coal films 161.82 to 161.86; sheared, dark planty shale 161.86 to 162.14, with coal films; sheared to fragments 162.14 to 162.21; Coal films at 162.21; sheared to gouge and fragments 162.21 to 162.42; ?possible faulted ground 162.14 to 162.42; slickensided 162.42 to 162.53, dark, carbonaceous, planty shale seatearth; carbonaceous shale with		
Dip 18° at 162.53	Coal wisps 162.53 to 162.60; sheared to gouge 162.60 to 162.68	1.11	162.68
	Seatearth. mudstone; carbonaceous sheared	0.05	162.73
	Shale, dark, carbonaceous, Coal films; highly sheared.	0.08	162.81
	Seatearth: carbonaceous, dark mudstone at top; medium grey hard siltstone to c. 162.90; sandstone, from 162.90 to base; ripple.		
Dip 20° at 163.70	lamination, overturned (sedimentary) at 163.30; passes into	1.09	163.90
	Siltstone, medium grey; sandy laminae; rootlets and plant debris; tough, ferruginous band 164.20 to 164.25; Sandy 164.25 to 164.30; sandy streaks 164.30		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		163.90
Dip 21° at 164.50	to 164.48; sandy wisps, some worm traces		
 164.61	164.48 to 164.61; horizontal slickensided plane at 164.61 — small fault	0.71	164.61
	Siltstone - seatearth; slickensided with deformed and microfaulted sandy wisps; polished 10° surface at 164.64; slickensided 164.64 to 164.66; ferruginous bed 164.66 to 164.72; polished 25° surface at 164.72	0.11	164.72
	Seatearth - mudstone; slickensided slickensided surface at 164.50	0.08	164.80
	Deformed bed: (sedimentary); imbricate laminae (silty a sst.) sharply truncated from 164.81 to 164.85 by low-angle fault.	0.05	164.85
	Siltstone, medium grey with sandstone stripes; 2 low angled reversed faults displace laminae slightly.	0.10	164.95
Dips 5-8° 165.10 to 165.26	Seatearth: silty mudstone, medium grey slickensided plane at 16502 (16°); Sandstone bed with sphaerosiderite, showing micro-faulting 165.02 to 165.10; Sandy 165.10 to 165.25; siltstone, with polished bedding planes and abundant carbonaceous debris 165.25 to 165.37; slickensided 165.37 to 165.45; bedded silty mudstone-seatearth with polished bedding planes 165.45 to 165.60; sheared fragments 165.60 to 165.66; sheared 165.66 to 165.76; Siltstone 165.76 to 165.90; sheared 165.90 to 165.95; polished bedding plane at 165.95	1.00	165.95
Dip 5°-10° at 165.50	Sandstone - seatearth; medium grey; ripple laminated; carbonaceous wisps; passes into:-	0.12	166.07
Dip 20° at 165.90	Silty mudstone - Seatearth; siltstone in part; polished bedding planes; sandy and carbonaceous wisps; passes into:-	0.28	166.35
Dip 15° at 166.35	Siltstone - seatearth; medium grey; ripple laminated sandstone and siltstone from		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		166.35
Dip 12° at 166.62	166.58 to 166.62; fine-grained Sandstone.		
	Seatearth below c 167.00 to c 167.46; striped		
Dip 16° at 167.57	with dark silty streaks and sphaerosiderite		
	167.46 to 167.95; Siltstone 167.95 to 168.18;		
Dip 15° at 168.38	fine striping 168.18 to 168.38	2.03	168.38
	Siltstone, passing down into silty		
	Mudstone; medium grey; ironstones, vague		
Dip 16° at 168.99	worm traces; polished bedding planes		
	168.94 to 169.00; carbonaceous debris		
	towards base.	0.62	169.00
	'Coal'; Core in fragments. Driller records 0.12	0.12	169.12
	Seatearth. Mudstone. medium grey.		
	Sheared at top; becomes silty downwards;		
	ironstones at 170.40; sheared gouge bed		
	at 170.60; slickensides 170.90 to 171.00.	1.88	171.00
	Siltstone, medium grey; sphaerosiderite		
	at top; hard, rootlets; fines down to		
	silty mudstone c. 171.50; sheared 171.60		
	to 171.70; calamites at 172.00; scattered		
	rootlets and straps 172.00 to 173.00.		
Dip 10° at 173.20	siltstone 173.00 to 173.30; 12° sheared		
	band at 173.30; Siltstone to 173.68; shear		
	at 173.68; silty mudstone 173.68 to 174.50;		
	slickensided 174.50 to 174.55; 10° polished		
	surface at 174.55; slickensided to 174.62;		
	10° shear with gouge film at 174.62;		
	silty mudstone with plant debris and		
	some siltstone to 175.75; finer silty		
Dip 10° at 176.00.	mudstone, slickensided with abundant		
	plant debris (leaves = calamites) to 176.12;		
	20° shear with gouge at 176.12; siltstone		
	176.20 to 176.65; cross-laminated sandstone		
	bed with low angle microfaulting 176.65		
	to 176.74; ironstone with coal wisps		
	176.74 to 176.84; cross-laminated sandstone		
Dip 15° at 177.15.	and siltstone to 177.20 with carbonaceous		
	Coaly laminae; polished bedding planes at		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		171.00
	177.15, 177.20	6.20	177.20
	Sandstone, medium grey, cross-laminated with siltstone; some sedimentary deformation; fine-grained; coaly films; passes into:-	0.23	177.43
Dip 23° at 177.50	Siltstone, medium to dark grey, cross-Laminated; plant debris; polished bedding planes to 178.00; polished jointing 178.00 to 178.30; sandy wisps to 178.00; 18° shear at 178.70; jointed below 178.70; fines downwards to planty mudstone with abundant large calamitid straps; slickensided 178.60 to 178.70; polished plant-bearing bedding planes 178.70 to 178.88; abundant plant debris, slickensided 178.88 to 178.90; ironstones 178.90 – 178.95 and 179.00 to 179.04; 1cm. gouge band from 179.00 to 179.11; polished bedding planes in very 'planty' mudstone 179.11 to 179.64, with some ironstones	2.21	179.64
Dip 12° at 179.20 Dip 12° at 179.55	Shear, Gouge, limits parallel to bedding	0.06	179.70
	Mudstone, medium grey, 'planty'; ironstones, slickensided	0.25	179.75
	COAL	0.65	180.60
	Carbonaceous mudstone; Duff wisps at 180.62 and 180.63 – ? tonsteins	0.04	180.64
	COAL	0.23	180.87
	Seatearth. mudstone. sheared	0.05	180.92
	COAL	0.16	181.08
	Seatearth, medium grey, silty mudstone; slickensided, passes into:-	0.92	182.00
	Siltstone, medium grey, scattered rootlets and plants; ironstone 182.30 to 182.36; slickensided throughout; highly slickensided 182.70 to 182.80; passes into:-	0.80	182.80
	Silty mudstone, medium grey, slickensided,		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		182.80
	plant debris; less slickensided below		
	183.00; polished 8° surface at 183.03; gouge		
Dip 9° at 183.25	film 183.24 (14°); fines down		
	with scalloped plant debris to 183.33;		
	57° polished joint 183.33 to 183.43; slickensided		
	silty mudstone to 183.60; highly slickensided,		
	and sheared 183.60 to 183.83 with dips		
	steepening; mudstone was fine, but		
	intensely sheared, gouge in parts; ironstone		
Dip 40° at 184.00	183.83 to 183.91; intensely sheared to 184.00	1.20	184.00
	Gouge, Sheared ? faulted ground;		
	black carbonaceous mudstone fragments		
	185.20 to 185.70, and 185.88 to 186.20;		
	17° slickensided contact with	3.48	187.48
	Seatearth. siltstone, medium grey,		
	hard to 187.78; sheared, broken fragments		
	187.78 to 187.95; silty mudstone with		
	ironstones 187.95 to 188.57; core in		
	fragments towards 188.57	1.09	188.57
	Core lost.	0.33	188.90
	Seatearth. siltstone, medium grey;		
	with ironstones; slickensides at c. 189.20,		
	passes into c.	0.85	189.75
	Siltstone, medium grey; scalloped		
	rootlets; hard; slickensides; shear and		
	gouge at 190.00 (c 55°); slickensided		
	siltstone-seatearth to 190.20; sheared		
Dip 15° at 190.60	fragments 190.20 to 190.26; 60° slickensides		
	from 190.26 to 190.41; some ironstones 190.41		
Dip 16° at 191.20	to 191.00; thin lenticular sandstone		
	stripes 191.00 to 191.30; fines downwards		
	below 191.30, with some sandstone streaks		
	C. Koehi at 191.45; sandstone bed 191.46		
	to 191.51; scalloped plant debris, ironstones,		
Dip 20° at 191.70	'wormy' 191.51 to 191.70; shear with gouge		
	(bedding plane) at 191.70; 'wormy' to 191.95		
	?estheria fragment 191.95; siltstone bed		

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Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		189.75
	with sandstone wisps and plant debris 192.00 to 192.05; silty mudstone with worm traces and ironstone ribs 192.05 to 192.20; 'wormy' with ironstones and some slickensides 192.20 to 192.38; mussel fragment at 192.38; polished bedding plane at 192.40; abundant worm traces 192.40 to 192.49; ironstone rib at 192.49; slickensided from 192.49 to 192.54; bedding plane shear gouge band 192.54 to 192.55; slickensided from 192.55 to 192.58; mussel fragments at 192.58; slickensides, with gouge from 192.58 to 192.60; harder, dull grey / buff silty mudstone bed from 192.60 to 192.63; [Continues on P20]		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		189.75
	dark, fine mudstone with carbonaceous debris 192.63 to 192.65	2.90	192.65
	Coal; solid stick.	0.45	193.10
	Seatearth; sandstone, medium grey, fine-grained; carbonaceous wisps; siltstone seatearth below 193.65; with		
Dip 18° at 194.10	sandstone wisps to 194.33; ironstone bed at 194.33; passes down to silty mdst.		
	Seatearth below c. 194.40; ironstones scattered throughout. Sandstone bed 194.55 – 194.70; siltstone seatearth		
Dip 18° at 195.10.	with sandstone wisps to 195.00, passing into Siltstone, medium grey, rootlets, and some scattered plant debris;	1.90	195.00
	burrowed throughout to 195.45 with some bedding planes covered with plant debris.		
	abundant C. kochi 195.45; much plant		
	debris, scattered burrowfills to 195.65;		
	slickensided 195.65 – 195.90; ironstone		
Dip 16° at 196.00	layer at 195.90; Sandy wisps and		
	carbonaceous debris 195.95 to 196.05;		
	fine, silty mudstone with ironstone nodules		
	196.05 to 196.10; sheared 196.10 to 196.16		
sh.	with gouge and fragments; sheared,		
	slickensided silty mudstone with worm		
	traces to 196.25; gouge bed 196.25		
sh.	to 196.33; intensely sheared with some		
	gouge to 196.43; ironstone layer at 196.43;		
	intensely sheared slightly silty mudstone		
sh.	to 196.53; shear plane at 196.53; harder		
	silty mdst, slickensided to 196.63; silty		
Dip 17° at 196.70	mudstone, some thin silty wisps and		
	worm traces to 196.70; finely laminated,		
	to 196.90; ironstones at 196.90; siltstone		
	with plant debris to 197.00; normal change	2.00	197.00
	Sandstone, medium grey, fine-grained,		
	cross-laminated; siltstone laminae;		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		197.00
	siltstone with sandstone stripes 197.20 – 197.30; fine sandstone to 197.40; striped sst & siltstone with some deformation to 197.50; fine sandstone to 197.60; massive, but cross-laminated laminae throughout 197.60 – 198.00, very tough, and fine to medium grained; from 198.00 to 198.05, 37° slickensided calcite and clay mineral filled vein;		
? f.	? small fault; by 198.00, sandstone medium grained, finely cross-laminated to 198.50; sharp, but normal junction to:-	1.50	198.50
Dip 20° at 198.60	Striped beds; dark grey siltstone and medium grey sandstone; polished bedding planes at 198.60; 198.75; silty mudstone and sandstone laminae below 198.75; plant debris throughout; sharp, but normal change to	0.35	198.85
Dip 20° at 199.10	Siltstone, medium grey, blocky to 199.00; plant debris; sandy laminae 199.00 to 199.15; deformed ripples at 199.15; Sandstone layers and wisps from 199.60 to 199.80; deformed base to sandstone bed at 199.80; fine grained sandstone bed 200.00 200.20; siltstone with cross-laminated sandstone streaks to 200.48; some sandstone wisps to 200.80;		
Dip 17° at 200.80	ironstone at 200.80; some worm traces in silty mudstone bed at 200.90; coarser, fine sandstone bed 201.10 – 201.30; striped, cross-laminated sandstone and siltstone 201.30 to 201.40; sandstone bed 201.40 – 201.48		
Dip 15–17° at 202.00	siltstone with sandstone stripes to 201.95; ironstone at 201.95; worm traces at 201.98; siltstone to 202.50; sandstone stripes		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		198.85
Dip 18° at 203.45	202.50 – 202.65' siltstone with some sandstone wisps to 202.95' finer 202.95 to 203.00 with burrows; ironstone at 203.00; burrowed siltstone / silty mudstone to 203.80; sandy wisps at 203.80; passes slowly into c Silty mudstone, medium grey, burrowed, scattered ironstones, slickensided 204.05 – 204.15; coarser silty mudstone / siltstone, burrowed, slickensided 204.15 – 204.35; intensely burrowed (sf-planolites) 204.35 – 204.70 with many ironstones; burrowed silty mudstone with ironstones 204.70 to 204.90; slickensided surfaces 204.90 – 204.98; shear (20°) with gouge film 204.98 – 205.00; 15° slickensided surface at 205.19 (bedding plane); polished 55° joint 205.26 to 205.40; Contains burrowed silty mudstone with ironstone to 205.73; polished bedding planes 205.73, 205.83; slickensided 205.83 to 205.90 (associated with ironstone); polished joint 205.98 – 206.08; some slickensiding to 206.40; less 'wormy' 206.40 – 206.50; Wormy to 206.73, with ironstones and some slickensides; mussel fragment 206.73; burrowed silty mudstone to 207.05;	5.15	204.00
Dip 17° at 204.50			
Dip 18° at 205.73			
Dip 17° at 207.05	intensely burrowed with abundant worm traces including G. carbonaria 207.05 to 207.25 in mudstone now only slightly silty; also P. montanus; Wormy mudstone to 207.60; ironstone bed 207.60 – 207.66; becomes dark mudstone below 207.66; scattered fish fragments and pyrite traces to 207.74, now becoming increasingly black and carneloid; slickensided fragments 207.74 to 207.86; black carneloid		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		209.00
Dip 18° at 207.90	mudstone with fish fragments 207.74 to 207.86; fish fragments and pyrite films to 207.95; slickensided lens carneloid dark mudstone 207.95 to 208.11 with scattered fish scales;	4.11	208.11
Dip 21° at 208.11	COAL	0.45	208.56
	COAL, inferior	0.21	208.73
sh	Core in fragments; Black shale and Coal fragments; highly sheared;	0.17	208.90
	Seatearth. shale; black carbonaceous; highly sheared to c. 209.60;		
	core largely degraded to gouge; medium		
sh.	grey seatearth. mudstone, much sheared to gouge below c 209.60; from here to 213.00, only 1.85 recovered; 1.50 lost; 1.10 of medium grey seatearth. mdst seen, from about 209.90 to 211.00; main loss may be from c 211.00 to 213.00.	4.10	213.00
Dip c 25° at 213.10	Seatearth. silty mudstone; medium grey; siltstone below 213.45;		
Dip 30° at 213.70	slickensiding and gouge at 213.70 highly sheared mudstone seatearth		
	213.70 — 213.83; slickensided seatearth		
Dip 25° at 213.98	mudstone 213.83 to 213.98;	1.08	214.08
	Gouge; clay with coal and shale		
	debris; Fault plane 0.05 to	0.09	214.77
	Dips change direction from above gouge bed		
Dip 10° at 214.30	Seatearth. mudstone; dark grey, carbonaceous; slickensided;	0.20	214.37
	Gouge; sheared seatearth. mudstone	0.08	214.45
	Seatearth. mudstone; medium to dark grey	0.07	214.52
	Gouge; coaly clay. fault; low-angled		
	upper and lower limits.	0.06	214.58
Dip 23° at 214.60	Seatearth. shale; dark grey carbonaceous	0.19	214.77
	Gouge. clay fragments c	0.05	214.82
	Seatearth. siltstone; 38° slickensided top surface		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		214.82
	becoming silty mudstone by 215.60; siltstone in part; rootlets, plant debris throughout; ironstones and slickensiding 215.60 – 215.80; sandy wisps towards base; passes into:	1.61	216.43
	Striped siltstone and sandstone; cross-laminated, some deformation. Sandstone streaks decrease and grades into:-	0.22	216.65
Dip 20° at 216.90	Silty mudstone, medium grey, scattered rootlets; plant debris common to 217.06; polished bedding plane at 217.06 with thin gouge film; silty mudstone with plant debris to 217.10	0.45	217.10
	Striped silty mudstone with lenticular sandstone laminae to 217.18; intensely deformed crumpled bed 217.18 – 217.25; deformed slumped lamination 217.25 to 217.45, with convolute base to sandstone bed at 217.45.	0.25	217.45
Dip 16° at 218.40	Siltstone, medium grey, sandstone wisps at top; plant and rootlet debris; polished bedding planes at 218.61, 218.96		
Dip 16° at 218.96	sandstone stripes from 219.12 – 219.14; from 219.14 to 219.37, siltstone with detached, deformed sandstone ripples. Coarse siltstone with rootlet and plant debris 219.37 to 220.00; slickensided, jointed from 220.00 to 220.10; silty mudstone below 220.00 to 220.25, core split by joint 220.00 to 220.53; slickensided siltstone 220.48 to 220.53; tough, ferruginous siltstone nodule 220.53 to 220.70.	3.25	220.70
Dip 8° at 220.20	Silty mudstone, medium grey, ~~[illegible]~~ slickensided; sheared to fragments 220.87 – 221.05; slickensided, steeply dipping 221.05 to 221.36	0.66	221.36
Dip 45° sh at 221.10			

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		221·36
sh	Gouge and sheared mudstone fragments.	0·08	221·44
?F. sh	Mudstone, intensely sheared, and ironstone nodule core fragments and gouge; sheared 45° contact with:-	0·08	221·52
sh	Mudstone, core intact, but rock intensely sheared to 221·74; sheared ironstone fragment 221·74 – 221·87; mudstone fragments and gouge 221·87 to 221·90	0·38	221·90
	Sheared 42° junction with:- Silty mudstone, medium grey;		
Dip 11° at 222·00	Dip direction reversed from above sheared zone; intensely sheared at top; slickensides and polished bedding planes to 222·32; core split by		
Dip 13° at 222·50	vertical jointing 222·00 to 222·74; siltstone 222·35 to 222·45; ironstone layer 222·74 to 222·78; fine, silty		
Dip 16° at 222·90	mudstone, vertically jointed, some worm markings 222·78 to c223·00; fines down to slightly silty mudstone, with worm burrows to 223·12; fish scale		
	223·12; scattered plant detritis to 223·45 in slightly silty mudstone; siltier veins		
	223·45 to 223·55; intensely bioturbated finer mudstone to 223·70; darker silter		
Dip 18° at 223·90	Mudstone 223·70 to 223·75; slickensided 223·75 to 223·77; bioturbated mudstone		
either/or →	to 224·17 ironstone layer 224·17 to 224·24; shell fragment 224·26; burrowed mudstone		
	to 224·50; slickensided 224·50; ironstone 224·51 to 224·54; darker, harder, siltier		
	mudstone from 224·54 to 224·60, passing into hard, dark siltstone, some fish fragments		
	to 224·90; tough ferruginous siltstone bed		
Dip 20° at 225·10	224·90 to 225·02; hard dark silty mudstone with scattered fish fragments to 225·15;		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		221.90
	finer, silty mudstone with worm burrows to 225.40; slickensides at 225.40; much burrowed medium to dark grey silty mudstone to 225.65 with ironstones; slickensides at 225.65; harder darker Sulter bed 225.65 to 226.50; worm burrows throughout; Core Split by slickensided joints from 226.70 to 227.80; worm burrows in slightly silty mdst. 226.50 to 227.00; fish scale 227.00.		
Dip 18° at 227.20	Silther, darker mudstone 227.10 to 227.50, with worm burrows and ironstone ribs throughout; slightly finer, silty mdst. with worm burrows abundant 227.50 to 227.90; slickensides at 227.90; darker silther mudstone 227.90 to 228.00; broken, slickensided dark mudstone fragments 228.00 to 228.10; slickensided dark silty mudstone 228.10 to 228.30; medium to dark grey, rather silty burrowed mudstone with		
Dip 20°-25° at 229.20	abundant ironstone layers from 228.30 to 229.65. slickenisides with some gouge at 229.65 + 35° sheared surface at 229.65. hard silty, dark mudstone 229.65 to 229.80, sheared slickensided fragments 229.80 to 229.96; ironstone layer 229.96 to 230.00; dark silty mudstone to 230.27		
Dip 18° at 230.30	fish fragments at 230.27, 230.30, 230.70, 230.74 in dark silty mdst. c some ironstone layers and some slickensides to 231.00; slickensides at 231.00, burrowed with some pyrite burrowfills at 231.00; dark grey burrowed silty mudstone with ironstone layers 231.00 to 231.90; core lost 231.90 to 232.54.		
Dip 15° at 231.50	harder darker silty mdst, 232.54 to 232.60; fish fragment 232.60; hard silty mdst to 232.80		

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	Brought Forward		221.90
	fish fragments 232.80; hard medium to dark grey burrowed siltstone to 233.20, some fish fragments; fish fragment at 233.20; medium to dark grey silty mdst, burrowed, to 233.30 fish fragments at 233.30; medium to dark hard silty mudstone with ironstone layers and scattered fish fragments to 233.92; fish fragments in finer silty mudstone at 233.92; ironstone 233.95 to 234.00; planolites at 234.00; mudstone now fining down; with abundant P. ophthalmoides to 234.15; harder silty mudstone from 234.15 to 234.45 with small pyrite burrowfills, coarsening into siltstone with pyrite burrowfills to 234.60; fish fragment 234.60; ferruginous siltstone bed with scattered fish fragments to 234.70; siltstone to 235.00, passing back into silty mudstone medium to dark grey; fish fragment at 235.00 scattered fish fragments, bioturbated in parts to 235.45; lingula 235.45; mudstone now fine; lingula 235.46; hard silty bed (siltstone) from 235.48 to 235.80; silty mudstone with pyrite burrowfills and traces to 236.20; mudstone now finer; P. ophthalmoides and lingula at 236.20; worm traces to 236.55; slickensided with polished bedding planes 236.55 to 236.67; gouge band 236.67 to 236.68; smooth medium grey mudstone, slickensided 236.68 to 237.00; sheared ironstone and mudstone fragments at 237.00; smooth, soapy medium grey mudstone, slickensided to 237.25; pyrite knot at 237.25; slickensided mudstone with gouge bands to 237.59		
Dip 16° at 233.92			
Dip 18° at 235.30			
Dip 18° at 237.20			

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		221·90
	Ironstone bed 237·59 to 237·62;		
	sheared, slickensided, smooth silty		
Dip 19°	mudstone 237·62 to 238·14 most		
at 238·00	bedding planes are polished, making		
Sh	rock shaly; barren; ironstones at 238·14	16·24	238·14
	Mudstone sheared to gouge,		
Sh	Dip direction changes below this		
	bed;	0·09	238·23
	Mudstone, highly sheared,		
Sh	gouge in part; some lithology as		
	above 238·14;	0·07	238·30
Sh	Gouge; mudstone reduced largely		
	to sheared clay;	0·50	238·80
Sh	Mudstone, medium grey, slightly		
	silty; dip direction reversed from		
Dip 40°	above 238·30; highly sheared,		
at 239·00	gouge in part;	0·50	239·30
	Gouge, sheared mudstone and		
Sh	compressed (by drilling) clay;		
	much loss in run to 241·50, probably		
	largely occurs about here	0·10	239·40
	Core lost. some silty mudstone		
	fragments at 239·74	2·40	241·80
	Mudstone, medium grey, silty,		
Sh	sheared, slickensided; lithologically		
	similar to mudstones above loss;		
Dip 7°	ironstone layers 'wormy' at 242·10;		
at 242·00	sheared to gouge in parts; gouge		
	below 242·50 to 243·08; dark		243·08
	mudstone fragments 243·08;		
	Mudstone dark, shaly, fine; bivalve, gastropod,		
Sh	at 243·10; abundant pyrite burrowfills		
	and small shell fragments to 243·25;		
	? fish fragment 243·25; abundant pyrite		
Cefn Coed	burrowfills 243·25 to 243·40; gouge 243·40		
Marine Band	to 243·55 [Core solid below 243·55;]		
	Lingula a ? foraminifera 243·45 (brachiopod)		243·55

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		243.55
	Seatearth mudstone; coal film at top; dark carbonaceous in top few cms; lighter, medium grey/buff below to 243.75; pale buff/green silty seatearth to c 244.20, becoming more like hard bastard seatearth with few rootlets below 244.20; pale ~~green~~ buff with green tints in parts 244.56; shearing with some gouge at 244.56; hard drab grey/buff seatearth-silty mdst 244.56 to with sphaerosiderite to 245.00; mottled brick-red and drab grey 245.00 to 245.45 with haematite staining; 43° shear planes; some haematite pellets; sheared gouge at 245.45; medium grey below 245.90; gouge and some loss at 245.95;	2.40	245.95
	Core lost	0.31	246.26
Dip 26° at 246.35	Silty mudstone/seatearth medium grey; rootlets; hard sandstone seatearth bed 246.60 to 246.80; well bedded silty mudstone with greenish tint and rootlets siltstone in parts, some fine sandstone; polished slickensided bedding planes to 247.20; silty seatearth 247.20 to 247.30; silty mudstone to 245.10; mudstone-seatearth 248.10 to 248.48; silty mudstone, shell greenish with grey/green mottling; slickensided bedding planes throughout rootlets throughout to 250.35; tough ferruginous siltstone bed 250.35 to 250.50; seatearth-mudstone, sheared from 250.50 to 251.00; sheared silty mudstone 251.00 to 251.20; hard silty		
Dip 27° at 247.00			
Dip 26° at 249.00			
Dip 25° at 250.00			

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		246.24
Dip 15° at 252.00	Mudstone with siltstone layers to 251.57; ironstone bed 251.57 to 251.68; darker, finer silty mudstone 251.68 to 252.05, fining downwards; worm traces, polished bedding planes throughout; gouge bed and slickensides 252.05; smooth, burrowed, slightly silty mudstone with ironstone layers and slickensides to 252.40; sheared, dark mudstone bed from 252.40 to 252.70, becoming canneloid towards base; sheared, slickensided, fragments only from 252.70 to 252.90; very dark, typical fish-bearing lithology but too little material to enable proper search.	6.64	252.90
sh	COAL; crushed smut only		
	Seatearth: siltstone; medium to dark grey, hard; passes down into unbedded silty mudstone by 253.80; slickensided, gouge films in parts;		
Dip 18° at 255.00	siltstone bed from 254.70 to 255.00 with plant debris; medium grey silty mudstone with plant debris to 255.80	2.90	255.80
	Mudstone, black, carbonaceous, slickensided; coal films	0.13	255.93
	Seatearth: mudstone, dark grey, black slickensides throughout; coal films	0.90	256.83
	COAL; inferior; fragments only; some loss	0.04	256.87
sh	Gouge; clay, seatearth and coal fragments	0.06	256.93
	Seatearth; silty mudstone; medium grey, ironstone nodules; slickensided;		
sh:	sheared gouge and fragments 257.33 to 257.42; sandstone wisps at base.	1.07	258.00
	Sandstone; medium grey; rootlets; carbonaceous mudstone wisps; fine-grained		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		258·00
	Crushed mudstone parting at 258·25; erosive base.	0·44	258·44
Dip 20° at 258·80	Mudstone, medium grey; slickensides, rootlets, worm traces; silty in parts; passes into	0·46	258·90
	Silty mudstone - seatearth; medium grey; polished bedding plane at 259·28; siltstone in parts; scattered slickensides and polished bedding planes 259·28 to 260·20; sandstone laminae 260·20 to 260·26; deformed sandstone laminae 260·32 to 260·42 and 260·50 to 260·72; hard silty mudstone with some sandstone laminae 260·72		
Dip 20° at 261·00	to 261·00, scattered rootlets; finer, silty mudstone 261·00 to 261·50 with slickensides throughout; crushed bed 261·50 to 261·52; broken fragments 261·52 to 261·74; silty mudstone with rootlet content decreasing downwards from 261·74 to 262·00	3·10	262·00
Sh.	Gouge; largely clay with shale debris	0·25	262·25
	Mudstone, medium grey; silty; scattered rootlets; fines downwards, smooth, burrowed mudstone by 262·50; slickensided 262·50 to 262·75; highly sheared 262·75 to 263·00.	0·75	263·00
Sh.	Gouge and sheared mudstone debris; fragments of dark mudstone with carbonaceous debris; buff clay band (1 cm) near base; slightly lighter, rolled fragments with fish remains at 263·12	0·12	263·12
	[continues P. 32]		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		263.12
	Seatearth, mudstone, medium grey; silty in parts, sheared in parts; ironstone nodules; common throughout coarsens to silty mudstone below c 265.50; slickensided, sheared from 266.00 to 266.40; continues to coarsen downwards, siltstone from 266.40 to 267.25, with rootlet content decreasing; sandstone laminae showing much micro-faulting from 267.25 to 267.90, mainly low angle thrusts, some low angle normal faults; siltstone, with sandstone showing some microfaulting from 265.00 to 268.30; siltstone from 268.30 to 268.60 sandstone lens with sharp, irregular junctions with siltstone, showing some microfaulting from 268.60 to 268.72; siltstone with scattered rootlets from 268.72 to 270.00 with 55° shear planes; highly sheared, slickensided from 270.00 seatearth. mudstone below 270.00; shear plane with gouge filling from 270.13 to 270.33, Dip 65°, ironstone on one side mudstone on the other - small fault;		
F. Dip 35° at 271.50	slickensided silty mudstone 270.33 to 270.50, fining downwards, with silty laminae		
Dip 30° at 271.75	showing some microfaulting, worm traces, occasionally silty laminae (slickensided in mudstone) to 271.90; less slickensided below 271.90;		
Dip 18° at 272.00	'Worny' silty mudstone 271.90 to 272.05; silty mudstone with scattered worm traces and rootlets 272.05 to 272.56		272.56
Dip 20° sh at 273.00	Gouge; crushed mudstone	0.10	272.66
	Mudstone, medium grey, silty (slightly) at top, fining downwards; worm traces throughout to 273.50; Planolites 273.50		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		272·66
Dip 18° at 274·60	Worm markings in downward fining mudstone with some ironstone layers to 275·05; highly sheared from 275·05 to 275·24, with gouge at 275·24; P. ophthalmoides at 275·26; mudstone, silty in parts, worm markings and some ironstone layers 275·26 to 276·70	4·04	276·70
	Core lost	0·36	277·06
Dip 17° at 277·40 Dip 20° at 278·40	Mudstone, medium grey, very silty to 277·20, fine below 277·20 with worm markings and polished bedding planes to 277·60; P. sp. (large) (20mm) scattered from 277·60 to 278·74; some shearing at 278·74; worm markings to 279·20; P. sp. (large) at 279·20; P. ophthalmoides and many buff ironstone concretions (some burrowfills) in fine, smooth mudstone 279·20 to 279·60; abundant P. ophthalmoides and pyrite burrowfills from 279·60 to 280·00; some shearing and slickensiding at 280·00; darker below c. 280·00, scattered planolites to 280·45; sheared at 280·45; scattered fish scales, coalified plant debris, pyrite films and knots to 280·65;		
Marine Band	black cannelly mudstone with scattered fish scales and pyrite 280·65 to 280·80	3·74	280·80
	Coal, inferior	0·14	280·94
	Gouge; mainly coaly debris.	0·10	281·04
Dip 20° at 283·50	Seatearth: sandstone, medium grey, hard; siltstone below 282·75; sandstone bands in places, slowly passes into silty mudstone with scattered rootlets c. 283·75; rootlets lessening c. 284·50; passage into		284·80
Dip 15° at 285·00	siltstone, medium grey; scattered plant debris; sandy bands base, passing into		
		1·61	286·41

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		286·41
	Sandstone, medium grey, quartzitic, fine to medium grained, cross-laminated sharp base but non-erosional junction with:-	0·14	286·55
Dip 18° at 288.30.	Mudstone, medium grey, silty at top, slowly fining downwards with some siltstone beds, plant-debris scattered throughout; worm markings throughout smooth mudstone below c288.00; intensely bioturbated below 285.50 to 289.40; ironstone layer 289.40 to 289.50, becoming darker below 289.50, fine, medium to dark grey burrowed mudstone with some ironstone nodules and some pyrite burrowfills, medium grey below 289.60; scattered worm markings, pyrite, ?forams to 290.65; darker below 290.65; mussel, fish remains 290.70 dark slightly silty mudstone 290.70 to 291.20; ?forams 291.20; scattered pyrite traces, some slickensiding 291.20 to 291.55; mussel, fish scale at 291.55;		
Dip 19° at 290.00			
pellets.	?forams ~~at 291.60~~ 291.65; ironstone layers throughout pyrite 'flowers' on slickenside at 291.80; small ?mussel at 292.00 mussel at 292.35 292.40, 292.50 292.52, 292.54; smooth mudstone 292.54 to 292.95 with plant fragments, mainly coalified increasing in quantity downwards. ?P. ophthalmoides at 292.86.	6·40	292.95
Dip 16° at 293.10	COAL; inferior with shale films	0·08	293.03
	Seatearth: mudstone with coal films	0.05	293.08
	COAL: some shale partings; crushed at base	0·04	293.12
	Seatearth: mudstone: dark grey, shaly to 293.40; ?silty, medium grey 293.40 to 294.70		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	with few rootlets ('bastard seatearth')		293·12
	Slickensided mudstone - bastard Seatearth 294·70 to 294·90; sheared fragments and gouge to 294·97; slickensided seatearth (mudstone) with coal films		
sh.	294·97 to 295·25; gouge and fragments 295·25 to 295·56; tough, sandstone seatearth bed 295·56 to 295·66; silty mudstone seatearth 295·66 to 297·40, with ironstone nodules; sandstone laminae from 297·40 to 298·00 in siltstone seatearth (lamination crinkled slightly); ironstone layer at 298·00; silty seatearth 298·00 to 298·28, with coal films towards base & sandstone wisps towards base	5·16	298·28
	COAL, impure; sandstone in thinly laminated wisps and lenses to 298·32;	0·12	298·40
sh.	Gouge; sheared band of clay with mudstone - seatearth fragments	0·03	298·43
	Sandstone; medium grey; seatearth at top; medium to fine grained, quartzitic extremely tough; displays broad banding with mudstone bands — sst (as described) to 298·60; erosion surface at 298·60; silty mudstone with rootlets to 298·62 sandstone layer to 298·63; silty mudstone layer to 298·65; sandstone layer to 298·70, silty mudstone (with thin sst. layer near base) to 298·75, eroded top; sandstone layer, with sharp base to 298·77; silty mudstone layer, with rootlets to 298·77 to 298·86 with some sandstone wisps; sharp base; sandstone layer to 298·88; silty mudstone with rootlets and sandstone wisps, sandstone nodule at base to 299·02; sandstone, eroded top, from 299·02 to 299·09	0·66	299·09

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Geological Classification	Description of Strata	Thickness metres	Depth metres
			299.09
	Silty mudstone, medium grey, rootlets; sandstone in thin layers		
Dip 20° at 299.30	from 299.09 to 299.30	0.21	299.30
	Siltstone, medium grey, hard; some rootlets	0.17	299.47
	Sandstone, pale to medium grey; tough, cross-laminated; mudstone wisps towards base;	0.13	299.60
	Siltstone, medium grey, rootlets and sphaerosiderite; sandstone wisps towards base;	0.25	299.85
	Sandstone, pale grey, tough, quartzitic; cross-laminated; coaly wisps or carbonaceous wisps scattered throughout; medium grained;		
	sharp but normal junction with:-	1.69	301.54
	Mudstone, silty, medium grey;		
	ironstone layer 301.58 to 301.65;		
	deformed sandstone laminae 301.65		
Dip 20° at 301.90	to 301.67; silty mudstone with thin		
	sandstone laminae to 302.00; slickensided		
	bedding planes 302.00; silty mudstone		
	with some thin sandstone wisps, occasionally		
	deformed, plant debris throughout to		
	302.80; tough ironstone beds 302.80		
	to 303.00; and 303.01 to 303.16; finer		
	mudstone below 303.16 with many		
	polished bedding planes, buff siderite		
	laminae and sand worm markings less		
	slickensided below 303.30; ironstone		
	layer 303.92 to 304.00; smooth, slightly		
	silty mudstone with some slickensided		
	bedding planes 304.00 to 304.17;		
Dip 18° sh. at 304.30.	highly sheared 304.17 to 304.27;		
	polished bedding planes 304.27 to 304.53		
	in rather silty mudstone with occasional		
	siderite layers; rolled pieces of smooth		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
			301 .54
	very 'warmy' mudstone from 304.53		
	to c 304.68;	c 3 .14	304 .68
	Gouge. sheared mudstone		
	debris and clay; core largely lost (20cm)	0 .32	305 .00
	Mudstone, medium grey intensely		
	sheared to c 305.20, highly		
	slickensided to 305.60, 'warmy',		
	smooth; sheared at base	0 .60	305 .60
	Seatearth. mudstone; buff;		
	and soft to 306.20; hard sandstone,		
	medium grey, with abundant		
	sphaerosiderite 306.20 to 306.65;		
	Sandstone: seatearth with scattered		
	sphaerosiderite, common in parts;		
	rootlet content decreases downwards,		
	becoming sandy bastard Seatearth		
	by 307.20, with abundant		
	sphaerosiderite; fines to silty bastard		
	seatearth below 307.50; passes into:-	2 .20	307.80
	Striped siltstone with sandstone		
	laminae, medium grey; scattered		
Small F.	rootlets; fractured with gouge filled		
	fractures 308.00 to 308.50; silty seatearth		
	from 308.00 to 308.50, with sandstone		
	laminae;	0 .70	308 .50
Dip 25° at 308.60	Mudstone, silty, medium grey;		
	fractured at top; scattered rootlets;		
	fining downwards, becoming smooth;		
	some worm traces; highly sheared 308.90		
	to 309.02 with gouge band at 309.02;		
	harder, darker, silty mudstone 309.02; gouge		
	band cuts core from 309.20 to 309.40,		
Small F.	Dip c75°; hard silty mudstone on one side,		
	soft sheared mudstone on the other; silty		
Dip 17° at 309.50	mudstone with some scattered rootlets;		
Dip 20° at c 309.85	slickensides to c 310.00; rather silty,		
	smoothish mudstone with polished		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
			308·50
	bedding planes and ironstones, some worm traces to 311·00; bedding plane shears with gouge 311·00 to 311·08; intensely bioturbated – ?P. montanus 311·08 to 311·20 becomes dark, and cannelloid below 311·20, black shale by 311·24; ?abraded 311·24 slickensided to 311·35; fish scale 311·35; cannelloid at base.	2·87	311·37
	COAL	0·11	311·48
	Seatearth, hard mudstone, dark grey; coal films at top; ironstone layer 312·21 to 312·27; slickensided medium grey seatearth (mudstone) to 312·54; ironstone layer 312·54 to 312·61; smooth mudstone. Seatearth		
Dip 24° at 312·70	312·61 to 312·65 passing into	c. 1·17	312·65
	mudstone, medium grey, smooth, rootlets, darkens downwards; small listric surfaces throughout, some worm markings	0·90	313·55
	Core lost	c. 0·57	314·12
	Rolled fragment of dark slickensided mudstone (lithology as above)	0·05	314·17
	COAL; penetration time indicates 0·70 cms; 0·48 recovered.	0·70	314·87
	Seatearth: silty mudstone, buff/grey, hard sphaerosiderite coliths at 315·90 and 316·50; grey below 316·50 passing into siltstone. Seatearth at c 316·75;		
	ironstones 317·25 to 317·45; passes into	2·58	317·45
Dip 20° at 318·60	Silty mudstone, medium grey, plant debris, ironstones throughout, slowly fines down to smooth mudstone by 320·00. burrowed below 320·00 solid		
Dip 20° at 320·00	mussel at 320·12; coal films, 'planty' at base	2·71	320·16

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	B/F. 320·16		
?F.	Gouge. ? Fault; bounded by bedding planes.	0 ·07	320 ·23
	Seatearth: mudstone, medium-grey,		
	'planty' at top; passes into:-	0 ·31	320 ·62
	Silty mudstone; seatearth; medium		
	grey; rootlets throughout; some worm		
	markings; passes into	1 ·60	322 ·26
	Siltstone, medium grey, striped		
	with sandstone laminae 322·25 to 322·53		
	fractured, broken at 322·25; rootlets		
	to 322·53; plant debris to 322·78;		
Dip 21°	ironstone layer 322·78 to 322·85; 'planty'		
at 322·90	siltstone to 323·00; siltstone with		
	some thin sandstone streaks and		
	plant debris to 323·70; fractured		
	with thin gouge films 323·70 to		
~?F	323·88; sharp change, bedding sheared to:-	2·05	324·25
	Seatearth; siltstone, hard; medium		
	grey. Sharp, sheared bedding plane		
~?F	change at 324·35 into	0 ·10	324 ·35
	Siltstone, medium grey, plant		
Dip 21°	debris; thin sandstone wisps; slowly		
at 324·40	passes into silty mudstone c. 325·40		
	ironstone layer 326·22 to 326·30; broken,		
sh.	fractured bed with gouge bands		
?small F.	from 326·35 to 326·83; smoother,		
	finer mudstone below 326·83; many		
	polished bedding planes; slightly siltier		
Dip 22°	below 327·10, with some smoother, vaguely		
at 327·40	'wormy' layers and polished bedding		
	planes to 327·41; ironstone layer		
	327·41 to 327·48; gouge bed 327·53		
	to 327·55; smooth, slickensided mudstone		
sh	to 327·57; sheared mudstone with		
Dip 24°	gouge 327·57 to 327·67; smooth,		
at 327·80	slickensided mudstone, core broken		
	into biscuits by polished bedding planes,		
	vague worm traces slightly silty, to 328·00;		
	harder, more silty 328·00 to 328·18;		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	ironstone layer 328.18 to 328.23; L B/F		324.35
	Core in polished biscuits below		
	328.23; slightly silty mudstone, below		
Dip 24° at 328.25	328.23; C. kochi at 328.25; worm		
	markings throughout; mudstone silter		
	below 328.50 finer below 328.60;		
	C. kochi at 328.75; worm trails,		
	scattered plant detons 328.75 to		
	329.05; ironstone layers 329.05 to 329.10,		
	and 329.11 to 329.16; mudstone with		
	ironstone nodules and worm trails		
	329.16 to 329.35, bedding planes		
	polished throughout; ironstone layer		
Dip 20° at 330.00.	329.35 to 329.44; smooth, worm.		
	Marked mudstone to 330.02;		
	P. montanus at 330.02; badly sheared		
	330.10 to 330.20; ironstone layer		
	330.20 to 330.25; badly sheared,		
sh	crushed mudstone 330.25 to 330.34;		
sh	(much gouge); sheared mudstone,		
	highly slickensided, some gouge, 330.34		
	to 330.78; slickensided mudstone with		
	worm markings 330.78 to 330.93;		
	ironstone layer 330.93 to 331.00;		
	crushed, sheared mudstone 331.00 to		
	331.05; slickensided mudstone, with		
	polished bedding planes, intensely		
	bioturbated in parts, to 331.35		
Dip 25° at 331.40	solid mussel at 331.35; mussels (ghosts)		
	at 331.40; sheared biscuits of smooth		
	mudstone, intensely 'warmy' (cf. P. montanus)		
sh	in places to 331.80; highly sheared to		
	332.33, gouge in part; gouge from		
	332.33 to 332.56; from 332.56 to		
Dip 20-25° at 332.70.	336.41, core is in loose, polished biscuits;		
	smooth mudstone intensely burrowed		
	in parts, including P. montanus (often associated		
	with siderite layers), darkening downwards,		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
Dip 25° at 333·25	Sideritic, drab, buff layers with B/F		324·3
	P. montanum common to c 333·75;		
	dark mudstone, smooth, with worm		
	traces by 334·00. intensely		
	sheared in parts; 334·00 to 334·25		
	largely friable, sheared; by 334·25,		
	mudstone is black, canneloid; intensely		
	slickensided to 334·35, high angled		
Sh	closely spaced shears from 334·35		
Dip c 40° Sh	to 334·50; intensely slickensided		
Sh.	to 334·90, making rock friable;		
	mussels at		
	334·90 (one solid); continues black		
Dip 0° at 335·00	canneloid mudstone to 335·00 'wormy'		
	in parts; squashed mussel at 335·00;		
	wormy black mudstone, flat-lying to		
	335·10; intensely sheared 335·10 to		
Dip 40° at 335·15 doubtful.	335·50, black canneloid mudstone		
	ostracod at 335·50; highly sheared,		
	slickensided black canneloid		
	mudstone to 336·00; black sheared		
	canneloid mudstone (left undisturbed)		
	336·00 to 336·41	12·06	336·41
2FT9	COAL	0·69	337·10
	Core lost; penetration times indicate		
	COAL to continue to 338·01	0·91	338·01
	Core lost	0·36	338·37
	Seatearth silty mudstone medium		
	to dark grey; coal film at top; hard		
	siltstone below top few cms; tough		
	sandstone below 339·00 to 339·30;		
	siltstone, very hard; rootlet content		
	decreases below 339·30, grading into	0·93	339·30
	Siltstone, medium grey, some		
	rootlets, hard; sandstone stripes from		
	340·70 to 340·90; strongly cross-		
	laminated sandstone stripes 341·00		
	to 341·35; sandstone and siltstone		

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Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	B/F.		339 · 30
	laminae show much microfaulting from 341·35 to 341·75; sandstone and siltstone laminae from 341·75 to 342·00, showing some microfaulting, some deformation, and destroyed by ? bioturbation in places; sandstone laminae are buff, siderite in part; poorly bedded siltstone 342·00 to 342·42; from 342·42 to 342·53 is a discrete fragment of laminated sandstone, indicating reworking of lithified, indurated sediment; siltstone with rootlets 342·53 to 344·10 and with ? parting lineation; ironstone layer at 344·10; sandstone bed 344·15 to 344·30; ironstone bed 344·53 to 344·70; sandstone in parts with scattered coalified straps 344·70 to 345·10; sandstone wisps 345·10 to 345·20; sandstone and siltstone laminae 345·20 to some deformation; sandstone laminae strongly cross bedded in parts; sandstone bed rests on eroded surface of an ironstone layer at 345·52; ironstone 345·52 to 345·60; siltstone coarsening to fine sandstone 345·60 to 346·52; sandstone bed 346·52 to 346·63 showing some deformation, and strongly cross-laminated; siltstone with sandstone layers 346·63 to 347·00; siltstone 347·00 to 347· with one or two sandstone wisps, and plant debris; crushed layer at base	8 · 49	347 · 79
	Sandstone, pale to medium grey; carbonaceous wisps; quartzitic; tough; fine to medium grained; rare slickensided		

Dip < 30° at 344·50

Dip 21° at 347·00

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Name and Number of Shaft or Borehole :

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	B/F	·	347 ·70
F.	Shear (? thrust or lag—small) at 347·87;	·	·
	slickensided surface at 347·92;	·	·
	medium grained below 347·92 with	·	·
	carbonaceous wispy lamination;	·	·
	drab buff quartzite below 347·92;	·	·
	sharp base	1·49	349 ·28
	Silty mudstone with lenticular	·	·
Dip 10°	sandstone wisps, plant debris,	·	·
at 349·60	medium grey	0·41	349 ·69
	Sandstone, pale to medium grey,	·	·
	wispy cross-lamination; quartzite;	·	·
	fine to medium grained thinly	·	·
	laminated with coal laminae	·	·
	350·72 to 350·80; drab buff	·	·
	quartzite with parallel coal laminae	·	·
	350·80 to 350·90 thinly laminated	·	·
	sandstone and coal 350·90 to	·	·
Dip 23°	350·95; tough, massive, buff quartzite	·	·
at 350·95;	350·95 to 351·60; thin silty mudstone	·	·
	layer at 351·60; striped silty	·	·
Dip 55°	mudstone and sandstone laminae	·	·
at 351·60	351·60 to 351·65; tough, massive,	·	·
	buff quartzite with carbonaceous	·	·
	wisps showing broad cross	·	·
	bedding to 352·60; coaly parting	·	·
	at 352·60. Mudstone chips from	·	·
	352·75 to 352·80 (in sandstone);	·	·
	core fragments of buff quartzite	·	·
	352·80 to 352·90.	3·21	352 ·90
	Siltstone; drab grey; rootlets;	·	·
	some sandstone layers; passes →	0·21	353 ·11
	Sandstone, drab buff, quartzitic,	·	·
	many coaly laminae and much coalified	·	·
	plant debris.	0·43	353 ·54

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	B/F.	.	353·54
	Mudstone, medium to dark grey, slickensided;	0·12	353·66
	Mudstone, dark, carbonaceous with coal laminae;	0·09	353·75
	COAL, inferior	0·08	353·83
	Mudstone, dark, carbonaceous.	0·02	353·85
	COAL	0·04	353·89
	COAL inferior	0·06	353·95
sh	Sheared COAL and shale	0·27	354·22
sh	Sheared black seatearth-mudstone	0·42	354·64
	Core lost.	0·82	355·46
	Seatearth: mudstone; medium grey; silty mudstone below 356.00; siltstone below 356.25, with sandstone wisps from 356.50 to 356.86; ironstone layer 356.86 to 356.95; normal junction with:-	1·49	356·95
	Sandstone, medium grey, quartzitic, fine grained, carbonaceous wisps; strongly cross-laminated some microfaulting; well laminated with coaly laminae from 357.15 to 357.25; normal junction with	0·30	357·25
Dip 20° at 357.30.	Siltstone, medium grey, some coaly laminae and sandstone laminae at top; well laminated with planty laminae to 357.70; Some sandstone wisps to 357.80; well laminated planty siltstone to 359.15 with occasional sandstone wisps; cross-laminated sandstone bed 359.15 to 359.25; ironstone layer 359.27 to 359.37;	2·12	359·37
	Sandstone, medium grey, quartzitic, cross-laminated carbonaceous wisps; fine to medium grained.	0·29	359·66

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Geological Classification	Description of Strata	Thickness metres	Depth metres
			359 ·66
	Siltstone, medium grey; plant debris; sandstone laminae from 360.30 to 360.86; passes into	1 ·20	360 ·86
	Striped beds; current laminated siltstone and sandstone; passes into	0 ·19	361 ·05
Dip 20° at 361.40	Siltstone, with many thin sandstone laminae, well laminated to 361.40; finer below 361.40 with worm markings to 361.88; ironstone layer 361.88 to 361.93	0 ·88	361 ·93
Dip 20° at 363.40	Silty mudstone, medium grey, worm markings throughout, intensely bioturbated in places, ironstones throughout to 362.65; ironstone bed 362.65 to 362.80; burrowed throughout to 362.90; mudstone slowly fining down; core in polished discs 362.90 to 363.80 with common sideritic layers to 363.20; some harder silty bands to 363.40; 1cm gouge bed 363.53; worm burrowed 363.53 to 363.90; silty bed 363.90 to 364.10; silty mudstone with common C. kochi 364.10 to 364.25; hard silty mudstone with some worm markings to 364.70; polished discs of bioturbated silty mudstone 364.70 to 365.00; bioturbated silty mudstone with common polished bedding planes to 365.22; thin gouge film at 365.22; darker, finer mudstone with much slickensiding and carbonaceous debris; sharp change. ? Fault at 365.22		365 ·22
? F.			

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	B/F.		365 · 22
	Mudstone, dark grey, highly slickensided, carbonaceous*		
?F	debris; sharp change to	0 · 05	365 · 27
	Seatearth. Mudstone; black, intensely slickensided; carbonaceous		
?F.	films; sharp change to	0 · 05	365 · 32
	Mudstone, medium grey, rather silty, highly slickensided. Worm		
Dip 33° at 365·40	markings (inc. G. carbonaria) to 365·40; intensely slickensided		
	hard mudstone 365·40 to 365·44;		
	15° shear plane with gouge film		
?F	at 365·44 ?F.	0 · 12	365 · 44
	Mudstone, medium to dark		
Dip 15° at 365·48	grey, smooth, some worm traces,		
	scattered carbonaceous fragments.	0 · 10	365 · 54
	Mudstone; hard; medium grey,		
	soon passing into Siltstone,		
	some worm traces.	0 · 20	365 · 74
	Mudstone, medium grey; smooth,		
	worm traces; carbonaceous fragments;		
	mussel ghosts at 365.75; 365.80;		
Dip 15° at 365·85	very 'worny' patches; polished		
	bedding planes; intensely slickensided		
	smooth burrowed mudstone 365·80		
	to 365·90; dark, intensely slickensided		
	mudstone* 365·90 to 365·94, with		
	coaly films; Cannel coid 365·94		
	to 365·96.	0 · 22	365 · 96
?L4FT. ?F —	COAL, inferior	0 · 10	366 · 06
	Seatearth; slickensided top;		
	mudstone; dark at top, medium grey		
	below; slickensided; some coaly		
	films; passes into	0 · 94	367 · 00
	Mudstone, medium grey, smooth;		
Dip 10°–12° at 367·40	plant debris, including leaf impressions,		
	ironstone nodules (small) to 367.40		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	B/F		367.60
	smooth mudstone with scattered plant debris, generally coalified, some ironstones, coaly plant debris common below 367.50; slickensides at 367.90; small ghost mussels (common) at 367.95; coalified films, slickensides, ironstone nodules to 368.00; smoothish, medium grey mudstone with scattered		
Dip ≤2° at 368.10	plant debris, some slickensides to 368.25; faint? mussel ghosts at 368.25; plant debris (neuropterid impressions common) to 368.35; Dips continue virtually flat; buff sideritic lenses and slickensiding with some coalified films to 368.40; highly slickensided, with many coaly films in darker, harder mudstone to 368.45, dark, coaly, carbonaceous, slickensided, cannel-ond mudstone 368.45 to 368.75, dark, slickensided mudstone with small ironstone nodules 368.75 to 368.80;		
Sh	sheared black coaly slickensided		
Sh	shale 368.80 to 368.85; dark carbonaceous mudstone with much black slickensiding to 368.90; intensely slickensided sheared		
Dip 43° at 369.05	dark mudstone, coaly at base to 369.00;	1.97	368.97
	Black slickensided highly sheared shale with some coaly debris; core in fragments, ~~no~~ ground gouge below		
~?f.	369.05 to 369.24	0.27	369.24
	Seatearth: silty mudstone, medium grey; ironstone nodules 369.75 to 371.06; ironstone layer 371.06 to 371.13; passes into	c 2.46	371.70
	Silty mudstone, medium grey, scattered rootlets to 372.00, abundant Calamitid straps 372.00 to 372.50		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	B/F.		371·70
	abundant plant debris to 372·80;		
	harder, siltstone bed with some		
	Sandstone wisps to 373·00; siltstone		
	with sandstone laminae, and some		
Dip 16°	deformed Sandstone ripples 373·00 to		
at 373·20	373·92; sandstone with siltstone		
	laminae 373·92 to 374·00; tough		
	Sandstone bed 374·00 to 374·38, with		
	ripple lamination; very silty mudstone		
	with Sandstone laminae 374·38 to		
	374·45, fining down to less silty		
	mudstone by 374·50; C. kochi at		
Dip 20°	374·50; some polished bedding planes,		
at 374·75	some thin gouge films in fining		
	down silty mudstone to 375·45		
	C. kochi at 375·45; ironstone layer		
	375·65 to 375·74; polished discoids,		
	with occasional C. kochi 375·90 to		
	376·00; polished, vertically jointed		
	discoids 376·00 to 376·50 with common		
	C. kochi*, and some ironstones; C. kochi		
	is particularly distinctive here, with only		
	a few other burrow marks; dark mudstone		
	below 376·50, with coalified and		
	carbonaceous fragments. pyritised		
—F.	ostracod at 376·50; some dull siderite		
	layers; (sudden change – ? fault at		
	376·50); Dark mudstone to 376·66.		
—F.	Slickensided surface at 376·66, – fault		
	(16° dip); sudden change at 376·66		
	to smooth, medium grey, intensely		
Dip 18°	bioturbated mudstone; shear with		
at 376·70	1 cm gouge bed at 376·78, Dip of		
	surface is 18°; sudden change at		
—F.	376·78 to more silty mudstone with		
	C. kochi* (repeat of bed at about 375·00 to 376·00)		
	mussel + C. kochi at 376·95. ironstone		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	layer from 376·95 to 377·06 (may		377·20
	be repeat of layer from 375·65		
	to 375·74; rather silty mudstone		
	with some bioturbation 377·06 to		
	377·45; sharp change to hard,		
-?f.	silty mudstone - ? f at 377·45;		
	ironstone layer 377·48 to 377·65;		
Dip 2°	hardish silty mudstone 377·65 to		
at 377·80	377·80, fining down to smooth		
	mudstone, with abundant small		
	ghost mussels and C. kochi at		
	377·90 (? repeat of 376·96);		
	slightly silty smoothish mudstone		
	377·90 to 378·14 with C. kochi and		
	some intense bioturbation, some		
	slickensiding towards 378·14; rolled		
	silty mudstone fragments (pull out Lane)		
	378·14 to 378·19.	6·49	378·19
	? FAULT.		
	Seatearth; silty mudstone, medium		
	grey; many ironstone nodules; ironstone		
	layer 378·97 to 379·17; passes into	0·98	379·17
Dip 25°	Silty mudstone, medium grey;		
at 379·20	rootlets and plant debris to 380·68;		
Dip 15°	Shear plane with gouge at 380·68.		
at 379·50	Sandstone wisps towards base;		
	passes into	·65	380·82
	Striped beds; cross-laminated		
	pale grey sandstone and medium		
	grey silty mudstone (75% sandstone)		
	ironstone layers 380·88 - 380·93;		
	cross-laminated sandstone from 381·		
	45 to 381·40 with some ironstone		
	layers; passes into	0·58	381·40
	Silty mudstone, medium grey;		
	siltstone in part; C. kochi common in		
	silty mudstone layers; mainly siltstone		
	with some sandstone laminae below 381·55;		

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Name and Number of Shaft or Borehole : Margam Borehole N°5

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	sandstone wisps below 381.90; B/F	.	381.30
	passes into:-	0.70	382.00
	Sandstone, pale to medium grey, fine-grained, cross-laminated, very tough, flinty, ferruginous sandstone from 382.00 to 382.20.	0.33	382.33
Dip 16° at 382.40	Silty mudstone, medium grey, with C. kochi; silter below 382.43, with some sandstone wisps; sandstone bed from 382.73 to 382.77; finer, silty mudstone, with worm tracks, and some siltstone laminae from 382.77 to 382.90; polished joint from 382.77 to 383.10; fining down, silty mudstone with C. kochi from 382.90 to 383.30; ironstone layer at 383.30; smoothish silty mudstone with scattered worm markings, and ironstones from 383.30 to 383.80; core in polished biscuits from 383.80 to 384.50; 'very wormy' smoothish mudstone 383.90 to 384.00; smooth mudstone with some ironstones, some 'wormy' siderite layers, and worm markings throughout to 384.48, with some intensely disturbated layers; silter bed at 384.48, containing hatchetite on joint and on slickensided surfaces; tough ferruginous siltstone bed from 384.50 to 384.60; core in polished biscuits of smooth, silty mudstone, with worm markings and some ironstone layers, intensely burrowed in parts from 384.60 to 384.90; fine, smooth mudstone with worm burrows below 384.90; ghost mussel at 384.95; solid mussel at 384.96, (ironstone replaced)		
Dip 15° at 384.00	Squashed mussels at 384.97, 384.99		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	B/F.	.	382.33
	Core jointed from 384.90 to 385.00; by 385.00, mudstone is medium to dark grey, with lineated bedding planes (incipient slickensiding);	2.67	385.00
Sh	Gouge; sheared bed of intensely crushed mudstone and clay;	0.08	385.08
Sh	Mudstone, medium to dark grey; as above the gouge bed; intensely sheared; lineated bedding planes; gouge in parts; common squashed mussels to 385.12;	.	.
	intensely sheared below 385.12;	.	.
	with gouge from 385.24 to 385.29	.	.
	against former mudstone; medium ~~to dark grey~~, slickensided smooth	.	.
	mudstone; wormy; ghost mussel at 385.43;	.	.
	squashed solid mussel at 385.44	.	.
	intensely disturbed siderite layer at 385.45; disturbed mudstone to 385.50; solid mussel at 385.50;	.	.
	ironstone layers from 385.52 to 385.58; and 385.59 to 385.63;	.	.
Dip 20° at 385.65.	squashed mussel at 385.65; slightly silty 385.65 to 385.70; faint, squashed mussel ghost fragment at 385.70; silty mudstone with some worm traces 385.70 to 385.94; ironstone layer 385.94 to 386.03; slightly silty, smoothish mudstone to 386.12;	.	.
	C. kochi at 386.12; G. carbonaria at 386.30; worm markings to 386.40;	.	.
	mussel at 386.40; smooth disturbed mudstone, core in polished biscuits from 386.40 to 386.53; sheared, gouge film at 386.53; smooth, worm marked mudstone with ironstone concretions	.	.

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	L.B/F.	.	385.08
	below 386.53', mussel ghost at	.	.
	386.54', passes into	1.54	386.60
	Sandstone, current laminated,	.	.
	with darker mudstone laminae;	.	.
	(right way up); very tough, ferruginous	.	.
	sandstone bed from 386.68 to	.	.
	386.78'; tough cross laminated	.	.
	quartzitic sandstone 386.92 to	.	.
	387.07' [fine planty sandstone	.	.
	from 386.78' to 386.92'] core	.	.
	"bends" visibly at 387.00, by	.	.
	about 8°;	0.45	387.05
	Silty mudstone, medium grey,	.	.
	plant debris; finely micaceous;	.	.
	sandstone wisps;	0.15	387.20
	Sandstone medium grey, fine to	.	.
	medium grained; quartzitic, tough,	.	.
	jointed to 387.40; wispy current	.	.
	laminations from 387.40 to 387.60;	.	.
	normal junction with	0.40	387.60
	Siltstone, medium grey; tough	.	.
	and ferruginous in parts; plant	.	.
	debris; passes into silty mudstone	.	.
Dip 16° at 388.00	by 387.90; siltstone again below	.	.
	388.10 to 389.00 passes into	1.40	389.00
	Sandstone; Core "bends" at	.	.
	389.00 by about 10-12°; pale to	.	.
	medium grey; quartzitic, fine-grained	.	.
	tough; wispy cross lamination (right	.	.
	way up); vertically jointed;	0.28	389.28
	Sharp, slickensided junction, but	.	.
	probably non-erosional;	.	.
Dip 17-18° at 389.35	Silty mudstone medium grey;	.	.
	well laminated below 389.35, with	.	.
	thin sandstone wisps and carbonaceous	.	.
	laminae to 389.45; siltstone from	.	.
	389.45 to 389.67, depositional dip	.	.

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	B/F.		389.28
Dip 32° at 389.65	Steepens at about 389.60; sandstone laminae from 389.67 to 389.92 with carbonaceous laminae in a well-laminated bed; sandstone bed from 389.92 to 390.02, - pale to medium grey, fine to medium grained quartzite; depositional dip lessens below 390.02; ripple-laminated sandstone and coaly mudstone from 390.02 to 390.07; silty mudstone below 390.07 C. kochi at 390.08; ironstone layer 390.14 to 390.23; core in polished biscuits of smoothish mudstone with scattered worm markings from 390.23 to 390.40; ironstone nodule at 390.40; smoothish silty mudstone with C. kochi and other worm		
Dip 23° at 390.45	traces 390.40 to 390.50; mussel fragment at 390.50; silty mudstone bed from 390.50 to 390.56; silty bed with some ironstone 390.60 to 390.70; smooth, 'wormy'		
Dip 20° at 390.80	silty mudstone with G. carbonaria to 390.80; polished bedding planes throughout from 390.40 to 391.20; ? possible slight deviation in borehole at 390.80; worm-marked silty mudstone, including C. kochi, to 391.20, with ironstone layer from		
Dip 20° at 391.20	390.88 to 390.95; ? possible slight deviation in borehole at 391.20; siltstone from 391.20 to 391.32; silty mudstone with some siltstone layers and worm markings, including C. kochi to 391.66; polished bedding planes towards 391.66; ironstone bed 391.66 to 391.78; ? possible slight deviation in borehole at 391.70; smooth, 'wormy' mudstone from 391.78 to 392.08; broken and slickensided from 391.78 to		
fecal pellets.	392.90; ? ostracods abundant from 392.08 to 392.21; slickensided from 392.08 to 392.20;		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
			389 .28
	Sheared and slickensided 392.20 to 392.35; ?ostracods at 392.35; very 'wormy' to 392.40, with one or two mussel fragments; very 'wormy' (P. Montanus) below 392.40; Serpula? at		
spirorbis.	392.41	3 .16	392 .44
	Core lost.	0 .86	393 .30
	Mudstone, medium grey, smooth; 'wormy' at top; core in fragments; dark mudstone becoming Canneloid downwards to 393.39; abundant mussels; slickensided		
	Canneloid bed from 393.39 to 393.45	0 .15	393 .45
Upper Six Feet	COAL: 0.62 recovered; crushed at base	0 .70	394 .15
	Seatearth: mudstone; medium grey;		
sh.	ironstone nodules; highly sheared from 395.12 to 395.70; sheared to gouge, mainly, from 395.70 to 396.15.	2 .00	396 .15
Lower Six Feet.	COAL; penetration times indicate 2.00 of coal; 0.76m. of sheared, black, coal dirt recovered.	2 .00	398 .15
	Seatearth: mudstone: medium grey.	0 .27	398 .42
	Core lost.	0 .35	398 .77
	Seatearth: silty mudstone; medium grey; mudstone below 398.90; slickensided; ironstone concretions; darker below 399.50, with some coaly films, to 399.75; silty mudstone below 399.75 to 400.25; mudstone below 400.25; coal films 400.30 to 400.38; sharp, uneven change to lighter, silty seatearth at 400.40 which contains clasts of the darker carbonaceous seatearth down to 400.50; tough siltstone with buff concretions to 401.10; buff concretions in silty seatearth to 401.26; very tough, ferruginous sandstone bed 401.26 to 401.35; silty mudstone with rootlets 401.35 to 401.55, dark grey,		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
			398 ·77
	'planty', coaly shale 401·55 to 401·60; bedded seatearth-mudstone 401·60 to 401·65; slickensided, carbonaceous seatearth to 401·70; dark grey seatearth (sandstone) with buff concretions to 402·15; medium grey / buff seatearth (mudstone) to 404·00; becomes silty mudstone-seatearth below 404·00; harder siltstone below 404·50, with rootlets decreasing downwards; slickensided jointing; vertically jointed 404·60 to 405·25, siltstone with rootlets; sandstone wisps below 405·00, passing into	6 ·33	405 ·10
	Striped beds: current-laminated siltstone and sandstone laminae to 405·60, jointed; siltstone with some sandstone laminae to 406·10; ironstone layer 406·10 to 406·24; striped, sandstone and siltstone to 406·75; cross-laminated sandstone, ferruginous in parts to 407·05; broken siltstone fragments to 407·20; cross-laminated sandstone to 407·60; coarse siltstone to 407·85; siltstone with sandstone laminae to 408·00; tough, coarse siltstone with sandstone laminae to 408·20; cross-laminated siltstone and sandstone (10%) to 408·90; siltstone and sandstone (50%) to 409·00; cross-laminated sandstone with siltstone laminae to 409·55; ironstone bed to 409·64; striped siltstone and sandstone to 410·40; strongly cross-laminated, microfaulted siltstone and sandstone to 410·87; some rootlets below 411·00; mainly cross-laminated, fine-grained sandstone to 411·60; striped, microfaulted beds to 412·14; siltstone,		

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Name and Number of Shaft or Borehole :

Margam Borehole N°5

6-in or 1:10 000 Map Registration No.
SS88SE/62

National Grid Reference

Geological Classification	Description of Strata	Thickness metres	Depth metres
		.	405 · 10
	to 412·53, ferruginous to 412·30; striped,	.	.
	microfaulted beds to 412·86; siltstone	.	.
	with plant straps to 413·20	8 · 10	413 · 20
Sh.	Gouge; slickensided mudstone	.	.
	fragments.	0 · 15	413 · 35
	Sandstone, medium grey, current-	.	.
	laminated with microfaulted silty	.	.
	mudstone laminae to 413·42; mudstone	.	.
	layer with microfaulted sandstone	.	.
	laminae to 413·50; more massive, quartzitic	.	.
	sandstone with microfaulted wisps to	.	.
	413·70; striped, microfaulted sandstone	.	.
	and silty mudstone laminae to 413·91;	.	.
	sandstone with microfaulted wisps to	.	.
	414·10; strongly micro-cross-laminated	.	.
	to 414·18	0 · 83	414 · 18
	Siltstone, medium grey, plant	.	.
	debris; sandstone wisps, microfaulted	.	.
	from 414·24 to 414·45; sheared film	.	.
Dip 18° at 414·50	at 414·45; silty mudstone with some	.	.
	worm markings to 414·67; slickensided,	.	.
Dip 19° at 414·73.	colour-banded, finer, smooth mudstone,	.	.
	darkening downwards below 414·67;	.	.
	dark, smooth, slickensided mudstone with	.	.
	plant debris in basal 7cms.	0 · 65	414 · 83
	COAL	0 · 62	415 · 45
	Seatearth: mudstone with coal films.	0 · 08	415 · 53
	COAL: fragments only.	0 · 06	415 · 59
	Seatearth: mudstone; dark at top,	.	.
	medium grey below; ironstone nodules;	.	.
	silty below 416·20 to 416·60; ironstone	.	.
	layer 417·00 to 417·12; ?possible slight	.	.
	deviation of borehole here; ironstone layer	.	.
	417·12 to 417·27; slickensided, 'planty'	.	.
	mudstone-seatearth to c. 417·90, passing into	2 · 31	417 · 90
	Mudstone, medium grey, plant	.	.
	debris; smooth; solid mussels at 417·95	.	.

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		417·90
	slickensided 'planty' mudstone to 418·15; harder, silty mudstone to 418·20; 'planty' slickensided mudstone to 418·45; harder, silty mudstone to 418·50. medium to dark grey silty mudstone, darkening downwards to 418·65, with some coal films and plant debris; dark, cannelloid mudstone below 418·65, with slickensides; sheared below 418·70, with one or two gouge films; gouge film separated dark, cannelloid mudstone above from lighter, medium grey/buff 'planty' mudstone at 418·76; sheared base	0·88	418·78
Sh.	COAL, crushed at base	1·00	419·78
Sh.	Seatearth: mudstone; dark, coaly, intensely sheared; gouge to 419·90 hard, silty seatearth (mudstone) to c 420·30, siltstone to 420·95; tough, fine-grained sandstone to 421·22; tough fine to medium grained sandstone, jointed to 421·40; cross-laminated with siltstone wisps to 421·49;	1·17	420·95
Dip 15° at 421·90.	siltstone with sandstone laminae to 421·80; siltstone, passing down into	0·95	421·90
	Silty mudstone, medium grey; abundant C. kochi, scattered plant debris to 422·40 Mudstone fining downwards with scattered C. kochi and occasional polished bedding planes to 422·56. Plant debris in slightly siltier mudstone from 422·56 to 422·72. Silty mudstone. Slickensided to 422·78. Ironstone layer from 422·78 to 422·86. Silty mudstone Some polished bedding planes, ironstone ?burrow fills to 423·10. Smooth mudstone		
Dip 15° at 423·10	to 423.15 Ironstone concretions in		

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National Grid Reference

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		421·90
Dip 30° at 423.30	Slightly Siltier mudstone 423.40. Ironstone layer from 423.40 to 423.46, Slickensided Smoothish mudstone with worm markings to 423.51. Ironstone layer from 423.51 to 423.58.		
Dip 16° at 423.70	Smoothish mudstone with ironstone burrow fill at 423.59. C. cocki at 423.80, to 423.87. Ironstone layers from 423.87 to 423.96 and from 424.00 to 424.09. Slickensided Silty		
Dip 15° at 424.50	mudstone below 424.09. Mussel at 424.10 C. cocki and other worm markings. ?Squashed mussel at 424.50 Smoothish mudstone with worm markings and small ironstone concretions to 424.70 G. Carbonaria in very "wormy" mudstone at 424.70 Smooth Slickensided mudstone with abundant G carbonaria from 424.70 to 424.75		
f.	?P. montanus at 424.78. Slickensided Suface at 424.80 ?Small fault. Darker Smooth mudstone becoming darker and carneloid downwards with mussel fragments common from 424.85 to 424.90, Slickensided throughout ? Ostracods. Lighter "wormy" mudstone layer from 424.94 to 425.00		
Probably faecal pellets →	Medium grey Silty mudstone with ?ostracods (pimples) fining downwards to 425.10. Mussels at 426.10 in Smooth mudstone; Smooth "wormy" mudstone with P. montanus associated with ironstone layers, Slickensided, pimples, to 425.35. Mussels at 425.35, 425.36, 425.38, 425.41, 425.46 in Smooth bioturbated mudstone. 16° Slickensided Surface at 425.48	3·58	425.48
? f.	Gouge	0·05	425.53
Sh.	Mudstone, dark grey, Sheared and Slickensided fragments ? fault; gouge in parts	0·13	425.66
	Core lost (40 cm), dark carneloid mudstone fragment at base	0·40	426.06

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Name and Number of Shaft or Borehole : Hargan Borehole No. 5

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		426.06
	COAL	0.46	426.52
	Seatearth mudstone, buff-medium grey, buff below 426.60. Silty below 427.00 Sandstone wisps below 427.30. Sandstone bed from 427.37 to 427.43 Pass down into	1.01	427.53
	Striped beds, current laminated Sandstone and Siltstone ferruginous in parts with rootlets throughout passes down into Siltstone with rootlets at 427.94. Sandstone layer at 428.10. Siltstone with some thin Sandstone wisps and rootlets to 428.23. Ironstone layers from 428.23 to 428.29 and from 428.34 to 428.47	0.94	428.47
	Mudstone, medium grey, Slightly Silty with rootlets intensely Slickenisided towards base at 428.62	0.15	428.62
F.	Dip direction changes at 428.62. Fault		
Dip c. 12° at 429.70	Seatearth mudstone, buff, Silty below 429.10 and becoming medium grey with ferrosideite nodules; rootlets becoming		
Dip 15° at 430.50	Scattered below 430.00, becoming bastard Seatearth below 430.30 and fining to mudstone; Mudstone Seatearth with coaley		
Dip 12° at 432.00	films below 430.90. Ironstone nodule from 431.10 to 431.30. Bastard Seatearth below 431.75 Passes down into mudstone with rootlets below 432.75, Slickensides at 432.85, Sandstone wisps at 433.25 Slowly passes down into	4.68	433.30
	Silty mudstone, medium grey with rootlets, plant debris and ironstone nodules. Siltstone bed from 433.50 to 433.65. Silty mudstone with Siltstone laminae and some plant debris from 433.65 to 434.13. Ironstone layer from 434.13 to 434.18. Striped bed with Sandstone laminae from 434.18 to 434.34. Planty Silty mudstone with some Sandstone		

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Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		433·30
Dip 17° at 434·75	wisps to 434·80. Siltstone to 434·90.		
	Silty mudstone to 435·00. Siltstone to 435·35		
	Silty mudstone with plant debris to 435·60.		
Dip 17° at 435·60	Silty mudstone with scattered plant fragments		
	to 435·94. Ironstone layer from 435·94 to		
	436·02. Silty mudstone with plant debris to 436·20,		
	mussels with ~~excavating~~ burrows and plant		
	debris at 436·20, mussel at 436·25. Ironstone		
	layer 436·27 to 436·31. Plant debris to 436·40		
Dip 18° at 436·50	Some worm ~~burrowing~~ to 436·50. Scattered plant		
	debris to 436·70. Mussel fragments at		
	436·70. Plant debris to 436·80 and mussel		
	at 436·80, Plant debris with large leaf		
	impression at 436·98. Ironstone layer 436·99		
	~~to~~ 437·06. Mussels at 437·06. Plant		
	debris and with Sandy wisps to 437·35.		
	Ironstone layers from 437·36 to 437·37 and		
	from 437·38 to 437·43, Siltstone bed from		
	437·48 to 437·50, Smoothish bioturbated		
Dip 15° at 437·70	mudstone to 437·55. Silty mudstone with		
	C. cochi and G. carbonaria to 437·70. Silty		
	mudstone with some worm markings to 437·93		
Sh	Shear plane with thin gouge fill at 437·93.		
	Smooth dark mudstone with mussel fragments at		
	437·94. Lighter "wormy" mudstone below 437·97.		
	Mussel fragments at 438·04 to 438·09. Coaly		
	films in darker mudstone to 438·12, dark		
	carbonaceous mudstone with Slickensides to		
	438·20 intensely Slickensided dark mudstone		
	438·24	4·94	438·24
F	Gouge. Fault; dip c. 12°	0·04	438·28
	Seatearth; mudstone ~~with~~ darker at		
	top, medium grey below 438·35, Silty mudstone		
	below 438·40 passing down into Silty mudstone		
	with rootlets. Ironstone layers from 438·70 to		
Dip 15° at 439·08	438·75 and 438·77 to 438·81; passes into	0·80	439·08
	Silty mudstone, medium grey with		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		439.08
	Neuropteris sp. and other plant impressions. Some ironstone layer passes into Siltstone with Sme Sandstone lamenae at 439.40, abundant plant debris to 439.55. Ironstone layer to 439.61. Silty mudstone with plant		
P.	debris, Some Siltstone bands to 440.15. Well laminated Sandstone and Silty mudstone to 440.24. Silty mudstone with thin Sandstone wisps and abundant plant debris to 440.35. Ironstone		
Dip 15° at 440.55	layer from 440.35 to 440.43. Silty mudstone with abundant plant debris to 440.53. Ironstone layer from 440.53 to 440.55. Dark carbonaceous mudstone from 440.59 to 440.65. Slightly finer Silty mudstone with Some worm traces and Some plant debris, ironstone layers, becoming finer downwards and worm traces increasing, including C.cochi, Planolites sp. to 440.86 Ironstone layer from 440.86 to 440.91. Slickensided Smooth Silty mudstone with worm traces including C. cochi, Some plant debris to 441.25 ? ghost mussel at 441.25 Ironstone layer from 441.27 to 441.36. Silty mudstone with worm traces, mussel fragments at 441.45 worm traces including C. cochi to 441.65, becomes Siltier below 441.65 to 441.80. Smoothish mudstone with worm markings becoming darker downwards, Scattered plant debris to 442.05.		
Sh	Sheared and Slickensided at 442.05. Smoothish		
Dip 15° at 442.15	medium grey with worm traces and scattered plant debris, Some ironstone wisps, jointed below 442.30 to 443.60 with pyrite film on joint Surfaces, intensely bioturbated with G carbonaria from 442.50 to 442.70. Mudstone, bioturbated, Silty 442.77. Ironstone layer from 442.77 to 442.90 Coarser, Silty mudstone with Some C. cochi, Some thin ironstone layers, Slightly finer mudstone below 443.00 with Some C. cochi lonsdaleia		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		439.08
	siltier below 443.20; ironstone layer from 443.29 to 443.34; silty mudstone with worm markings to 443.40; ironstone layer from 443.40 to 443.50; slickensided mudstone at 443.50; finer silty mudstone to 443.55; ironstone layer to 443.60; silty mudstone, becoming lighter downwards, with scattered plant fragments; C. kochi		
Dip 15° at 443.67	at 443.62; darker below 443.65 to slickensided surface at 443.67; polished bedding planes at 443.68, 443.68. 'smoothish' silty mudstone with worm markings and some plant fragments to 443.76; darker silty mudstone with mussel fragment at 443.82 to 443.85; smooth silty mudstone with worm markings and some plant fragments to 443.91; lighter silty mudstone with plant fragments to 443.96; polished		
Dip 15° at 443.98	bedding planes from 443.96 to 444.00; silty mudstone to 444.05; worm markings, slickensides at 444.05; smooth mudstone with mussel fragments at 444.07, 444.12; worm markings 444.13; mussels at 444.13; 444.14; C. kochi at 444.17 mussel fragments numerous from 444.17 to 444.20 become smoother and darker downwards below 444.20 with scattered mussel fragments, and intense disturbation at 444.23. Slightly Siltier "wormy" mudstone fragment dipping at 35° ?rolled caving from 444.23 to 444.35. Smooth medium to dark grey mudstone with polished joint and worm markings; to 444.40 medium grey bioturbated mudstone closely spaced jointing, Sh Some Shearing, to 444.50. Siltier mudstone with worm markings, Some ironstone layers to 444.68 Mussels at 444.68 Bioturbated S.lt. m. lst		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		439.08
	with some ironstone layers, polished bedding planes, Scattered mussel fragments. Mussel at 445.14; C. cochi in silty mudstone with ironstone layers to 445.50 G carbonaria at 445.60. Silty mudstone with worm markings including C. cochi to 445.64; ironstone layer 445.64 to 445.76; silty mudstone with		
Dip 15° at 445.98	some worm markings, polished bedding planes, C. kochi to 446.00;	6.92	446.00
	Siltstone, medium grey, plant debris; detached sandstone ripples; micro-cross laminated sandstone from 446.07 to 446.27 with ironstone layer from 446.19 to 446.21;	0.27	446.27
	Silty mudstone, medium grey with silstone layers, worm trace in the silty mudstone, plant debris in the coarser bands; some polished bedding planes, thin sandstone wisps at top; C. kochi in mainly silty mudstone below 446.50; abundant plant debris at 446.75; some sandstone wisps in coarse silty mudstone with plant debris to 446.99; cross laminated sandstone layer with erosive base from 446.99 to 447.03; silty mudstone with C. kochi to 447.23; cross-laminated sandstone bed with plant debris 447.23 to 447.28; very silty mudstone and siltstone with sandstone laminae; detached sandstone ripples near base; from 447.28		
26° slickensided shear in sst. bed.	to 447.51; cross laminated sandstone bed 447.51 to 447.62, passing into striped, current-laminated sandstone and silty mudstone at 447.63; striped to 447.73; ironstone bed from 447.73 to 447.89; silty mudstone with sandstone wisps to 448.00;		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		446.27
	abundant plant debris 448.00; silty mudstone / siltstone with sandstone laminae and plant debris from 448.00 to 448.60 C. kochi at 448.60; C. kochi scattered throughout in silty mudstone with some G. carbonaria to 449.05; siltstone with sandstone laminae, some deformed 449.05 to 449.15; siltstone from 449.15 to 449.20, passing into silty mudstone with worm markings, mainly C. kochi to 449.40; siltstone with plant debris 449.40 to 449.60 silty mudstone with C. kochi and plant fragments, some ironstone layers to 449.80, becoming finer below 449.80; Mussel at 449.80, mussels (2) at 449.81; polished bedding planes below 449.80; slickensided slightly silty mudstone with mussel fragment at 449.82; basal few centimetres of thin mudstone not examined; removed with underlying coal.	3.61	449.88
Dip 15° at 449.00	Coal; completely recovered	2.38	452.26
UPPER NINE FEET	Seatearth: mudstone: grey: buff at top; ironstone nodules throughout; silty below 454.75; sandstone wisps 455.00 to 455.10; scattered sandstone wisps in siltstone seatearth with some coal films to 455.75; siltstone seatearth becoming silty mudstone seatearth below 456.25, with rootlets becoming fewer; passes into	c. 4.24	456.50
	Silty mudstone: medium grey, burrowed throughout, D 457.25 sphaerosiderite, pyrite granules, to 457.25; leaf impressions, ironstone nodules 457.25 and plant debris		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		456·50
	to 458·65; silty mudstone with scattered plant debris to 457.95; sandstone wisps and slickensides 457.95 to 458.00; silty mudstone with plant debris, occasional sandstone		
Dip 15° at 458·50	wisp to 458·50; G. carbonaria at 458·50; sphaerosiderite concretions at 458·60; some sandstone laminae in silty mudstone with plant debris to 458·90; ironstone layers (1mm) and some nodules		
	to 459·10; plant debris, some sandstone wisps to 459·27; sandstone bed from 459·27 to 459·37; silty mudstone with plant debris to 459·50; mussel		
Dip 15° at 459·65	fragments at 459·50; sandstone layer at 459·52; silty mudstone with plant debris and slickensides to 459.65; silty mudstone with scattered plant debris, slickensides, and ironstone nodules to 460.50; worm burrows		
	in darker, fine mudstone 460·50 to		
sh F.	460·60; sheared bed of crushed mudstone fragments 460·60 to 460·65;	4·15	460·65
	Seatearth: mudstone; medium grey; ironstone nodules; siltstone below 460·70		
	seen passes into	0·10	460·75
	Silty mudstone: medium grey; plant debris to c 461.25; scattered rootlets 461.25 to 461.45; siltstone bed with		
	some rootlets 461·45 to 461·60; silty mudstone with C. koehi 461·60 to 461·65;		
	hard siltstone bed 461·65 to 461·77; silty mudstone with some worm markings to 462.05;		
	hard ferruginous siltstone bed 462.05 to		
Dip 12° at 462·30	462·13; silty mudstone with plant debris to 462.30; sandstone wisps to 462.40;		
	sandstone layer at c 462·40 [illegible]		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		460·75
	in silty mudstone/siltstone to 462·50; detached deformed sandstone ripples 462·50 to 462·56; siltstone with trough cross-laminated sandstone layers from 462·56 to 462·72; striped cross-laminated sandstone and siltstone to 463·10; silty mudstone with some siltstone layers and thin sandstone wisps to		
Dip 11°to13° at 463·40	463·30; finer silty mudstone with plant debris 463·30 to 463·85; very 'planty' silty mudstone with sandstone wisps 463·85 to 463·89, passing into fine-grained cross-laminated sandstone from 463·89 to 464·06; cross-laminated sandstone from 464·06 to 464·25; ironstone layer 464·25 to 464·29; silty mudstone with thin sandstone wisps, and plant debris to 464·90; finer silty mudstone 464·90 to 465·35, with C. kochi; coarser silty mudstone with plant debris to 465·40, passing into siltstone with sandstone laminae and abundant		
Dip 12° at 465·80	plant debris from 465·40 to 465·60, passing into cross-laminated sandstone from 465·60 to c 466·30, passing into striped bed where argillaceous laminae increase in amount; striped sandstone and siltstone laminae, cross-laminated; abundant plant debris throughout; striped sandstone and silty mudstone with lenticular sandstone wisps below 466·50; to 466·73; very silty mudstone with sandstone wisps and laminae from 466·73 to 466·93; thicker sandstone layer 466·93 to 466·96; silty mudstone		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		460.75
	to 467.06;	6.31	467.06
LOWER NINE FEET	COAL and crushed mudstone	0.06	467.12
	"Clod"; highly sheared mudstone bed	0.08	467.20
	COAL	1.21	468.41
	Seatearth: mudstone; dark grey, intensely slickensided	0.26	468.67
	COAL, crushed below 468.96	0.40	469.07
	Seatearth: mudstone; highly sheared to 469.10; silty below 469.10; sandstone laminae below 469.20; hard seatearth (siltstone) with sandstone laminae 469.20 to 469.70; ironstone concretions to 469.75; sandstone laminae in siltstone. Seatearth to 470.12; slickensided surface with gouge film at 470.12; siltstone seatearth with ironstone concretions 470.12 to 470.56; siltstone with rootlets and pyrite to 470.77 with sandstone wisps towards base; passes into:-	1.70	470.77
Sh	Sandstone: medium grey; fine to medium grained, quartzitic, cross-laminated; plant debris; sharp change, but normal junction with:-	0.33	471.10
	Silty mudstone, medium grey with sandstone laminae and wisps; (stripes); plant debris; passes into cross-laminated sandstone at 471.43; cross-laminated sandstone from 471.43 to 471.57; striped cross-laminated siltstone and sandstone laminae from 471.57 to 471.72; fault plane		
F. (small)	Crosses core from 471.72 to 471.83 (slickensided surface dipping c 66°); steeply dipping sandstone bed 471.83 to 471.93;	0.83	471.93

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		471·93
Sh.	highly sheared, slickensided mudstone from 471·93 to 472·00; smooth,		
Sh	slickensided, medium grey intensely, bioturbated mudstone from 472·00 to 472·17; ironstone layer 472·17 to 472·21; silty mudstone 472·21 to 472·27; ironstone layer 472·27 to 472·35; silty mudstone with worm markings from 472·35 to 472·40; silty mudstone with		
Dip 20° at 472·50	plant debris to 472·55; sandstone layer at 472·55; slickensided silty mudstone with plant debris 472·55 to 472·60; broken, slickensided silty mudstone with some worm markings to 472·78, with some sandstone		
Sh. Dip 22° at 472·95	wisps; shear plane with gouge film crosses core from 472·78 to 473·00; silty mudstone with some sandstone wisps to 473·08, passing into siltstone with plant debris from 473·08 to 473·15; ironstone layer 473·15 to 473·28; silty mudstone, striped with sandstone laminae, some microfaulting some worm trails from 473·28 to 473·40 striped siltstone and sandstone with plant debris 473·40 to 473·48; massive siltstone with abundant plant debris 473·48 to		
Dip 16° at 473·68	473·66; well-laminated (parallel lamination) silty mudstone and fine sandstone, with dark carbonaceous films on bedding planes from 473·66 to 473·78; silty mudstone with siltstone layers and sandstone wisps plant debris throughout to 474·09;		
Dip 16° at 474·22	sandstone bed 474·09 to 474·15; silty mudstone with sandstone wisps and laminae; well laminated in parts; abundant plant		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		471·93
	on bedding planes of finer, silty mudstone layers; to 474·43', parallel laminated striped beds - sandstone and silty mudstone - 'planty' bedding planes, and bedding planes in finer silty mudstone with worm trails; some polished bedding planes towards base; to c 474·90', silty mudstone with sandstone laminae, 'planty' layers, and some bedding planes with worm trails from 474·90 to 475·55', striped sandstone and silty mudstone with some ironstone layers, many 'planty' laminae to 476·20', silty mudstone with some sandstone laminae		
sh.	476·20 to 476·32', gouge band crosses core from 476·32 to 476·46 (c 50° dip)		
	intensely slickensided silty mudstone, slowly fining downwards to 476·80' smooth mudstone with worm markings 476·80 to 476·87', thin ironstone layer at 476·87', and thin layers to 476·92, mudstone becoming darker; mussel at 476·92'		
Dip 11° at 476·82	slickensided smooth mudstone to 477·03'. Solid mussel at 477·03', very slickensided mudstone to 477·12' [~~dark mudstone becoming darker and cannel-oid downwards~~]; solid mussel at 477·15'; Planolites sp @ 477·15'; some dark cannel-oid mudstone from 477·15' to 477·32, with some mussel fragments; in broken jointed slickensided mudstone, pyrite on joints; mudstone becomes dark and cannel-oid below 477·30.	5·48	477·41
BUTE	COAL: solid stick of 1:24', timings indicate 1·32.	1·32	478·73
	Seatearth: mudstone; highly sheared to 479·43'; sandstone from 479·43' to 479·9m		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		478.73
	Siltstone-seatearth 479.90 to 480.14; medium to coarse grained sandstone bed with scoured base, from 480.14 to 480.24 breaking downward passage into:-	2.51	480.24
	Siltstone, medium grey, with sandstone laminae; rootlets and plant debris; ironstone bed from 480.45 to 480.55; hard siltstone and sandstone (cf. seatearth) to 480.70; cross-laminated sandstone 480.70 to 480.80; striped silty mudstone with sandstone laminae to 480.93; lamination disrupted by burrowing 480.93 to 480.98; silty mudstone with sandstone laminae, plant debris, to 481.15; striped to 481.35; ironstone layer to 481.40; striped silty mudstone and sandstone, with some microfaulting to 481.60; silty mudstone with some sandstone laminae, and plant debris to 481.70 with vertical jointing; striped silty mudstone and sandstone, continuing vertically jointed (with calcite joint fill) to 481.75; vertically jointed silty mudstone with sandstone laminae to 482.00, silty mudstone with occasional sandstone laminae, slickensided, vertically jointed to 482.09; ironstone layer to 482.12; vertically jointed silty mudstone, with common thin ironstone layers, slowly fining downwards to 482.70; common, small ironstone-preserved mussels at 482.70; core unjointed below 482.73; smoothish silty mudstone with ironstones, jointed below 482.80; ironstone preserved mussel at 483.05; mussel fragment at 483.13; common mussel [illegible] to 483.36, 483.37		



Dip 15° at 481.10

Dip 15° at 482.75

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		480.24
	ironstone concretions in smooth mudstone to 483.50; mussels at 483.50; mussels commonly scattered throughout to 483.85, with ironstone wisps and concretions; mudstone darker and harder by 483.90; hard, darkish silty mudstone from 483.90, passing into	3.72	483.96
	Amman Marine Band:-		
	Mudstone, medium to dark grey, silty hard; L. mytiloides at 483.96; and common throughout to 484.06; ironstone layer with some L. mytiloides 484.06 to 484.12; hard siltstone with L. mytiloides to 484.17; ?orbiculoidea fragment at 484.17; scattered lingulids (often oblique to bedding) to 484.30; fines to medium grey		
Dip 20° at 484.30	silty mudstone below 484.30, barren to 484.41; lingulids at 484.41; hard siltstone bed with scattered lingulids 484.41 to 484.45; finer silty mudstone with lingulids common to 484.55; P. ophthalmoides at 484.55; smoothish silty mudstone with some worm traces, and scattered P. ophthalmoides to 484.65; ironstone layer 484.65 to 484.68; smooth, fining down mudstone with pyrite burrowfills and faecal pellets to 484.84; lingulid at 484.84; one or two lingulids at 484.85; ironstone nodule 484.85 to 484.89; scattered lingulids in smoothish mudstone to 484.92; intensely bioturbated with abundance of small pyrite burrowfills 484.92 to 485.00; darker, harder mudstone with		
Dip 16° at 485.10	pyrite burrowfills to 485.15; lingulid at 485.15; pyrite traces in darkening mudstone to 485.20; carbonaceous fragments and pyrite traces to 485.30; pyritised ?foram.; ?fish scale		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		483.96
	and pyrite concretions at 485.30; pyrite traces, carbonaceous fragments and scattered pyritised fragments to 485.39; fish plate at 485.39; coal films, pyrite concretions 485.39 to base	1.47	485.43
MCM / LCM Amman Rider	Coal	0.18	485.61
	Mudstone parting	0.04	485.65
	Coal	0.17	485.82
	Seatearth: siltstone; medium grey; hard, jointed; pyrite in rootlets; sandstone wisps below 486.60; passes into	1.58	487.40
	Siltstone, medium grey; sandstone wisps; plant and rootlet debris; ironstone layers 487.65 to 487.70 and 487.74 to 487.86; passes into medium to dark grey silty mudstone with plant debris at 487.90; medium grey silty mudstone below 488.10; well laminated with buff siderite layers, jointed to 488.50; dark carbonaceous mudstone 488.50 to 488.57 with slickensides; dark, canneloid mudstone, slickensided, jointed to 488.74, with some dull buff siderite layers towards base, and coal films near base	1.34	488.74
Dip 20° at 488.10	Coal; inferior	0.03	488.77
	Seatearth: siltstone, medium grey; broad striping with sandstone layers at 489.74, 489.80, 489.83; sandstone bed 489.85 to 489.96; sandstone and silty mudstone laminae 489.96 to 490.05; tough, impure ganister bed 490.05 to 490.23; soft, buff seatearth (mudstone) 490.23 to 490.40; harder, buff, silty mudstone seatearth 490.40 to 490.75, passing into hard, buff/grey sandstone seatearth		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		488·77
	from 490·75 to 491·00; possible slight deviation at 491·00; tough, fine-grained sandstone seatearth from 491·00, passing into	2·71	491·48
Dip 26° at 492·50	Sandstone, medium grey, fine to medium grained, quartzitic, tough, jointed (in parts); carbonaceous; current-laminated wisps; cross-bedded; core broken from 493·45 to 493·67; and broken at base	2·42	493·90
Dip c. 30° at 494·05	Mudstone, medium grey, slightly silty; slickensided; core broken; 'smooth and 'wormy' veins 494·00,	0·21	494·11
F.	Gouge; top and bottom dip at c. 30°; darkish shale degraded to clay; fault plane.	0·09	494·20
Dip 26° at 494·56	Silty mudstone, medium grey, hard, some worm markings to 494·25; plant debris 494·25 to 494·56; slickensides throughout; siltstone 494·56 to 495·20, with very thin sandstone wisps, plant debris, slickensides; silty mudstone from 495·20 to 495·43; sandstone bed from 495·43 to 495·54, with low angle (15°) slickensided plane crossing core at 495·50; slickensided siltstone with sandstone laminae from 495·54 to 495·60; striped siltstone and sandstone with plant straps 495·60 to 495·80, slickensided;		
Sh.	silty mudstone with abundant plant straps from 495·80 to 495·90; intensely sheared,		
Sh.	(gouge in parts), mudstone 495·90 to 496·21;		
Dip 45° at 496·26	with abundant plant straps; ironstone layer 496·21 to 496·26; core in small fragments,		
dist.	with some gouge to 496·45; silty mudstone fragments, with plant straps, some siltstone some ironstone fragments to 496·45.		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		494·20
Dip 35° at 496·55 ↑	hard siltstone with plant straps, slickensided		
	thin sandstone laminae, plant debris,		
	to 496·80; Core very broken, in fragments		
Broken, disturbed.	from 496·80 to 497·54:- slickensided		
	fragments of siltstone with plant debris,		
↓	dips up to 60°; sandstone bed from		
Dip 50° at 497·54.	497·54 to 497·66; near vertically		
	slickensided		
Dip 78° at 497·66	dipping silty mudstone 497·66 to		
	498·00; ironstone layer at 498·00 (with		
Dip 63° at 498·00	steep dips, depths here are approximate)		
	slickensided,		
Dip 73° at c.498·20	rather silty mudstone disturbated from		
	498·00 to 498·25; Core in fragments (but intact)		
	below 498·25:- dark, wispy bedded		
Dip 45° at c.498·30	Sandstone from 498·25 to 498·50;		
	rock very broken but Core intact below		
	498·50:- slickensided, intensely disturbed		
Dip 90° 498·60 to 499·00	mudstone to 498·60; vertically bedded		
	silty mudstone 498·60 to 499·00;		
	vertical, or near vertically bedded silty, slickensided		
	mudstone to 499·50; dip lessens at 499·50		
Dip 70° at 499·50	to c 70°; silty mudstone to 499·90;		
Dip 60° at 499·90	slickensided mudstone with worm traces,		
	dips about 60° to 500·00; Core in fragments		
	below 500·00:- steeply dipping, slickensided,		
	smoothish mudstone fragments, gouge		
	in parts, some ironstone fragments to		
	500·50; folded slickensided mudstone fragments,		
	500·50 to 500·57; disturbed, steeply		
	slickensided		
Dip 63° at 500·80	dipping silty mudstone to 500·80; broken,		
	slickensided, smoothish mudstone fragments,		
	steeply dipping, to 501·08; gentle folding		
	at 501·08; Core solid below 501·08, and		
	this is the end of the intensely disturbed		
	run from 496·90; although greatly disturbed,		
	the impression is one of folded strata with		
	no sudden lithological changes indicating		
Dist. ↑	faulting; also the impression is one of		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		494.20
	monoclinal folding, with no indication (so far) of inversion; slightly silty, slickensided mudstone, dips low (<12°),		
	but bedding gently flexured;	7·18	501·38
F.	15° slickensided surface at 501.38.		
	Sandstone, medium grey, slickensided, impure; rootlets; (cf sst seatearth); dips low; some siltstone laminae; siltstone below 501.64; slickensided surface (low angle) at 501.66; medium to dark grey silty mudstone/siltstone below 501.66, slickensided; slickensided surface at 501.75, (low angled) medium grey slickensided siltstone from 501.75 to 501.92	0·54	501·92
F	Gouge; top and bottom surfaces dip approximately 30° to 35°; intensely sheared mudstone	0.08	502·00
	Silty mudstone; highly slickensided, medium grey; slickensided surface at 502.06 (dips at 25°); medium to dark grey		
Dip 24° at 502·10	siltstone with plant debris to 502.19; 15° slickensided surface at 502·19; medium to dark grey, very silty mudstone with plant debris to 502·24; 15° slickensided surface at 502·24; medium grey, silty mudstone with some worm markings to 502·30, passing into siltstone with plant debris at 502·30; ironstone beds 502.35 to 502·40 and 502.42 to 502·53; silty mudstone with some worm traces and		
Dip 12° at 502·60	plant debris 502·53 to 502·60; fines below 502·60, with worm markings to 502·92;		
F.	1cm gouge band crosses core from 502·92 to 503·06 (dip 48°) fault; smoother, darker mudstone below 503·06, slickensided, darkening downwards, to 503·11; some gouge, but mainly fragments 503·11 to 503·16, fragments		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		502·00
	fragments of dark cannelrid mudstone, and coal;	1·16	503·16
	: COAL position; a few fragments only.		
	Seatearth: mudstone; buff/grey to 503·30; grey below 503·30; sheared to		
sh	gouge from 503·65 to 503·80; sheared		
sh	intensely from 503·80 to 504·14, gouge in		
	parts; ironstone layer at 504·14; highly		
sh	sheared seatearth mudstone, gouge in		
	parts to 504·67; highly sheared		
sh	seatearth mudstone, gouge in parts,		
	ironstone concretions to 505·62;		
	ironstone nodule 505·62 to 505·73;		
	passage from mudstone seatearth		
	into :-	2·57	505·73
	Mudstone, medium grey, highly		
	slickensided; abundant plant debris,		
	and leaf impressions; darkens		
Dip 25°	downwards, some ironstone wisps;		
at 506·00.	less slickensided below 506·00; leaf		
P.	impressions in abundance to 506·20;		
	ironstone nodule at 506·20; slightly		
	silty, smoothish mudstone with plant		
Dip 30°	debris, slickensides, some ironstone wisps		
at 506·40	to 506·46; gouge band at 506·46; highly		
	slickensided, gently folded, smooth		
	mudstone with plant debris to 506·75;		
	ironstone layer at 506·75; slickensided,		
	silty mudstone with plant debris to		
	507·07, crumpled near base.	1·34	507·07
YARD	COAL; coal starts at 507·18 in		
	box, broken, slickensided mudstone fragments		
	above; mudstone ? clast from 507·23 to		
	507·31.	1·10	508·17
	Seatearth: mudstone: sheared		
	to 508·57: silty medium grey mudstone		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		508.17
	Seatearth from 508.57 to 509.20;		
	some sandstone layers 509.20 to 509.30;		
	seatearth mudstone to 509.68, crushed,		
	sheared at base.	1.49	509.66
	COAL; fragments only.	0.06	509.72
	Mudstone, black, cannelond,		
	carbonaceous, slickensided to 509.85;	0.	
	crushed fragments from 509.85 to		
	509.93; black carbonaceous, cannelоid		
Dip 10° at 510.00	Mudstone 509.93 to 510.00.	0.28	510.00
	COAL; crushed in basal 2cms	0.16	510.16
	Seatearth: mudstone; drab grey-		
	buff mottled at top; soft, buff below		
	510.25; sheared in parts; sphaerosiderite		
	at 512.30; peculiar "weathered"		
	appearance throughout to 513.30, the		
	core surface having been "eroded"		
	during drilling; medium grey with some		
	buff mottling, silty mudstone seatearth		
	from 513.30 to 514.15 with few rootlets		
	(more like a bastard seatearth); slowly		
	passes into	3.99	514.15
	Silty mudstone, medium grey, abundant		
Dip c.10° at 514.60	sphaerosiderite, poorly bedded		
	some rootlets; passes into siltstone with		
	plant straps/debris at 514.80 to 515.10;		
	ironstone from 515.10 to 515.22; finely		
	striped, well laminated sandstone and		
Dip 16° at 515.30	silty mudstone from 515.22 to 515.60;		
	silty mudstone with plant straps and		
	debris, siltstone layers to 515.80; siltstone		
	from 515.80 to 516.30, with some plant		
	debris; very 'planty' with straps from		
	516.30 to 516.45; siltstone with some		
	plant debris, some ironstones to 517.35;		
	finer siltstone with plant straps and some		
	leaf impressions, some ironstones		

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