Galileo 03 Limited

Mynydd Ty-talwyn Energy Park – Environmental Statement Volume III

Appendix 5.2: Coal Mining Risk Assessment

Annex C – BGS Borehole Records

Project reference: 663870

RSK GEOSCIENCES

NOVEMBER 2025

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

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

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

SS 88 NE/31

248

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

N.G.R. 8523. 8670

County Glam.

6-in. Map 34 NW.

GSM 70[illegible]/38

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

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)

Specimens Bc. 1273-1302. Rock Level Seam 3 ft. thick at Bore. Dip of Seam roof 10½ in. p. yard.

Notes by Cap
Bores in 83 feet
C. 42 ft. 6 bar
Diameter at top 7½ in. at 6½" at 42 ft.

Description.	THICKNESS. Feet.	Inches.	DEPTH. Feet.	Inches.
Top of Bore is 6 ft. below Rock Level Seam, so add 6 ft (3½ ft. fireclay + 2½ ft rock) to get distances below Rock Level Seam.				
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 other joints	1	6	103	6
Hard grey rock	42	6	146	.
Grey rock with coal markings	7	.	153	.
Coal	1	10	155	10
Block 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 shaly rock	6	.	206	.
Soft friable shaly fireclay	7	.	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
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—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. [illegible]	20'9"	263- 0	
10-12°	Dark [illegible] fair shale with thin buff brown ironstone bands & [illegible] Naiadites large & small, ostracods & [illegible] fish scales, coprolites	1- 0	264- 0	
	Hard dark finely sandy & finely 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 scs.	1- 6	267- 0	
	Dark [illegible] fine shale with thin ironstone bands & [illegible] at top.			
	+ plant fgt 268 & 268½ with a few bands rich in spores, brown 268-274'			
	Metaclacoceras [illegible] at 274 & [illegible] Carbonicola, fish teeth, Schizodus, Gastrocoras, Homoeolorioles & Dimellia 274-279 [illegible]	12- 0	279- 0	
10-12°	Dark grey/yellow tinged barren 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 carbonised plant stems, bedding 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. & barren except for occas. plant traces.	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.

Brit. No. 8

Aberbaiden Slant Folio _____ County Glam.

Aberbaiden Colliery (cont.) 218 in. Map

Description.	THICKNESS. Feet.	Inches.	DEPTH. Feet.	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 1-40 County of Ke

Underground b.h. 11° [illegible] Aberaman Seam 6" Quarter Sheet 34 SW.

Aberaman Colliery (Bacdonald Ltd.) 1937

248

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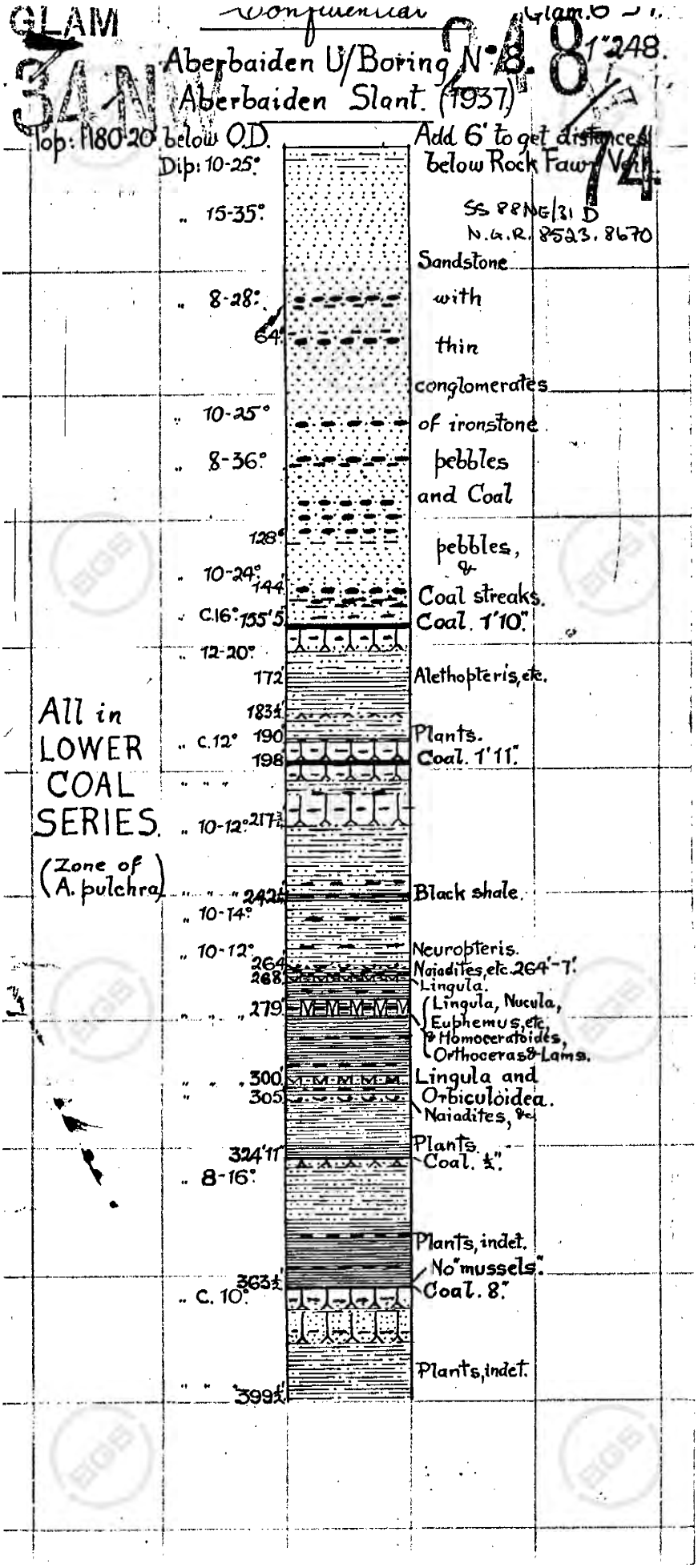
GEOLOGICAL CLASSIFICATION	DESCRIPTION	THICKNESS		DEPTH	
	Concrete			-	
	Hard shaly sandstone	21		23	-
	Very hard broken grey rock	4	-	27	-
	Hard grey rock	15	-	42	-
	Very hard broken grey rock	24	-	66	-
	" " grey rock	37	-	103	-
	Very hard broken grey rock w. shaly joints	1	6	104	6
	Very hard broken 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 Construction Co.				

Contact BGS: ngdc@bgs.ac.uk

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

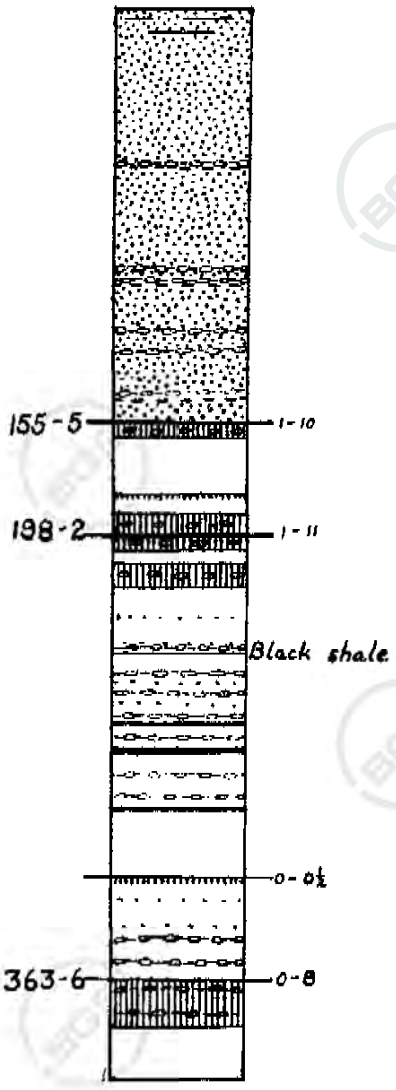
[redacted] ABERBAIDEN COLLIERY

1" 248

No. 8 OF No 25 EAST HEADING

SS 88 NE | 31 D

8523 8670



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

GLAM 34 NW

~~Confidential~~ Glam. 6" 34

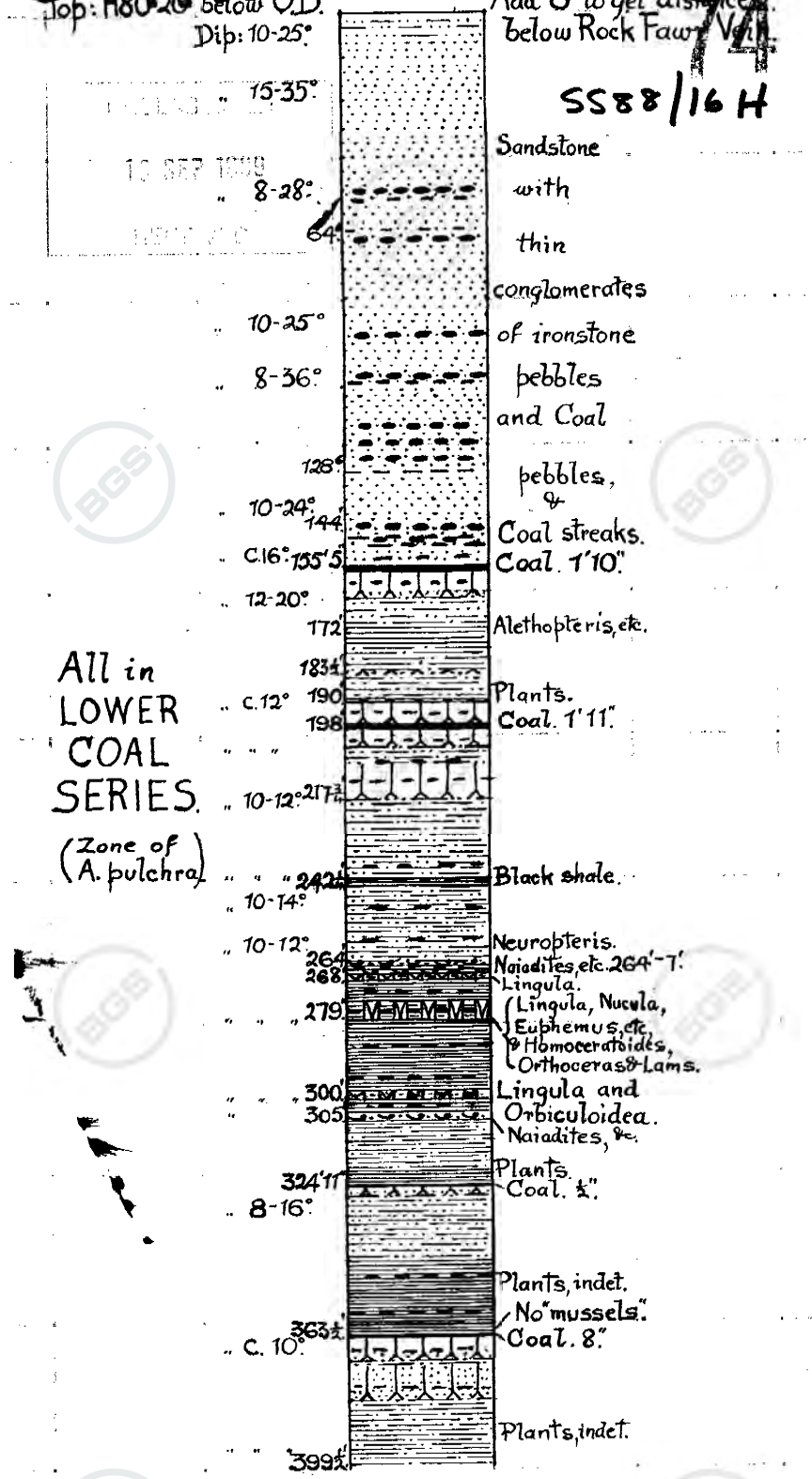
Aberbaiden U/Boring N°8. 1"=48'.

Aberbaiden Slant. (1937)

Top: 1180.20 below O.D. Add 6' to get distances below Rock Fawr Vein.

Dip: 10-25°

SS88/16 H



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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 Francois Cementation Co. (J. Godden Bros.) 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
c. 45 ft. p. bore
Diameter at top 15 in. to 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	2	.	241	3
Dark grey shale	56	9	298	.
" , 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 & indet. plants 257 ft 6 in. Some Naiadites		20' 9"	263-0
10-12°	Dark grey fine shale with thin bands of brown ironstone & Naiadites, Lingula & small ostracods & indet. fish scales & coprolites		1-0	264-0
	Hard dark fine-grd sandy & finely 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 scs.		1-6	267-0
	Dark grey fine shale with thin ironstone bands & bivalves at top. Plant fragments 267 ft 6 in with a few ferns, mostly imperfect, between 268-274'			
	Metaclaveras, Naiadites at 274 ft 6 in, Lingula, Ctenodonta, fish tooth Schizodus, Clavicoras, Homoeolepides & Nemallis 274-279 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 above bedding with pyrites & pyrite nodules, indet. fish remains & in bottom part Lingula, Orbiculoidea & small fish scales (joints at base for		7-0	300-0
" "	Dark grey shale & ironstone bands up to 1 in. & barren except for coarse plant traces.		4-0	304-0

Contact BGS: ngdc@bgs.ac.uk

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

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

No. 8

Aberbaiden Coal Co. Folio ____ County Glam.

Aberbaiden Colliery (cont.) 1in. Map SS88/16H

Description.	THICKNESS. Feet.	Inches.	DEPTH. Feet.	Inches.
Brt. forward.			324	8
Dark shale & coal.		3	324	11
Dark grey sandy shale.	7	1	332	
Hard rock	2	9	334	9
Dark grey sandy shale	4	3	339	
Strong sandy shale	3		342	
Very broken dark grey shale	18	10	362	10
Coal		8	363	6
Strong grey gritty		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 nods.	8		391	
Strong dark grey shale	2	6	393	6
"	2	6	396	
Dark grey shale	3	6	399	6

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: 1248

County [illegible]

6" Quarter Sheet 34 SW

Underground B.H. No 4 · 1108 (also called Sloan) A.E. Bairdon 3837

A.E. Bairdon Colliery (Baldwins Ltd.) 1937

248

SS88/16

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Geological Classification	Description	Thickness		Depth	
	Surface				-
	Hard shaly sandstone	21	-	21	-
	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 bands 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

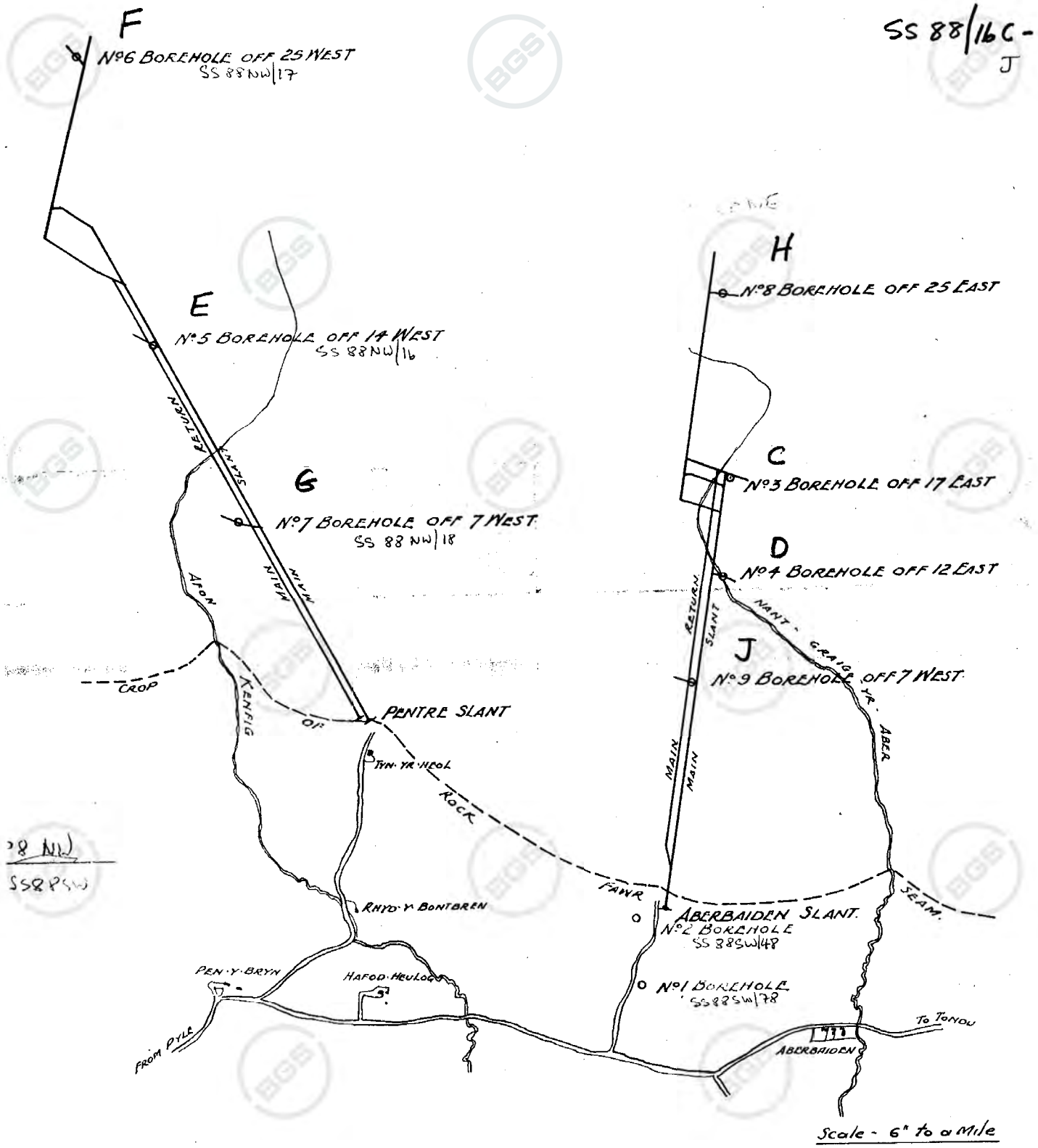
British Geological Survey
BGS ID: 372607 : BGS Reference: SS88NE31
EPSG: 27700 : 285230,186700

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

No 2 BOREHOLE
SS 88 SW/48

No 1 BOREHOLE
SS 88 SW/78

PENTRE SLANT

ABERBAIDEN SLANT.

RETURN SLANT

MAIN MAIN

NANT-GRAIG-YR-ABER

ROCK FAWR SEAM.

TIN YR HEOL

RHYD Y BONTBREN

PEN Y BRYN

HAFOD HULOG

CROP

KENFIG

AFON

FROM PYLE

To TONDU

ABERBRAIDEN

SS 88 NW

SS 88 SW

SS 88 NE

88 SE

Scale - 6" to a Mile

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

SS 88 NE

HOLE OFF 14 WEST
SS 88 NW/16

No 8 BOREHOLE OFF 25 EAST
SS 88 NE/31

No 3 BOREHOLE OFF 17 EAST
SS 88 NE/29

No 7 BOREHOLE OFF 7 WEST
SS 88 NW/18

No 4 BOREHOLE OFF 12 EAST
SS 88 NE/30

No 9 BOREHOLE OFF 7 WEST
SS 88 NE/32

MAIN

RETURN

SLANT

NANT-GRAIGYR

ABER

MAIN

MAIN

OFF

PENTRE SLANT

TYN-YR-HEOL

ROCK

FAWR

SEAM

RHYD-Y-BONTBREN

ABERBAIDEN SLANT
No 2 BOREHOLE
SS 88 SW/48

HAFOD-HEULOG

No 1 BOREHOLE
SS 88 SW/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.

Underground

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

County Glam. Prim. Map 34 NW

GS 48/60

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...

Description	THICKNESS. Feet.	Inches.	DEPTH Below Rock Fawr V...
Top of Bore is 7'8" below Rock Fawr Seam so add 7'8" to undernoted depths to get distance below Rock Fawr V...			
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		1..
Dark grey shale	21		17..
Dark grey fireclay	1		1..
Dark grey shale	13		18..
	4		190
Grey fireclay	3		193
Dark grey shale	5		198
Not seen Coal	1	3	199 3
Strong grey fireclay	2	3	2.. 6
Ironstone nodules	1		20.. 6
Strong grey fireclay	2	6	20..
Black shale	1		20..
Very friable soft grey fireclay	6		21..
Hard grey sandstone	10		22..
Dark grey sandy shale	39		2..
Dark grey shale	36		24..
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. ironstone Naiadites, Lingula & ostracods & fish teeth.	1·0	265
" "	" fine silty shale with Lingula & ironstone	1·0	266
" "	" " " Naiadites, fish scs & coprolite	1-0	267
" "	" shale, with brown ironstone bands up to 4 ins & nodules, marine shells, traces of plants, & green pyritised streaks. Lingula & Tubericulella at 268', Posidonella Nucula Chonetes & fish scs at 269', Schizodus Homarantides Orthoceras Euphemites & Naultinus at 270' and Homoeorhynchus hibernicus, 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 scs in bottom part.	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 (Plants traces)	11·0	308
" "	Dark grey shale with Cordaites, Calamites undulates, 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

Name and Number of Shaft or Bore given by Geological Survey: Underground b.h. No 19 East Heading, Abercraidy Seam, Abercraidy 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	
	" " " " wisc						
	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	-
	" " fireclay		1	-		173	-
	" " shale		17	-		190	-
	Grey fireclay		3	-		193	-
	Dark grey shale		5	-		198	-
	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	-
	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 fireclay 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 Evanson Coal Co.						
	Information collected from " " June 1941						

Contact BGS: ngdc@bgs.ac.uk

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

~~3444/1~~

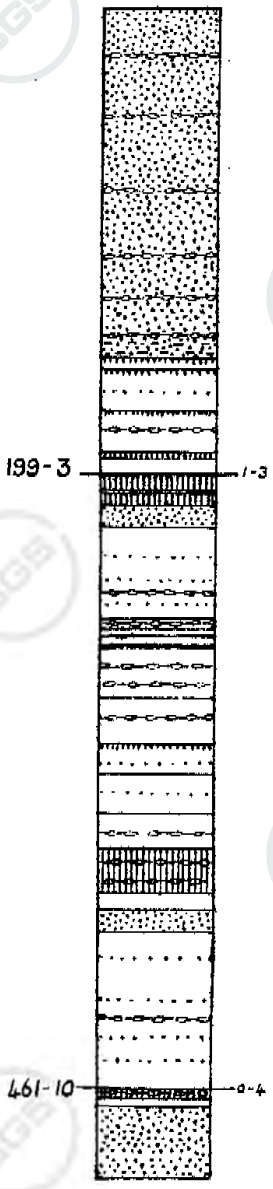
ABERBAIDEN COLLIERY

1'248

No 3 IN No 17 EAST HEADING

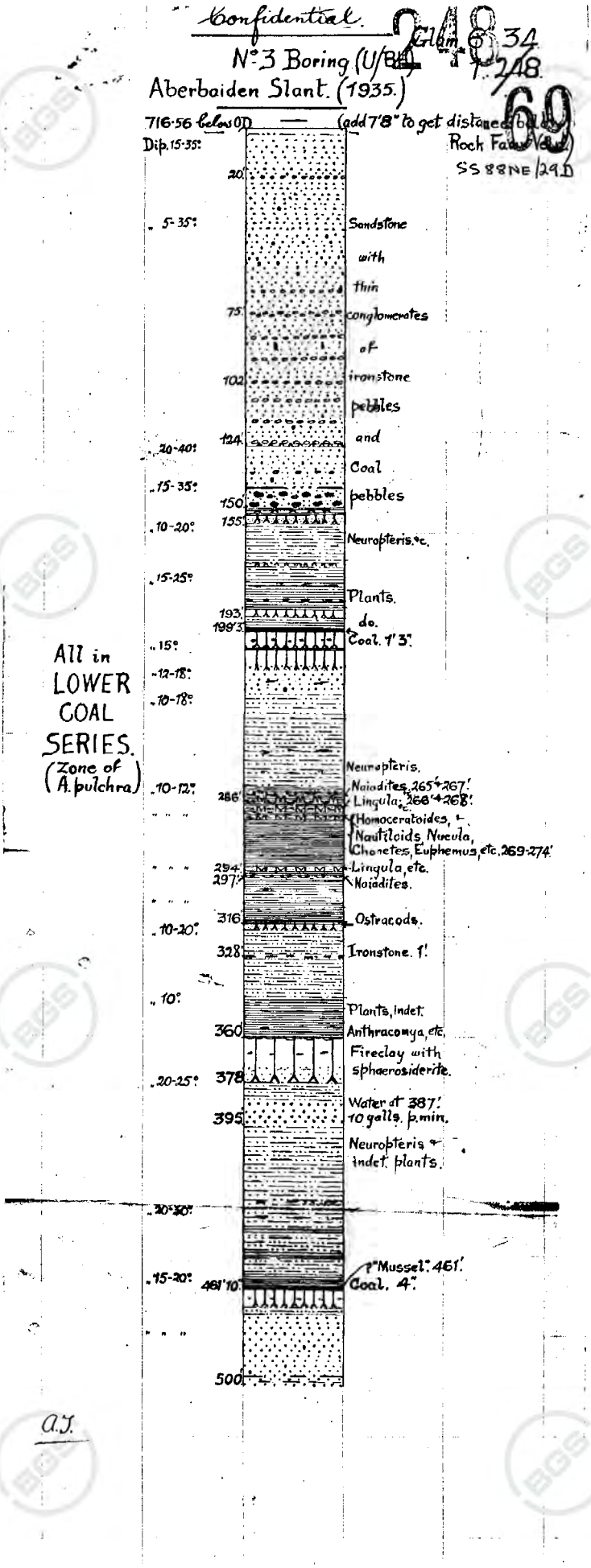
SS88NE/29

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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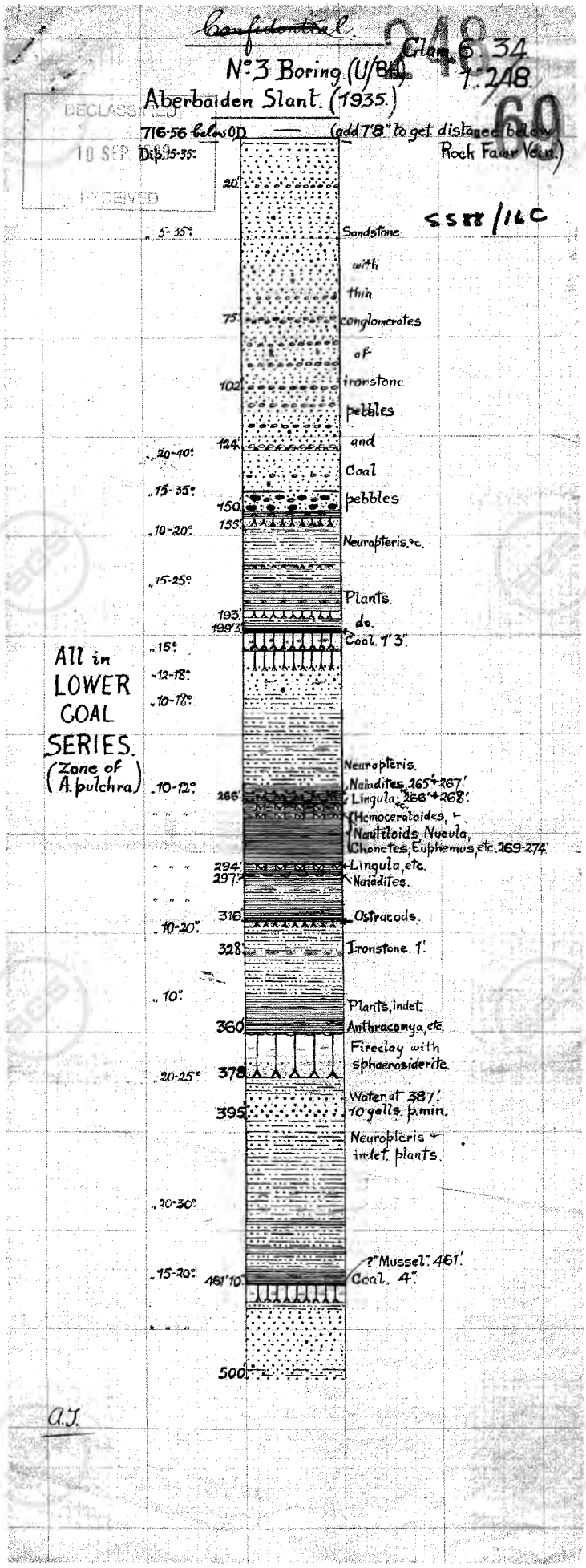
British Geological Survey

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



Contact BGS: ngdc@bgs.ac.uk

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

GLAM Confidential 34NW/1

34 NW GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS. SS 852 861

DECLASSIFIED 10 SEP 1999

248 69

County Glam

Geol. Map 34 NW

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

GSM 1000/4417

SS88 NE 6

Top of Bht. Surface level −716·56 (B.D.) O.D.

One-inch Map 248.

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

Date of sinking June to Sept 1935. Borer Francis Cementation Co. Ltd. (Flodden Borer)

Specimens B.B. 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 veins & 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	
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 Woolen 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 316 ft:—

			261
Dip 10-12°	Dk grey fine silty & fine shale (part yellowstone) 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 scs & coprolite	1·0	267
" " "	" shale, with brown ironstone bands up to 4 ins & nodules, marine shells, traces of plants, & green pyritised streak. Lingula & tuberculidella at 268', Posidoniella, Nucula, Chonetes & Melocrinus, & fish scales at 269', Schizodus, Homaxinetes, bothrions, tuffaceous & Naiadites at 270', and Homoxinetes hitchini, tuffaceous to 273-274', barren 274 to 288'	21·0	288
" "	Strong dark shale, part silty, shaly mudstone, with plant traces & some pyrites, Lingula, Megalichthys, rotten fish scs 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 b.h. No 19 East Heading, Abertaiden Seam, Abertaiden Colliery (Baldwins Ltd.) 1935

County Glam.

6" Quarter Sheet 34 SW.

248

SS 88 / 16 C 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 -
	" " " " " wide 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 -
	" " fireclay	1 -	173 -
	" " shale	17 -	190 -
	Grey fireclay	3 -	193 -
	Dark grey shale	5 -	198 -
	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 -
	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 fireclay 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 Francis Committee	6	
	Information received from . .	" , June, 1941	

Contact BGS: ngdc@bgs.ac.uk

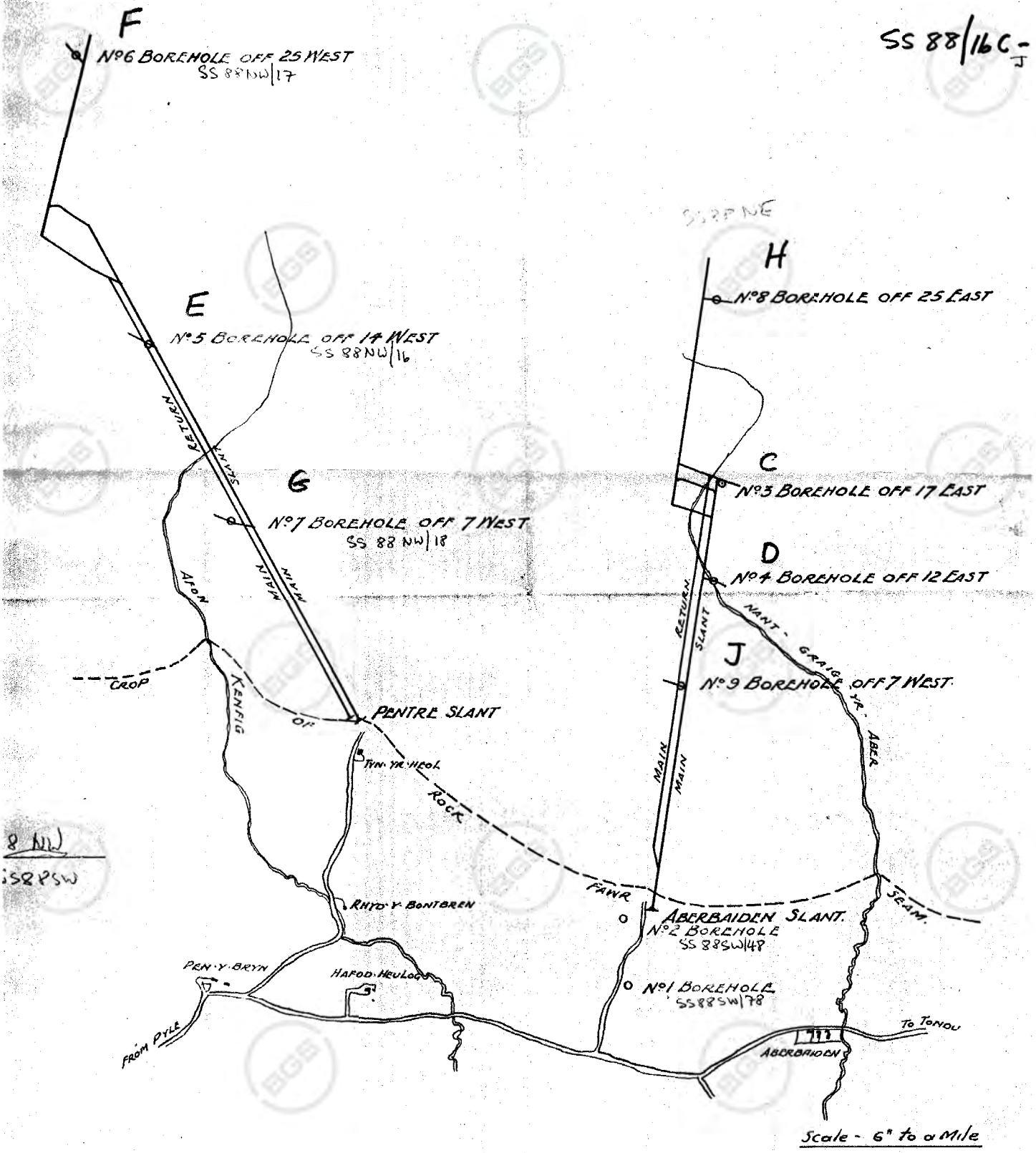
British Geological Survey
BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130

SS 88/16C

BALDWINS LTD — ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C-J



Contact BGS: ngdc@bgs.ac.uk

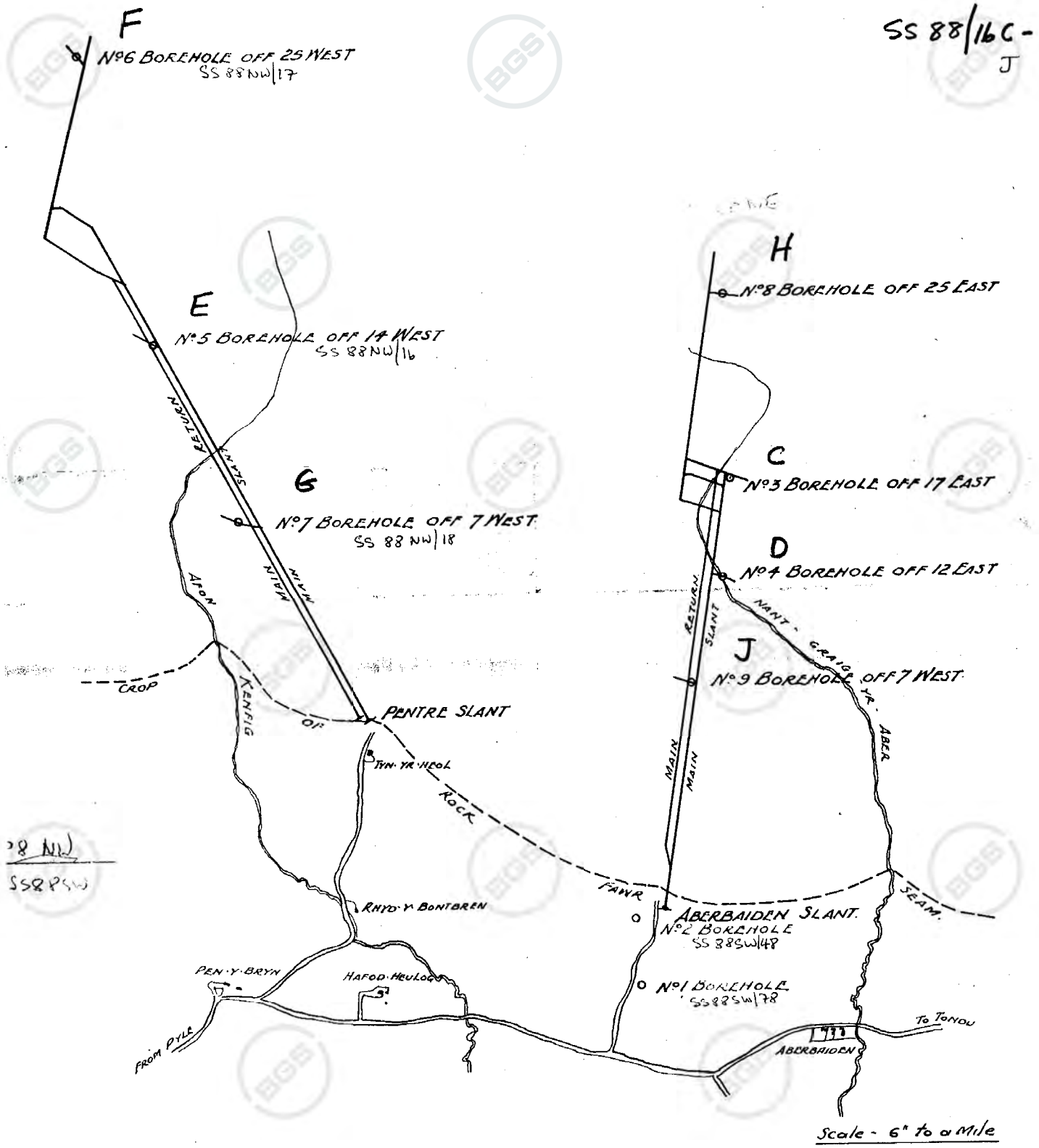
British Geological Survey
BGS ID: 372605 : BGS Reference: SS88NE29
EPSG: 27700 : 285260,186130

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 88NW/17

E
No 5 BOREHOLE OFF 14 WEST
SS 88NW/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

SS 88 NE

SS 88 NW

SS 88 SW

SS 88 SE

RETURN SLANT

MAIN

AFON

CROP

KENFIG

PENTRE SLANT

TYN-YR-HEOL

ROCK

FAWR

SEAM

RHYD-Y-BONTBREN

PEN-Y-BRYN

HAFOD-HELOG

FROM PYLE

ABERBAIDEN SLANT.
No 2 BOREHOLE
SS 88SW/48

No 1 BOREHOLE
SS 88SW/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

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

No 8 BOREHOLE OFF 25 EAST
SS 88 NE/31

No 3 BOREHOLE OFF 17 EAST
SS 88 NE/29

No 7 BOREHOLE OFF 7 WEST
SS 88 NW/18

No 4 BOREHOLE OFF 12 EAST
SS 88 NE/30

No 9 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.
No 2 BOREHOLE
SS 88 SW/48

HAFOD-HEULOG

No 1 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. 248/70

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 7090/4051.

Surface level Top of Bore 386 Below O.D. One-inch Map 1"348.

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 Boxer)

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

Description.	THICKNESS. Feet.	Inches.	DEPTH. Feet.	Inches.
Top of bore to 2'3" above base of Rock Favr Seam. Subtract 2'3" for get undercut & get distance above Rock Favr Seam				
Dips. Strong grey silty clayey soft. Dark grey fireclay	3	0	3	
15° 23° with constant bedding. Strong grey, ready to break, not fine & even with vertical joint. Grey sandy shale (roots & trunks on 2 ft. of sandy shale)	7	.	10	.
0-35° with constant bedding. Grey, coal, fine to silty, sandy rock, coarse, non-laminated, speckled with mica on surfaces. Grades in places to fine sandstone. Hard grey rock (Parts of 6 in. & 5 ft. 6 in. are conglomeratic of white quartz pebbles. Fossils: Calamites, Sphenopteris, Neuropteris, Lepidodendron, Stigmaria, Cordaites, Cyclopteris, Sphenophyllum, Annularia, Pecopteris, Alethopteris, Mariopteris, Linopteris, Calamites

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

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHEETS.

B.G. No. 4 Aberbaiden Folio SS 88 NE/30 County Glam 18
Off No. 12 E. Heading (cont.) 6 in. Map 34 NW 70

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	.
Sample of pressed Coal taken. 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.W.Ltd. SS 88 NE 130 / 140

and Number of Shaft or Bore given by Geological Survey: 248/70

County Kent. 6" Quarter Sheet 34 S.E.

Underground B.H., No 12, East Hardings, Allington Scent, for Baldwins Ltd. 1935-6

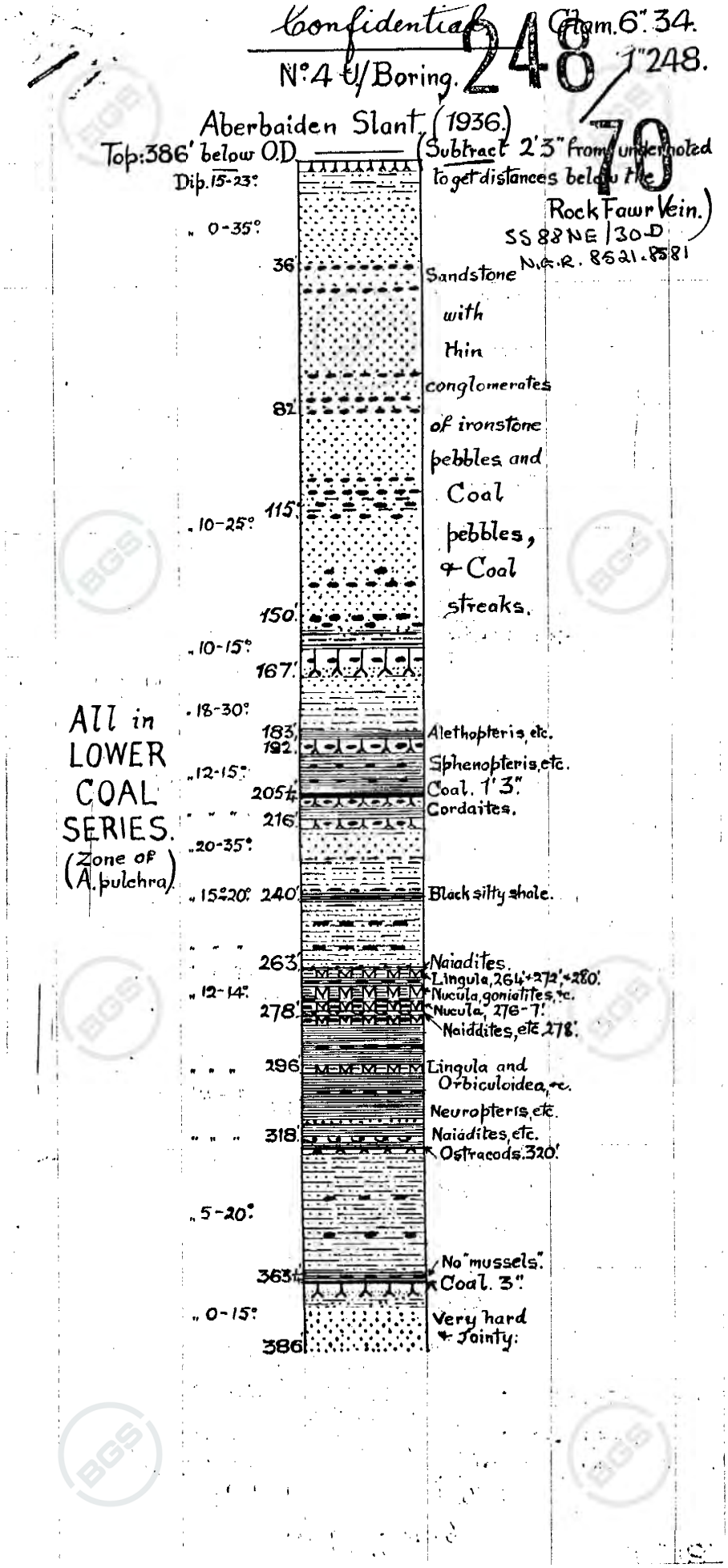
GEOLOGICAL CLASSIFICATION	DESCRIPTION	THICKNESS ft	in	DEPTH ft	in
	Grey fireclay			3	-
	Dark grey sandy shale	7	-	10	-
	Very broken hard grey rock	2	-	12	-
	Hard grey rock	14	-	26	-
	Very hard broken grey rock	14	-	40	-
	Hard grey rock	4	-	44	-
	Very hard broken grey rock	6	-	50	-
	Hard grey rock	19	-	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 Francois Consolidation 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
BGS ID: 372606 : BGS Reference: SS88NE30
EPSG: 27700 : 285210,185810

~~3-4 NW/2~~

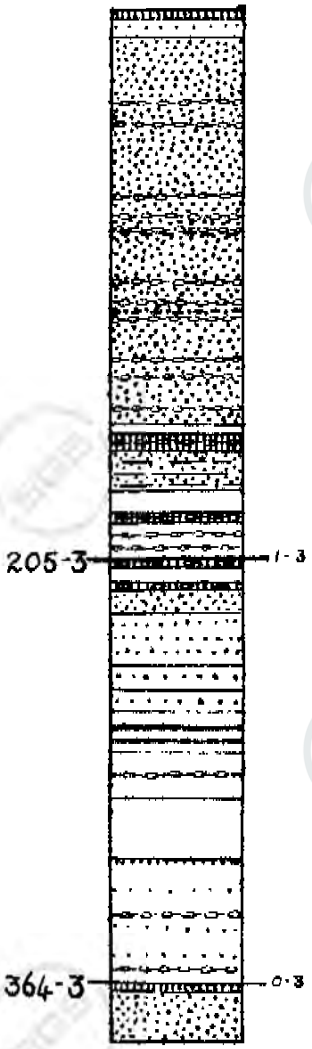
ABERBAIDEN COLLIERY

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

1.

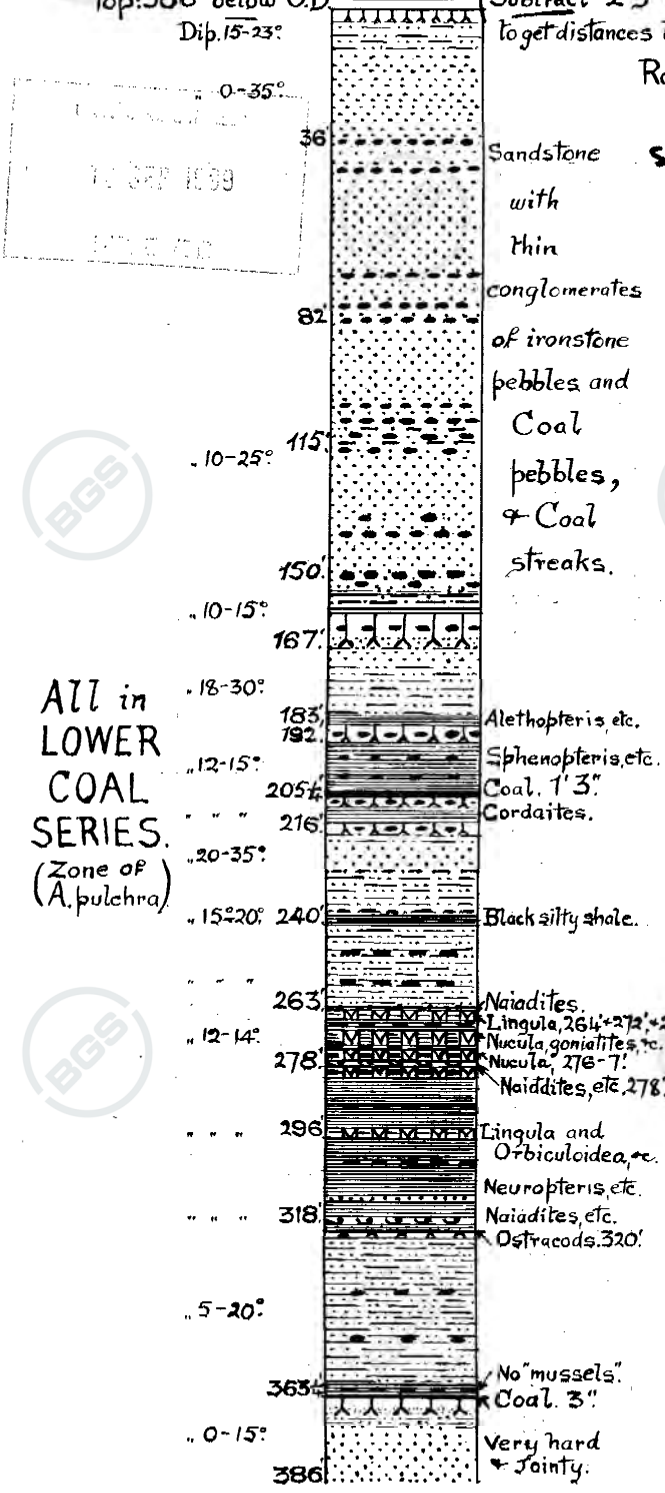
~~Confidential~~ 248 Diam. 6". 34.

N°4 U/Boring. 248 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

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

GLAM

Confidential

34NW/2

34NW

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS

248

70

Underground

BORE or SHAFT No. 4, Aberbaiden Colliery, off No. 12 E. Heading, Aberbaiden Slant, (See plan for site)

County Glam.

6-in. Map 34 NW.

GSM 7000/4481.

SS88/16D

Surface level Top of Bore 386 Below O.D.

One-inch Map 1"/1mile. 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 François Compagnie Lorraine Co. Ltd. (J. Godden, Borer)

Specimens B6.4210-4246.

Rock Four Seam is 2'10" thick at Bore. Dip of Seam 13 in p. yard. Vert. section drawn.

Description.	THICKNESS. Feet.	Inches.	DEPTH. Feet.	Inches.
Top of bore is 2'3" above base of Rock Four Seam as sublevel 2'3" [illegible] undercut & depths & get distances below Rock Four Seam				
Dark grey fireclay	3		3	
Grey 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 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 SHAFTS.

M/B.H. No. 4 Aberbaiden
Off No. 12 E. Reading (cont.)

Folio

County 248

6 in. Map 34 NW

SS 88/160

70

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

(*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 173 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	-

Put down by Francois Anthracite Co., 1935-6

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

Contact BGS: ngdc@bgs.ac.uk

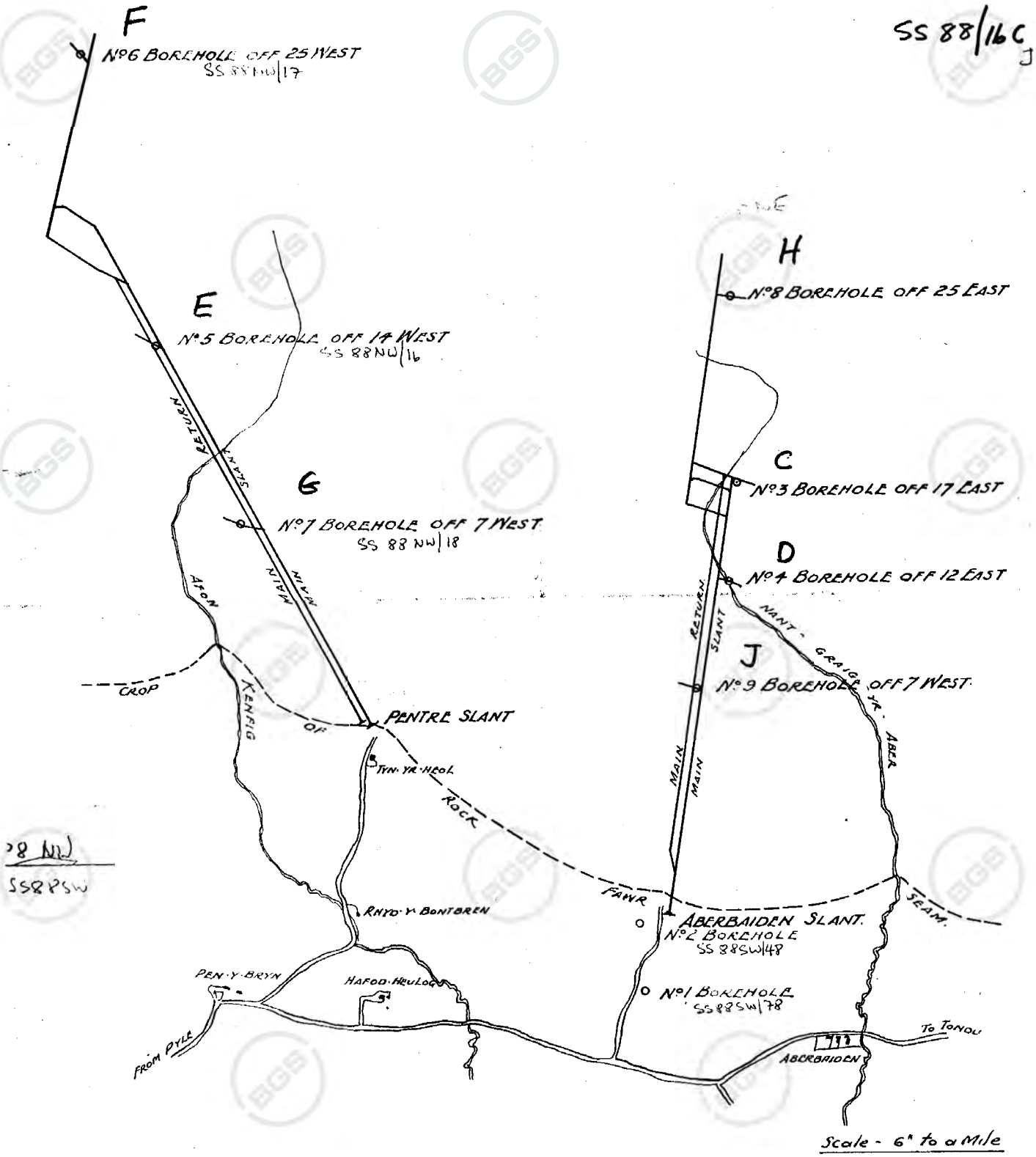
British Geological Survey
BGS ID: 372606 : BGS Reference: SS88NE30
EPSG: 27700 : 285210,185810

SS 88/16D

BALDWINS LTD – ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C



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British Geological Survey
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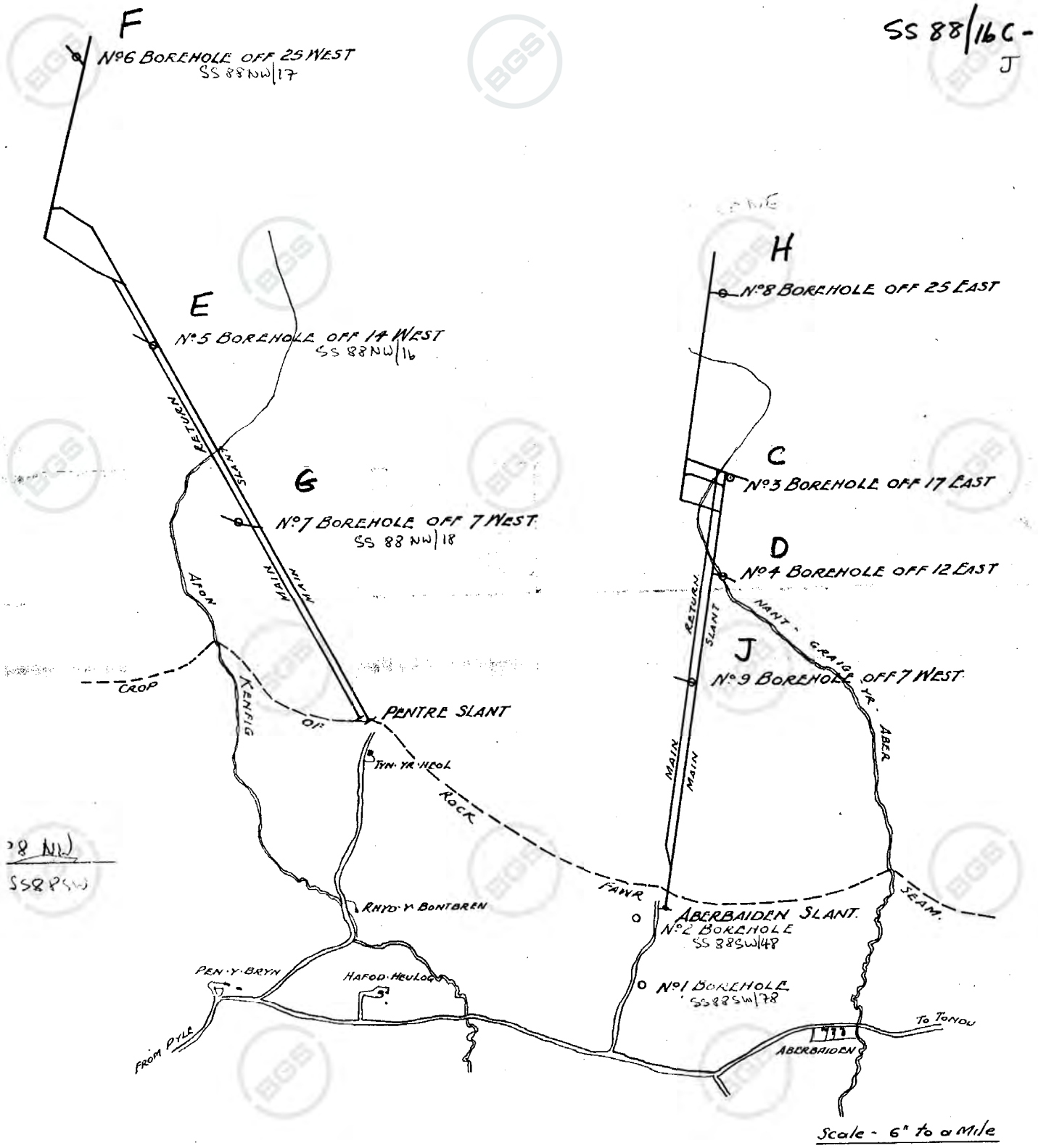
EPSG: 27700 : 285210,185810

SS 88 /16 H

BALDWINS LTD — ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C - J



Contact BGS: ngdc@bgs.ac.uk

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

SS88/16D 248 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 8 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 Geol. file 6' 34

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British Geological Survey

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

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

SS 88 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

RETURN SLANT
MAIN
MAIN
RETURN SLANT
MAIN
MAIN
AFON
CROP
KENFIG
OFF
PENTRE SLANT
TYN-YR-HEOL
ROCK
NANT-GRAIG-YR-ABER
SEAM
FAWR
SEAM
RHYD-Y-BONTBREN
ABERBAIDEN SLANT.
No 2 BOREHOLE
SS 88 SW/48
No 1 BOREHOLE
SS 88 SW/78
PEN-Y-BRYN
HAFOD-HULOG
FROM PYLE
TO TONDU
ABERBAIDEN

SS 88 NW
SS 88 SW

Scale - 6" to a Mile

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 MARCAM BOREHOLE NO.7 (Craig-y Aber)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	THICKNESS in*	DEPTH ft*	DEPTH in*
	B/F				
	Siltstone, grey with light grey sandy laminations. Occasional roots, sandy bands locally. Large lens of sandstone at 1022/-			1018	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	4	0	1022	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	0	1025	6
	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/-	3	6	1028	0
	Siltstone, coarse grained, grey with occasional sandy lamination. Massive. Scattered plant debris. Sandy locally	13	0	1041	0
	Sandstone, fine grained, grey, massive, scattered plant debris, slightly micaceous, silty bands develop from 1044/-	1	0	1042	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	3	0	1045	0
	Mudstone, silty, grey, scattered plant debris and sandy bands. Tough, becoming massive	5	0	1050	0
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	9	6	1059	6

XPU.918

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

FORM P 71
SERIES 680

6-INCH MAP	B.H.
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			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	1081	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				

Contact BGS: ngdc@bgs.ac.uk

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

FORM P 71
SERIES 660

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

6-INCH MAP

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	THICKNESS in*	DEPTH ft*	DEPTH 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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SERIES 680

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 1238/- - 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, coure 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
SS 88 NE/33

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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FORM P 71
SERIES 660

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

6-INCH SHEET	BOREHOLE No.

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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)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	in.	DEPTH ft.	in.
	B/F			1414	0
PART OF CEFN COED MARINE BAND	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 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 plant at 1431/6. Massive from				
Dip 10° @ 1436/6	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 1449/3. Lingula shell at 1451/6				
CEFN COED MARINE BAND	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				
	1455/6 to 1456/- and from 1457/- to 1457/8. Mudstone below is grey,				
Dip 10°@ 1458/6	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
	B/F			14
	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
	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	149
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	149
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Section of MARGAM BOREHOLE NO.7(Graig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft*	in*	DEPTHS ft*	in*
	B/F			1497	
	Mudstone, rashes, dark grey packed with polished surfaces. Carbonaceous. A few small recognisable fragments of coal. Fragments of planty 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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Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	THICKNESS in.	DEPTH ft.	DEPTH 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 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
Dip 21° @ 1562/6	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 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	DEPTHS 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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Section of MARGAM BOREHOLE NO.7 (Graig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	in.	DEPTHS ft.	
	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. Vertical joint at 1695/6. Ironstone				
ip 17° @ 1692/6	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	
	COAL (broken fragments)		11	1713	
	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	
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	
	Mudstone, silty, grey with partings packed with plant debris in the top, becoming				

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

6-INCH MAP

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	2" 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 at 1783/9	25	0	1786	0
Dip 52°@ 1780/-					
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Section of MARGAM No.7 SURFACE BOREHOLE (Craig-y-Aber)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	in.	DEPTHS ft.	in.
	B/F			1786	0
	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	1792	
	Mudstone, very silty, tough, medium grey with roots, massive, becoming	1	0	1793	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	6
	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				
Dip 23° @ 1823/4	Chubby worms in ironstone at 1820/7				
	Badly sheared ground 1820/7 to 1821/5				
	C. carbonaria at 1821/6. Sheared below to 1824/-	5	6	1824	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			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, aphanosiderite 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 aphanosiderite. 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 2". 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, cannel(oid 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 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			1856	
	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. smeared ground at 1871/-. 8 in. sphaerosiderite 1872/- and 6 in. of [illegible] ronsiderite 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	Alecthopteris, 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
Dip 10° @ 1914/6	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.				

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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 [illegible] silty partings are plenty and calcareous, 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. membranus in ironstone at 1945/-. Scattered ironstone nodules. Regular ½"				
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	3
TWO FEET NINE (Faulted)	COAL (write on cleat)		5	1963	1
	Rashes		1	1963	2
	Saetaerta, muddy, broken and packed with polished surfaces		4	1963	6

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SS 88 NE /33

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

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft	in	DEPTHS ft	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. G. 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. Carbonaceous roof of coal	5	9	2024	9
LOWER FOUR FEET SEAM B.P.B. thickness COAL about 3'11" @ 2034'10"(casing shoe had slipped down into coal)(caved in floor)	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
Dip 8° @ 2042/-	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
	Mudstone, silty, grey, scattered plant debris. Light grey sandy laminations and occasional thin sandy bands and carbonaceous wisps. Vertical			...	

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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)

6-INCH MAP | *Delete as appropriate

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)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	in.	DEPTH ft.
	B/F			2116 0
	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. thickness 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 2° @ 2232/-	Mudstone, slightly silty, grey with scattered plants, fairly firm, quite well bedded, wormy in muddy bands, carbonaceous parting at 2232/6. 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.	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/- 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/- 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	2268
Dip 17° @ 2264/10				
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	2274
	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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6-INCH MAP SS 88 NE/33

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

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS ft.	in.	DEPTHS ft.	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 2328/6. 2 in. soft and friable ground at 2323/-. Carbonaceous from 2323/7. Mud wormy to	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 and mudstone 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
B.P.B. thickness					
	Mudstone, silty, grey with sandy bands in top. Scattered plant debris, quite well bedded, scattered roots, some partings packed with plant debris.				
Dip 12° @ 2334/-	Occasional sandy band, thick ironstone bands, muddy bands producing thin colour banding. Sandy bands 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				
AMAN 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 ~~ore~~	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)

*Delete as appropriate

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. Massive and fine grained in bottom 1 ft.	5	0	2384	8
Dip 11° @ 2383/-	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
Dip 7° @ 2416/10	~~Mudstone, silty, grey, micaceous, tough~~		8	2417	4
				.../	

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

6-INCH MAP

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. Hatchetite 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	6
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	NATURE 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
Dip 17° @ 2481/6	Mudstone, slightly silty, grey, well preserved plant debris, some large plant debris including Calamites, fairly massive, locally very silty	2	0	2485	6
Dip 18° @ 2486/-	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.				
Dip 15° @ 2494/-	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
	Sandstone, 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 7° @ 2519/6

RIVEN PENT STEAM
T.P.B. shows
coal 18" here

VPU.918

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

FORM P 71
SERIES 680

6-INCH MAP	

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

*Delete as appropriate

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.				
Dip 7° @ 2520/-	Muddy bands below 2522/-, some 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				
Dip 7° @ 2546/-	with plant debris, locally muddy. 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 MARLEM BOREHOLE NO. 7 (Craig-y-Aber)

Geological Classification	Nature of Strata		ft.	in.	ft.	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/-					
Dip 5° @ 2575/-	3" packed with polished surfaces and broken from 2576/1, becoming darker grey. Several polished surfaces with shearing at 2577/1					
	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		0 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)		0 6 7			
dirt 1'4"	Seatearth, rashes in top, becoming firm and muddy		d	10		
COAL 6'7"	COAL (1'2" recovered)		0	4 0	2596	4
dirt 10"	6/10 lost ground between 2575/1 and 2605/1)					
COAL 4'0"	Seatearth, muddy grey, firm for 3 in. Sheared					
@ 2605'1"	below for 4". Fairly firm, occasional					
Caved in floor,	polished surface to 2598/4. Sheared					
roof uncertain	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/-.					
	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					
Dip 5° @ 2606/6	2606/-, becoming rapidly alternated					
	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 iron-					
Dip 15° @ 2619/-	stone bands from 2615/-. Occasional					
	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	2'1" 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. ½" 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 ironstone band by ½" at 2688/-	20	0	2689	0
Dip 10° @ 2670/- Dip 8° @ 2680/-					
				.../	

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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			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
Dip 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)				
COAL 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
Dip 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 at2775/1, 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

MAIN

MAIN

RETURN

SLANT

NANT-GRAIGE-YR-ABER

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

34 SW

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS. 9 4 8510. 8551

Underground

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

County Glam. 6-in. Map 34 SW.

(See plan showing of site attached)

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

Notes by GE	Description.	Top of Bore 50 ins. below Rock Four Seam ∴ add 10 inches to subsequent figures	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Cores up 83 bores c. 4'7½" per bore. (Bore 73 subsiding = 331-341') Not seen.	Dark grey fireclay		1	6	1	6
Dip in these strata down 5 160 ft. varies from 6° to 30° with false bedding true dip c. 10-12°	Hard grey bork [shaly in part to 14']		17	.	18	6
The sandstone series is very similar to the same strata in all the Aberbaiden Colliery underground bores	Hard shaly rock [with shaly flakes]		2	.	20	6
When joints & broken, the vertical joints show some oper & small pyrites crystals.	Hard grey rock		5	6	26	.
	Very hard broken grey rock [stronger bands 28'-34']		16	.	42	.
	" " " with ironstone nodules & iron pyrites.		8		50	.
Jointy	Very hard broken grey rock		4	9	54	9
Ironstone pebbles at 56-61'	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
Large shale flakes & ironst pbs 70-71' in shale & sandy shale & rings	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
With shale flakes as wide as the core 78-80' also a few ironstone pbs + Coal streaks + dreamy grey shaly streaks 87-96'. Ironstone pbs 93-94. 97-98.	Kirky shaly rock		4	.	81	6
	Grey rock		24	6	106	
Silty shale	Dark grey shale		2	3	108	3
With large shale flakes. Shaly in part w. Goodly plan 138-142'	Grey rock		5	9	114	.
With a few Goodly pebs + some Coal pebs & a few ironstone pebbles	Grey rock w. occasional coal markings.		28	.	142	.
Dip 12-14 at Core, higher at top	Grey rock		16	6	158	6
Fairly good Coal in particles w. pyrites traces.	Grey rock w. coal vein & ironstone nodules.		1	9	160	3
Dk. carbonaceous fireclay	Coal		1	9	161	4
	Black shale			4	161	8
1015' Clunch w. rootlets to 1158'.	Rotten fireclay			8	162	4
8-10° Sitty to sandy w. a few coaly streaks & mostly silty shale sitty	Strong sandy shale		10	8	173	.
	Strong dark grey shale		9	1	182	1
	Coal vein			5	182	1½
Slicked & rooty	Shaly fireclay			8½	183	10
Clunch & rooty to 1204 ft. 8-12° Shale w. Goniatites, few roots.	Dark grey shale		8	2	191	
With Naiadites, ply slicked.	Broken greasy shale		3	5	194	5
Not seen	Coal			2	194	7
Dip Clunchy w. rootlets to 1196; c.10 on silty shale	Dark grey shale		7	11	202	6
8-10° With indet. plants.	Strong dark grey shale		3	.	205	6
Ironstone balls up to ½ in.	Dark grey shale w. ironstone bands.		1	6	207	.
Broken & slicked without mussels or plants.	Broken dark grey shale		1	3	208	3
Fairly good Coal in particles w. pyrites	Coal		1	2	209	5
Fine to silty w. rootlets	Strong grey fireclay		1	2	210	7
Fairly good sandy Dip: sandy fireclay & at base black shale w. carbonaceous plants & poor Naiadites.	Sandy fireclay w. ironstone nodules.		3	7	214	2
	Black shale		2	3	216	5
Fine to silty w. slicked fireclay w. rootlets	Rotten grey fireclay		2	6	218	11
	Shaly fireclay w. ironstone nodules		7	7	226	6

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

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SS 88 NE 152 2

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS. 248/75

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

Folio

County Shetland

6 in. Map 34 SW

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Brot forward			226	6
Dip. Dark grey strong silty shale in fragments				
10-12° Dark grey shale with sandy bands.	4	6	231	
" " " 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
6-14° Dark grey shale	19	6	267	
8-12°	6		273	
For 275 & 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 inch poor broken in upper part slickensided (Naiadites not seen either core or shale)	2	6	307	
poor & indistinct down to 317 ft when is C.S. in. band of black shaly shaly carbonised plants & fish scales	4		311	
Many bands of ironstone nodules & shale 320 to 318 laminated & slickensided Broken ironstone nodules	5	6	316	6
" " "	14		331	
Strong dark grey shale (Shaly & ironstone nodules)	1	6	332	6
8-14° Dark grey shale	7	6	340	
Hard grey fine sandy shale with vertical joints & slickensides Hard broken grey rock	3		343	
Hard shaly rock	3	3	346	3
10-12° Strong dark grey shale	7	3	353	6
Dk grey fine shale with ironstone bands & nodules Dark grey shale w. ironstone bands	10	6	364	
" " " " "	2	9	366	9
Fine & banded	1	5	368	6
Fine with a little ironstone & rare small Anthracosia " " broken		6	368	8
Hard grey fine sandy & shaly with traces of plants. Coal in quantity Coal.	1	6	370	2
Rooty & slickensided Soft grey fireclay		9	370	11
Silty & rooty Strong "		7	371	6
Fine grd sandy & rooty Grey sandy fireclay	1	10	373	4
Strong grey silty & slickensided rooty shale w. ironstone nodules Shaly fireclay w. ironstone nodules	2		375	4
Strong & rooty fine sandy shale Strong sandy shale	2	8	378	
Grey to dk grey silty shale w. nodules Dark grey fireclay	2	3	380	3
Hard grey sandy fine grained micaceous shale with plant remains & coal seams Hard grey rock	1	3	381	6
Left down hole		6	382	

A Templeman
18-2-38.

Details of Brown Gots Marine Beds & associated shales 270 to 302 ft.

Dip 8-12° Dark fine shale (dark bluish tinge in good light with a few flat ironstone nodules or lenticles, Naiadites, Lingula, 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 & others, Naiadites & scales. Almost no cores 273 - 276 ft (not logged) Fossils again frequent 276 to 280 ft Lingula, Orbiculoidea, Anthracosia, Pleurophorus, Pleurodesma, Naiadites & plant stems, Lepidodendroides & plant stems, Lepidoid & Sigillaroid. 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 (one a horn). Naiads at 288 & again c. 295 ft (Naiadites & Lepidoid last) near change to dark shale below. 23 6 295 .

Strong black shale, comminuted in part & traces of ironstone nodules, rare fish remains & coprolites & at base Lingula & Orbiculoidea. Sandy shale slickensided & 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 moisture & weathering.)

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

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(*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: 1"248

>> 88 NE 15d

County Glam. 6" Quarter Sheet 248 SE 1

Underground b.h. Aberaman, Glam

Aberaman Colliery (Baldwins Ltd.) 1937

248/75

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 splintered fracture 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

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

Underground bh No 5 Aberdare Coal (cont.)

SS 88 NE 1/32

County Glam

6" Quarter Sheet 24 SW

248/75

Geological Classification	Description	Thickness	Depth
	B.C. Fed.		366 2
	Dark grey shale	1 6	368 3
	" " " Bolsum	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

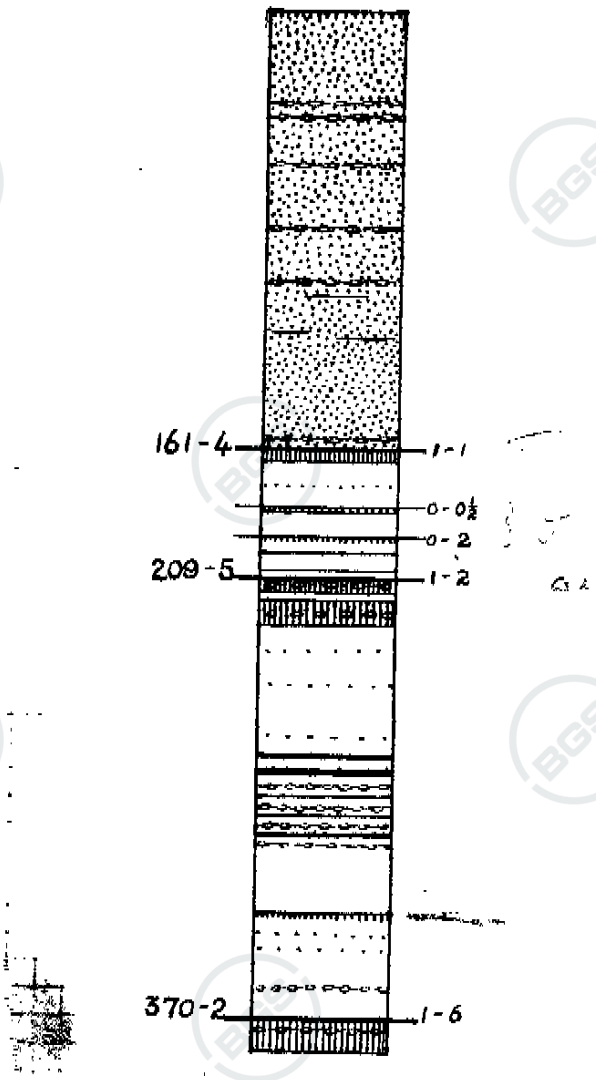
British Geological Survey

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

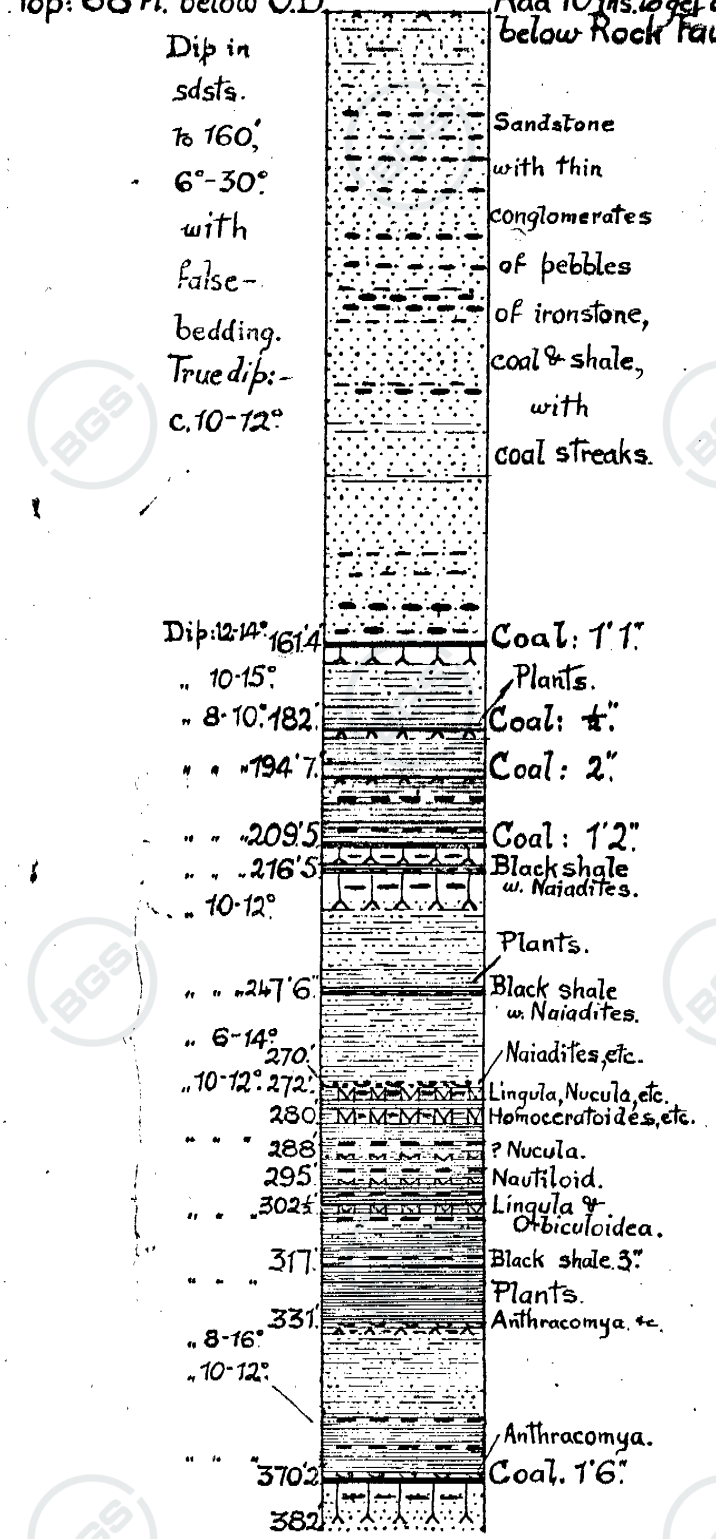
BGS ID: 372608 : BGS Reference: SS88NE32
British National Grid (27700) : 285100,185510

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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British Geological Survey

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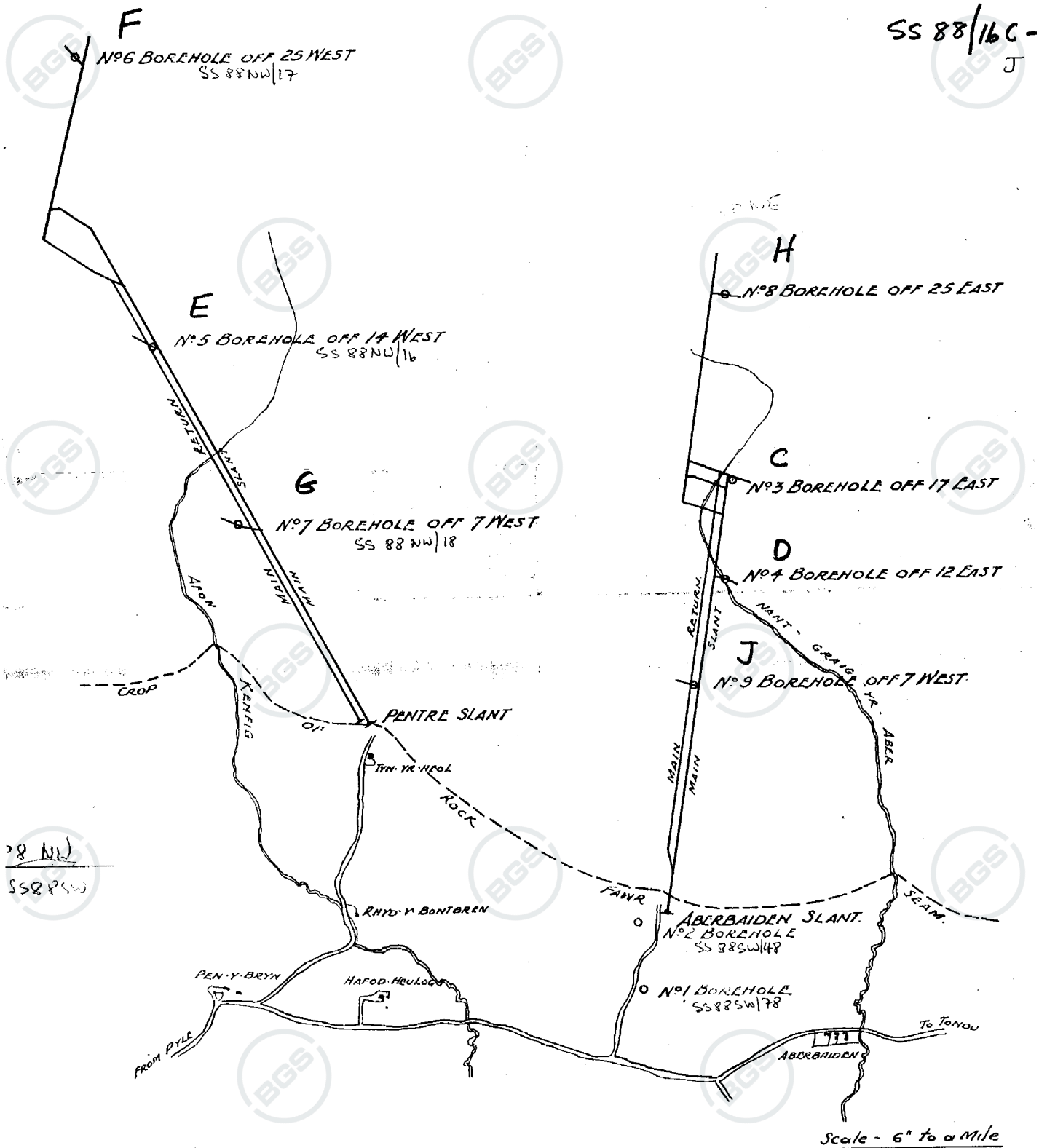
British National Grid (27700) : 285100,185510

SS 88 /16 H

BALDWINS LTD – ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C - J



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British Geological Survey
BGS ID: 372608 : BGS Reference: SS88NE32
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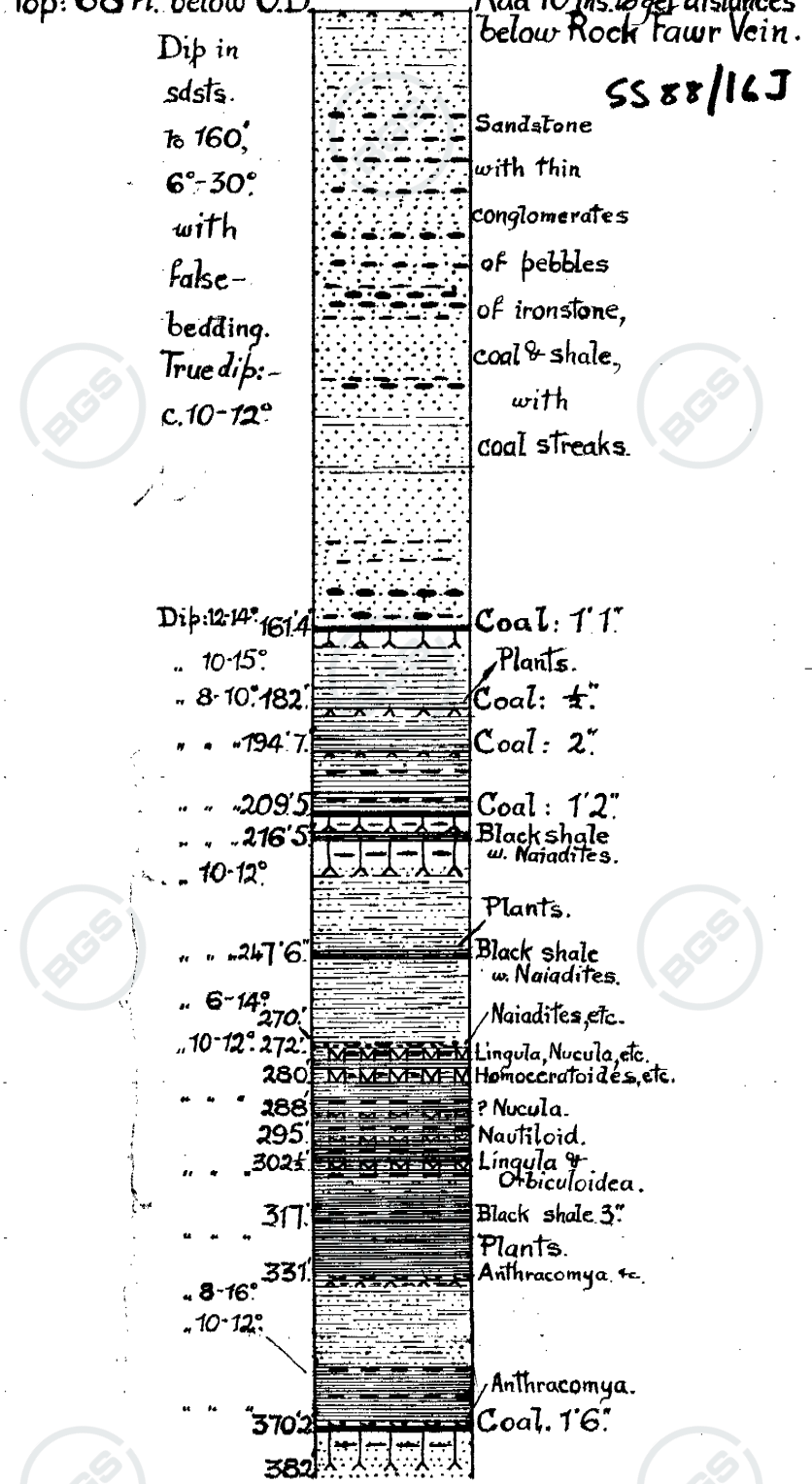
Confidential 240 Elev. 34.6" 48.1"

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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British National Grid (27700) : 285100,185510

34SW/1

GLAM

Confidential

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS

248

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 SS852 853

Communicated 8.1.38. by Baldwins, Ltd.

Date of sinking Sept. 1937 to Dec. 1937 Borer Francois Cementation Co. Ltd. (Golden Bower)

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 rock [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 [Sample taken 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	7	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
British National Grid (27700) : 285100,185510

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 shaly 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° coaly plant remains inset	6	.	273	
dk grey fine to silty shale with occ. plant rem. & ironstone				
8-12° Dark fine Dip. 270 Dark grey shale				
For 273 & 302 ft. see over	22	.	295	
" " " W. ironstone nodules				
10-12° Strong dk grey silty shale with occ. plant remains, Vein dark grey shale	7	6	302	6
Dark grey fine to silty shale with occ. ironstone bands & nodules (up to 12 in.) Dark grey shale	2	.	304	6
" " " " W. ironstone nodules	2	6	307	
(Hard dike not seen - either core or about)	4	.	311	
Poor & shaly plants down to 317 ft. 10 ins.				
" " " W. ironstone nodules	5	6	316	6
is c. 3 in. band of black shaly silty carbonised fossils & fish scales	14	6	331	
Many bands of grey silty ironstone, Strong dark grey shale (Strongly to shaly & nodular ironstone nodules)	1	6	332	6
c. 320 to 325 ft. calcareous, sometimes Dark grey shale	7	6	340	
Hard Broken grey rock	3	.	343	
8-12° Hard grey fine shale with vertical joints & layer of Hard shaly rock	3	3	346	3
10-12° Dk grey fine shale with carbonised plants & Strong dark grey shale	7	3	353	6
10-12° Dk grey fine shale with ironstone bands & Dark grey shale w/ ironstone bands	10	6	364	
nodules up to 1 inch & occ. or two dikes & veins	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 at this	1	6	370	2
place & poorer below in gaudy Coal.		9	370	11
Rooty & slickensided Soft grey fireclay		7	371	6
Silty & rooty Strong "	1	10	373	4
Fine grained sandy & rooty Grey sandy fireclay				
Strong grey silty & shelled Shaly fireclay W. ironstone nodules	2	.	375	4
roots & shells in ironstone nodules	2	8	378	
Slaty grey fine grained sandy Strong sandy shale				
& rooty, shells & slickensides Dk grey fine sandy silty shelly Dark grey fireclay	2	3	380	3
W. ironstone nodules Hard grey rock	1	3	381	6
Hard grey sandy fine micaceous sandstone Left down hole		6	382	

A Templeman 18.2.38.

Details of Lwn Gors Marine Beds & associated shales 270 to 302 ft. 6 ins.

Dip 8-12°	Dark fine shale (dark bluish tinge in good light with a few flat ironstone nodules or bands, Naiadites Anthracosia, ostracods, fish spine & poor plant 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 tinged) silty & top some thin ironstone bands, Naiadites & Modiola at top with carbonised plant stems. From 273 to 273 ft. finely micaceous & Naiadites frequent (Orbiculoidea, Naculy, Modiola & other bands & Naiadites decr. & Anthracosia incr. 273 - 276 ft. (Naiadites very frequent & Anthracosia rare) From 276 to 280 ft. Naiadites again frequent & Anthracosia rare, fish scales & coprolites frequent, Orbiculoidea, Modiola, Lingula, Naculy, Posidoniella, Beyrichia, Orthoceratites, plant stems, Lingula gonialites. Below 280 ft. a little more ironstone in nodules & bands up to 15 ins. & the shales have a faint yellow tinge in places & more fish scales & coprolites. Naiadites & Modiola at 288 ft. & again c. 295 ft. (Naiadites & Anthracosia frequent 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

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British National Grid (27700) : 285100,185510

(*11932) Wt.30970/0370 10,000 9/39 A.& E.W.Ltd. Gp.685

1/2

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

Upper Garden b.h. No 2 — Aberthaw 1937 SE

Aberthaw Cement (Baldwins Ltd.) 1937

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. irregular 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. irregular 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
	Pale 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. irregular nodules	3	8	214	2
	Black shale	2	3	216	5
	Pale limestone	2	6	219	11
	Pale shaly limestone w. irregular 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. irregular nodules	4	-	248	-
	Dark grey shale	31	-	279	-
	" " " w. irregular nodules	16	-	295	-
	Black shale	7	6	302	6
	Dark grey shale		6	303	-
	" " " w. irregular 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. irregular bands	12	3	366	3

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 Aberford 1933 (cont.)

County Glam 6" Quarter Sheet 34 SW.

248/34SW.

SS88/16J

75

Geological Classification	Description	Thickness	Depth
	Bt. Fwd.		361 2
	Dark grey shale	1 6	362 8
	" " " , Cementstone	4	363 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

DPL/BB

ABERBAIDEN COLLIERY

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

SS88/16J

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.

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

PENTRE SLANT

ABERBAIDEN SLANT.

RHYD-Y-BONTBREN

PEN-Y-BRYN

HAFOD-HULOG

ABERBRAIDEN

TO TONDU

FROM PYLE

CROP

SS 88 NW

SS 88 SW

SS 88 SE

Scale - 6" to a Mile

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 F Godden)

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 outset.

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Bore 1 (10'-21') Not made. Soft & pale brown. Not seen except for shale rods. Brown sand & clay	7		7	
Brown clay	4		11	
Fine gravel & sand	2		13	
Dip c. 30° N by E by compass. Grey fireclay (No rootlets in core, well laminated)	17		30	
Grey shale (not finely but roughly varicose shale)	14		44	
Grey fireclay with ironstone nodules	16		60	
Shale	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	
Dip 25°-30° N by E by compass. Dark grey shale (No identifiable plants)	15	6	147	6
Coal	2	8	150	2
Spec. 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

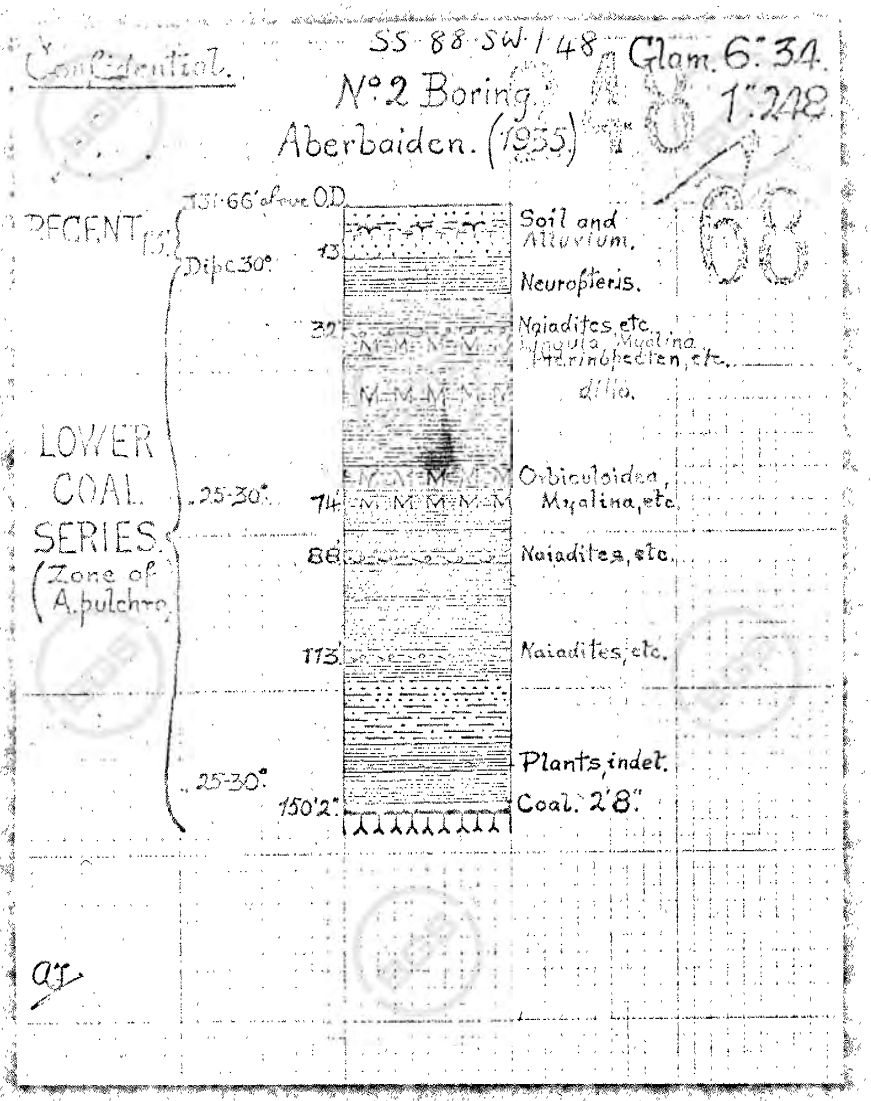
	From 0ft	to 7ft (2.13)	Brown Sand and Clay
	7ft	to 11ft (3.35)	Brown Clay
	11ft	to 13ft (3.96)	Fine Gravel and Sand
19.1.35	13ft	to 30ft	Grey Fireclay
	30ft	to 44ft	Grey Shale
	44ft	to 60ft	Grey Fireclay with Ironstone Nodules
	60ft	to 66ft	Grey Shale
	66ft	to 72ft	Dark Grey Shale
26.1.35	72ft	to 80ft	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 (47.24)	Dark Grey Fireclay

Copied for Co Edin 34 SW.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

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



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

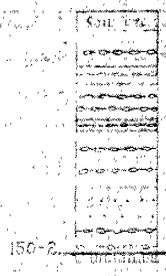
BGS ID: 372897 : BGS Reference: SS88SW48
EPSG: 27700 : 284920,184830

~~SS 88 SW~~

SS 88 SW/48
8492 8483

ABERBAIDEN COLLIERY.

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



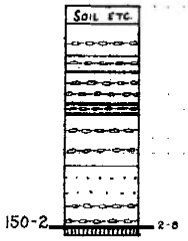
Contact BGS: ngdc@bgs.ac.uk

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

~~34 SW/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'

LOWER COAL SERIES. (Zone of A. pulchra)

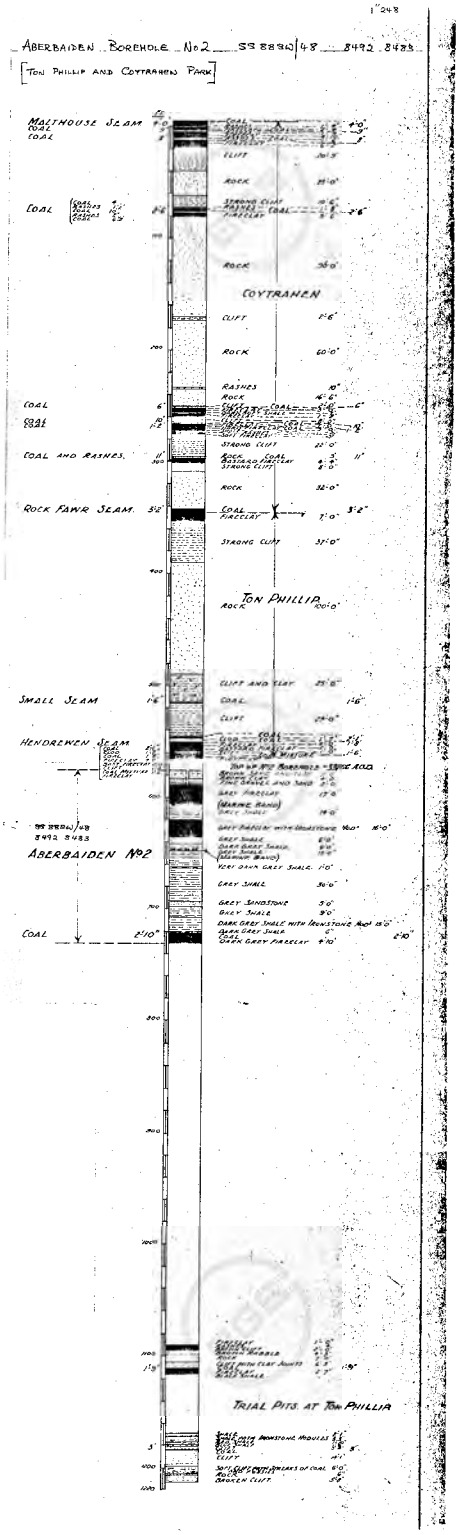
Dip c. 30°

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

25-30°

25-30°

Contact BGS: ngdc@bgs.ac.uk


ABERBAIDEN BOREHOLE No 2
[TON PHILLIP AND COYTRAHEN PARK]
MALTHOUSE SEAM
COAL
COAL
ROCK
ROCK
COYTRAHEN
CLIFT
ROCK
RASHES
ROCK
COAL
COAL AND RASHES
STRONG CLIFT
ROCK
ROCK FAWR SEAM
STRONG CLIFT
TON PHILLIP
ROCK
SMALL SEAM
COAL
CLIFT
HENDREWEN SEAM
ABERBAIDEN No 2
GREY SHALE
GREY SHALE
GREY SANDSTONE
GREY SHALE
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	0184850	PYLE	1		
49		KW	BRIDGEND BY-PASS BH.1	20.09	284130	0180950		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.

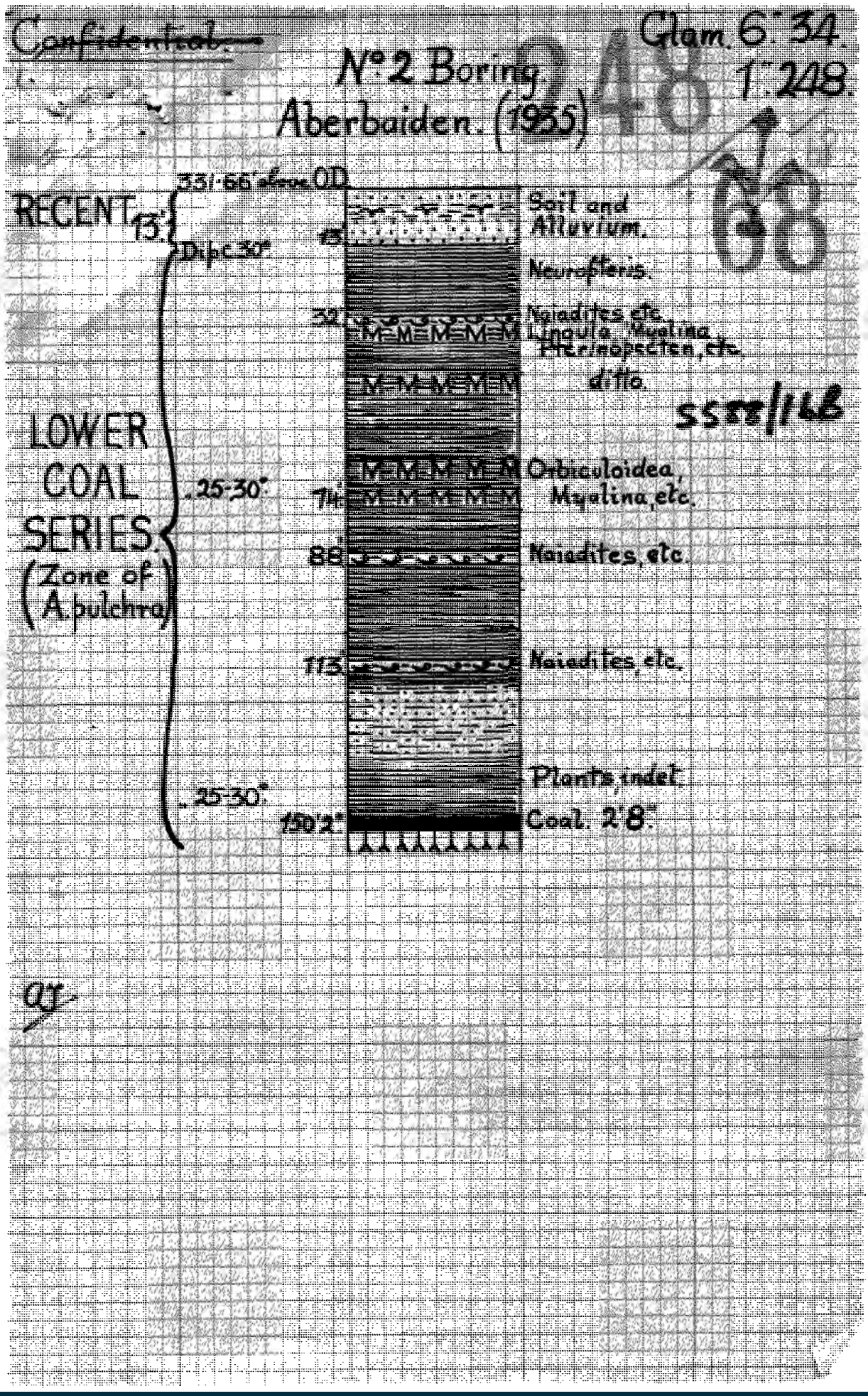
RECORDS ENTERED AND HELD BY WALLINGFORD

BH REGISTRATION NUMBER(S)

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

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



Contact BGS: ngdc@bgs.ac.uk

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

GLAM

34SW/6

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GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

SS 84 SE 48

248/68

DECLASSIFIED 1999

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

SS 88 NE 68

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 F. Godden)

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

Notes by A.I.

Cores at site in box (22 × 5½)

Boys uncovered 0 cores now weathered

Bores 9¼ in to 7 in at bottom.

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Boy 1 (10'-21') Not read. Brown sand & clay	7	.	7	.
Soft & pale brown. Brown clay	4	.	11	.
Not seen except for shale nods. Fine gravel & sand	2	.	13	.
Soft C. 30' of fine & silty shale, with [illegible] Grey fireclay (No rootlets in cores; well laminated)	17	.	30	.
" [illegible] Grey shale (not fireclay but mostly marine shale)	14	.	44	.
" [illegible] Grey fireclay with nonstone nodules	16	.	60	.
230' [illegible] Grey shale	6	.	66	.
[illegible] Dark grey shale	6	.	72	.
[illegible] Grey shale	8	.	80	.
[illegible]	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. 160 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

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

1"248

County Glam.

6" Quarter Sheet 34 SW.

B.H. at Kenfig Hill, A.P. Fenden, Jan 1933.
Baldwins Ltd 1933

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.S. 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

	From 0ft	to 7ft	Brown Sand and Clay
	7ft	to 11ft	Brown Clay
	11ft	to 15ft	Fine Gravel and Sand
19.1.35	15ft	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
20.1.35	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

Contact BGS: ngdc@bgs.ac.uk

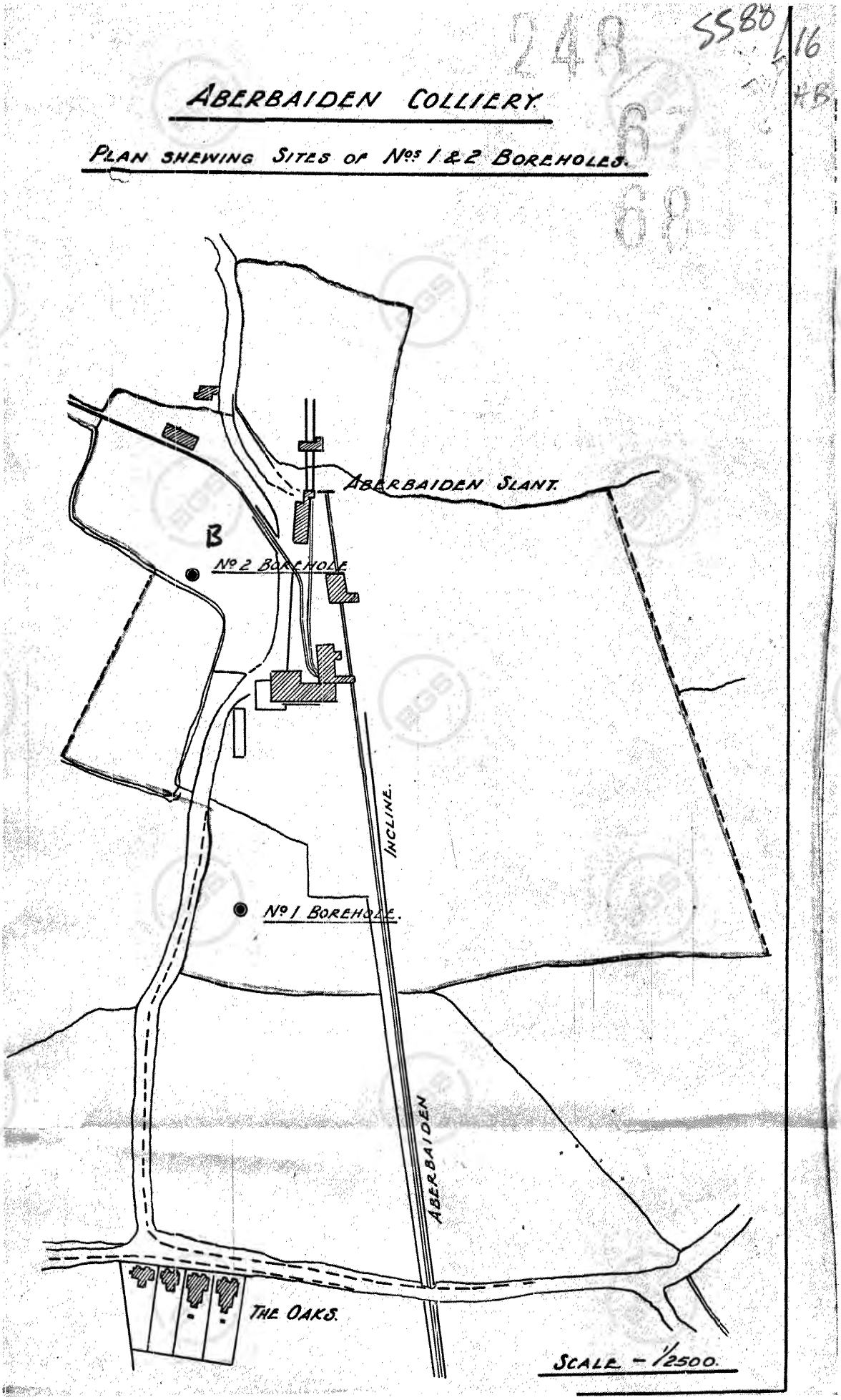
British Geological Survey

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

248 SS88 16 +5 67 68

ABERBAIDEN COLLIERY.

PLAN SHEWING SITES OF Nos 1 & 2 BOREHOLES.



Contact BGS: ngdc@bgs.ac.uk

NGRC

BOREHOLE RECORDS

ADJUSTMENT FORM

QUARTER SHEET SS88SW.

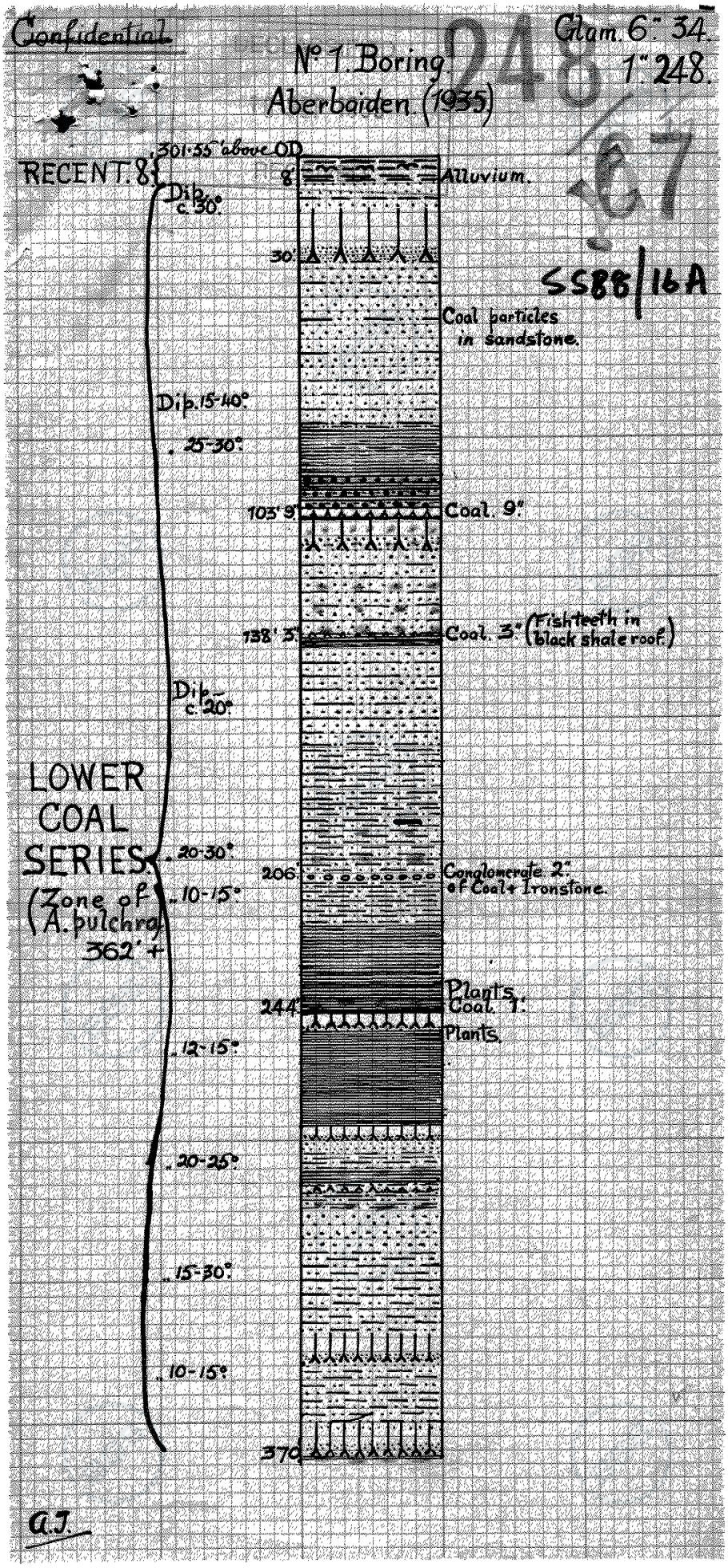
BH REGISTRATION NUMBER 251-267.

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 10 SEP 1996

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 OF

Cores in 3 of boxes at site
27 boxes 27 ft. — 28 ft.
Boxes with lids & cores all good order.
Bore 1 - 10 to 26 ft. Core 6 in

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Not seen Only 1 ft of brown sandy & micaceous shale seen Brown clay	8	.	8	.
Soft brown sandstone	7	.	15	.
Grey fireclay	4	.	19	.
Dark grey fireclay	6	.	25	.
Light 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.	1	3	139	6
Grey shaly sandstone	24	6	164	.
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	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 flaked mostly)	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 (P) Ltd. Gp.685

CONFIDENTIAL

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

T248

343W/3

County Glam.

6" Quarter Sheet 34 SW.

DESCRIBED 1934

RECEIVED 10 SEP 1999

67

A 5588/16

Geological Classification	Description	Thickness	Depth
	Brown clay		5 –
	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 –
	" " "	9 –	89 –
	" " " w. ironstone nodules	14 –	103 –
	COAL	9	103 9
	Dark grey fireclay w. ironstone nodules	1 3	105 –
	" " shale " " "	2 –	107 –
	Grey shaly sdst. " " "	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	56 6	196 –
	" sandy shale	5 –	201 –
	Grey sandstone w. veins of coal	3 –	204 –
	Grey sandy shale	28 –	232 –
	Grey shale	6 –	238 –
	" " " w. ironstone nodules	2 –	240 –
	Grey shale	1 –	241 –
	COAL	1 –	242 –
	Fireclay, strong dark grey	10 –	252 –
	" " " "	11 –	263 –
	Very fissile dark grey fireclay	11 –	274 –
	Rotten black fireclay	1 –	275 –
	Dark grey shale w. ironstone nodules	3 –	278 –
	" " shaly sandstone	2 –	280 –
	Hard grey rock w. spar joints	1 –	281 –
	Dark grey shale w. ironstone bands	9 –	290 –
	" " " " hard "	6 –	296 –
	Hard broken grey sandstone	10 –	306 –
	Dark grey sandy shale	24 –	330 –
	" " fireclay	9 –	339 –
	" " sandy shale	27 –	366 –
	Sunk by François Construction Co.		
	to proved strata		
	Information collected from F.C. Co.		
	June, 1941		

Contact BGS: ngdc@bgs.ac.uk

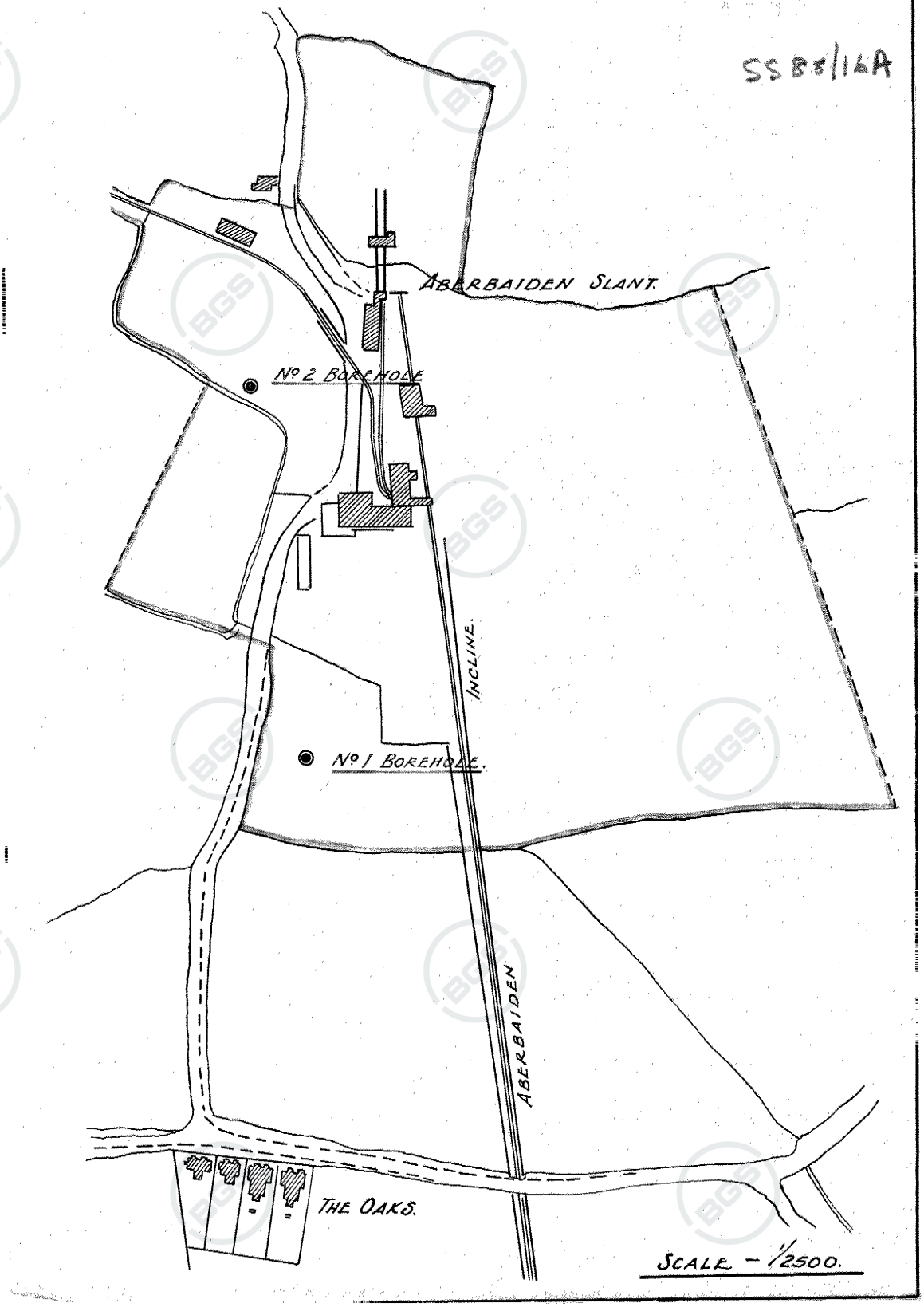
British Geological Survey

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 9/30 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 dark grey sandstone	10	-		310	-
	Dark grey sandy shale	24	-		334	-
	" " fireclay	9	-		343	-
	" " sandy shale	27	-		370	-
	Sunk by Francois Construction Co.					
	to fresh stone					
	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

Name and Number of Shaft or Bore given by Geological Survey: 1" 248 / 64

County Glam. SS88SW 18

Quarter Sheet 32 SE.

Bore at Kenfig Hill, Aberkenfig, for Messrs Baldwins Ltd. 1935

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, 1941		

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British Geological Survey

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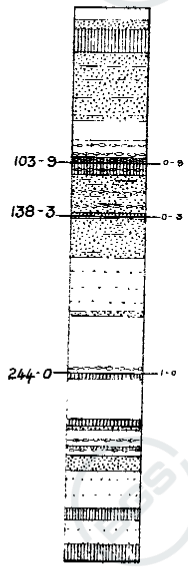
British National Grid (27700) : 284910,184600

~~3 FSW/5~~

SS 88 SW/78
8491. 8460 D

ABERBAIDEN COLLIERY

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



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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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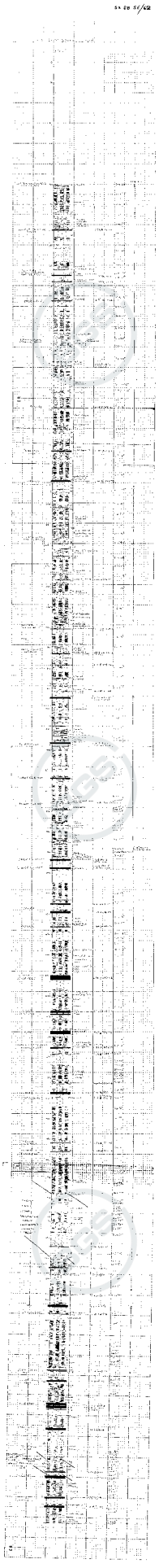

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IGS 11/s (Rev.) 2000 8/74

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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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		60·83
	Coarsens down to fine-medium grained by base; erosion surface at 61·40	0·57	61·40
Dip 23° at 61·60	Mudstone, medium grey; silty at top, fining down; pyrite burrowfills 61·40 to 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 fragments occasionally seen; jointed 70·00		
Dip 19° at 70·80	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 debris 76.70; mussels 77.00; estheria 77.02; polished		
Dip 20° at 77.17	bedding plane 77.17; mussel fragment 77.25; plant debris to 77.33; polished bedding planes at		
Dip 20° at 77.56	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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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

Page 5

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;		
Dip 22° at 90.40	striped with planty, micaceous, sphaerosiderite 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 laminae 92.40 to 92.70; massive 92.70		
Dip 13° at 93.18	to 93.17; striped 93.17 to 93.22; dark		
Dip 26° at 93.50	laminae 93.22 to 93.80; massive 93.80		
Dip 25° at 93.75	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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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		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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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		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; slickensides 107.32; by 107.35, medium to		
?crinoid stem at 107.35	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 cannel-coid 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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National Grid Reference

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 stripes 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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National Grid Reference

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		
Dip 20° 127·40 to 134·35	worm markings to 133·76; polished bedding plane at 133·76; passes down into	11·10	134·73
Dip 20° at 135·54	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 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	Shale, dark, carbonaceous, with		
	abundant coal laminae ("rashings")	0.51	147.00
Dip 30° at 147.10	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; 17°		
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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National Grid Reference

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 165.02 (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		
	with dark silty streaks and sphaerosiderite		
Dip 16° at 167.57	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 = calamitids) 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. Kochi at 191.45; sandstone bed 191.46		
	to 191.51; scalloped plant debris, ironstones,		
Dip 20° at 191.70	'wavy' 191.51 to 191.70; shear with gouge		
	(bedding plane) at 191.70; 'wavy' 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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Pa 20

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
Dip 18° at 194.10	Seatearth; sandstone, medium grey, fine-grained; carbonaceous wisps; siltstone seatearth below 193.65; with 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; burrowed throughout to 195.45 with some bedding planes covered with plant debris.	1.90	195.00
	abundant C. kochi 195.45; much plant debris, scattered burrowfills to 195.65;		
Dip 16° at 196.00	slickensided 195.65 – 195.90; ironstone 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;		
sh.	intensely sheared slightly silty mudstone to 196.53; shear plane at 196.53; harder		
Dip 17° at 196.70	Silty mdst, slickensided to 196.63; silty 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; siltstone with sandstone stripes to 201.95;		
Dip 15–17° at 202.00	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;	5.15	204.00
Dip 17° at 204.50			
Dip 18° at 205.73			
Dip 17° at 207.05	burrowed silty mudstone to 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		
Dip 25° at 213.98	213.70 — 213.83; slickensided seatearth 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		
Dip 23° at 214.60	upper and lower limits.	0.06	214.58
	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; sandstone stripes from 219.12 – 219.14;		
Dip 16° at 218.96	from 219.14 to 219.37, siltstone with detached, deformed sandstone ripplets. 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		
Dip 8° at 220.20	siltstone 220.48 to 220.53; tough, ferruginous siltstone nodule 220.53 to 220.70.	3.25	220.70
	Silty mudstone, medium grey, ~~[illegible]~~ grey; slickensided; sheared to fragments 220.87 – 221.05; slickensided, steeply		
Dip 45° sh at 221.10	dipping 221.05 to 221.36	0.66	221.36

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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 c 223·00; fines down to slightly silty mudstone, with worm burrows to 223·12; fish scale 223·12; scattered plant debris 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 silter 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	silter, 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 silter 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. slickensides 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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Geological Classification	Description of Strata	Thickness metres	Depth metres
	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 fine 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 fines; 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; same 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 17°	ironstone layers 'wormy' at 242.10;		
at 242.00	sheared to gouge in parts; gouge		
	below 242.50 to 243.05; 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 248.00			
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	'Wormy' silty mudstone 271.90 to 272.05; silty mudstone with scattered worm traces and rootlets 272.05 to 272.56		272.56
Dip 20° at 273.00 sh	Gouge; crushed mudstone	0.10	272.66
	Mudstone, medium grey, silty (slightly) at top, fining downwards; worm traces throughout to 273.50; Protithalmoides 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		
Dip 15° at 285·00	lessening gone by 284·50; passage into siltstone, medium grey; scattered plant debris; sandy towards base, passing into		284·80
		1·61	286·41

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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
	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 288.50 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 289.65; 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°	from 299.09 to 299.30	0.21	299.30
at 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°	to 301.67; silty mudstone with thin		
at 301.90	sandstone laminae to 302.00; slickensided		
	bedding planes 302.00; silty mudstone		
	with some thin sandstone wisps, occasionally		
	deformed, plant debris throughout to		
	302.50; tough ironstone beds 302.50		
	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.	highly sheared 304.17 to 304.27;		
at 304.30;	polished bedding planes 304.27 to 304.53		
	in rather silty mudstone with occasional		
	siderite layers; rolled pieces of smooth		

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Name and Number of Shaft or Borehole :

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National Grid Reference

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 cannelroid below 311·20, black shale by 311·24; ?atracod 311·24 slickensided to 311·35; fish scale 311·35; cannelroid 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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National Grid Reference

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 w.sps; 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 slither		
	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 P. montanum common to c 333·75;		324·3
	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 21° at 347·00

Dip < 30° at 344·50

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	B/F	·	347 ·7c
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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Name and Number of Shaft or Borehole : Margam Borehole N°5

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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 'wormy' 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.ec
	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 ghost at 368.25; plant debris (neuropterid impressions common) to 365.35; Dips continue virtually flat; buff siderite 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, cannelond 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~~ 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	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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National Grid Reference

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 discoid,		
	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 works; 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		371.70
	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;		
Dip2°	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
Dip25°	Silty mudstone, medium grey;		
at 379.20	rootlets and plant debris to 380.68;		
Dip15°	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 381.70 with some ironstone		
	layers; passes into	0.58	381.70
	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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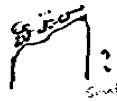
Geological Classification	Description of Strata	Thickness metres	Depth metres
	B/F.	.	382·33
	Core jointed from 384·90 to 385·00; by 385·00, mudstone is medium to dark grey, with lineated bedding planes (incipient slickensiding);	2·67	385·00
Sh	Gouge; sheared bed of intensely crushed mudstone and clay;	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; squashed mussel at 385·65; slightly silty mudstone 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, smooth 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	.	.



Dip 20° at 385·65.

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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	.	.
387.00 Dip 8°	"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
389.00 Dip 10°-12°	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 (mudstone) 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; with 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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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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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		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		
Sh.	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		
Dip 15° at 423·10	Some polished bedding planes. Ironstone ?burrow fills to 423·10. Smooth mudstone to 423·15 Ironstone concretions in		

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Name and Number of Shaft or Borehole : Morgan Borehole No. 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		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		
	?P. montanus at 424.78. Slickensided Suface at 424.80 ?Small fault. Darker Smooth mudstone becoming darker and carneloid		
f.	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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National Grid Reference

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 Slickensided 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~~ ~~entrocks~~ and plant		
	debris at 436.20, mussel at 436.25. Ironstone		
	layer 436.27 to 436.31. Plant debris to 436.40		
	Some worm ~~boarkings~~ to 436.50. Scattered plant		
Dip 18° at 436.50	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
P.	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 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 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.		
Dip 15° at 440.55			
Sh	Sheared and Slickensided at 442.05. Smoothish 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 hominea		
Dip 15° at 442.15			

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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;		
Dip 15° at 449.00	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
UPPER NINE FEET	COAL ; completely recovered	2.38	452.26
	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, D451.25 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	460·60; sheared bed of crushed		
F.	mudstone fragments 460·60 to 460·65;	4·15	460·65
	Seatearth: mudstone; medium grey; ironstone nodules; siltstone below 460·70		
	seam 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. Kochi 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° to 13° 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		
Sh	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
	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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	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 479·9[illegible]		

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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 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 483.90, 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 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 pyrite burrowfills to 485.15; lingulid at 485.15; pyritic traces in darkening mudstone to 485.20; carbonaceous fragments and pyrite traces to 485.30; pyritised ?foram., ?fish scale		
Dip 20° at 484.30			
Dip 16° at 485.10			

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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		
MCM		1.47	485.43
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 disturbed 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;		
	1cm gouge band crosses core from 502.92		
F.	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 509.66, 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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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		514.15
Dip 25° at 518.15.	from 517.35 to c 517.75, slowly fining down into silty mudstone by c 517.75; silty mudstone with plant debris, some ironstone layers, some slickensides to 518.35; ironstone layer 518.35 to 518.45; silty mudstone with siltstone layers, plant debris and some leaf impressions, some slickensides to 518.93, small ironstones nodules at base; siltstone, striped with sandstone layers and laminae from 518.93 to 519.47;		
Dip 17° at 519.60.	parallel laminated siltstone with sandstone laminae and carbonaceous films from 519.47 to 519.76; siltstone, hard, ferruginous to 519.90; siltstone with much plant debris from 519.90 to 520.10; tough siltstone to 520.78 with plant debris, and some sandstone layers and wisps; ironstone layer from 520.78 to 520.80; silty mudstone with plant debris to 520.90; siltstone with some sandstone wisps, plant debris, including leaf impressions to 521.80; finer, silty mudstone 521.80 to 522.40, with leaf impressions common in places; Siltstone from 522.40 to 522.50; sandstone laminae showing some microfaulting from 522.50 to 522.70; siltstone to 522.90; striped with sandstone laminae showing microfaulting to 522.97; siltstone, very coarse, from 522.97 to 523.19; ironstone layer from 523.19 to 523.24; possible slight deviation of borehole at 523.20; siltstone with plant debris to 523.70; coarse siltstone with sandstone laminae from 523.70 to 523.90, passing into fine grained, tough sandstone at 523.90;		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		514.15
	some faint, slightly crinkled lamination, in sandstone, from 523.90 to 524.14; siltstone, with one or two slickensided surfaces, some ironstone nodules, from 524.14 to 524.60; passes into silty mudstone, with plant debris, some siltstone layers to 524.85; silty		
Dip 16° at 525.00	mudstone, some plant debris from 524.85 to 525.10; siltstone to 525.23; tough ferruginous layer to 525.31;	11.16	525.31
	Seatearth: mudstone, medium grey, silty; passes down into silty mudstone with rootlets at about 525.75; ironstone nodules throughout; ironstone layer from 526.00 to 526.15; seatearth (silty mudstone) to 526.25; silty mudstone with		
	rootlets to c. 526.75; slowly passing into	1.44	526.75
	Silty mudstone, medium grey, scattered rootlets, ironstone nodules, some siltstone layers to 527.45; siltstone with rootlets from 527.45 to 527.90; siltstone with scattered rootlets only from 527.90 to 528.10; silty mudstone from 528.10 to		
Dip 10° at 528.50	528.20; siltstone to 528.45; coarse, silty mudstone, slowly fining downwards, scattered plant straps to 529.00; ironstone layer 529.00 to 529.02; finely striped		
	siltstone with sandstone laminae, carbonaceous films to 529.07; ironstone layer to 529.10; coarse, finely striped siltstone with sandstone laminae to 529.20; cross-laminated sandstone bed from 529.20 to 529.36;		
	cross-laminated siltstone with sandstone wisps 529.36 to 529.53; sandstone bed from 529.53 to 529.61; (cross-laminated); well		
Dip 17° at 529.65	laminated siltstone with fine sandstone laminae to 529.80; siltstone with some		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		526.75
	Sandstone laminae; passes down into silty mudstone with occasional sandstone streaks at about 530.00; coarse silty mudstone with some plant debris below 530.30 to 530.82; ironstone layer from 530.82 to 530.88; rich in plant debris below 530.88, in fine, smooth mudstone; core broken below 530.90. (end of run); to 531.02; 'planty' shaly mudstone; solid below 531.02; 'planty' mudstone, with abundant debris and leaf impressions, slickensided near base; To 531.13; gouge band 531.13 to 531.15; slickensided mudstone fragments with some plant debris to 531.26	4.51	531.26
	Core lost.	0.31	531.57
MIDDLE SEVEN FEET	COAL; sheared shale fragments, and some coal fragments to 531.66; driller records COAL to 531.66; 0.29		
	Coal recovered to 531.95	0.38	531.95
	Seatearth: mudstone; medium grey, sheared and soft to 532.27 from 532.03; siltstone below 532.27; tough fine sandstone from 532.35 to 532.45; sphaerosiderite and brown fine mudstone nodules at 532.45 to 532.85 in siltstone; fine sandstone seatearth to 532.90; possible slight deviation of borehole at 532.90; sandstone seatearth to 533.35; siltstone seatearth to 533.47; sandstone bed from 533.47 to 533.57.	1.62	533.57
Dip 16° at 533.90	Striped beds; current laminated dark silty mudstone and lighter sandstone plant debris; 80% silty mudstone, 20% sandstone below 533.90 to c 534.20; silty mudstone with a few sandstone inserts to 534.30.		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		533·57
	silty mudstone to 534·26; ironstone layer to 534·31; silty mudstone with scattered rootlets, fining downwards, somewhat mottled, to c 534·85; coarser silty mudstone with rootlets to 534·98; ironstone layer 534·98 to 535·05; silty mudstone, with rootlets, becoming finer downwards, slickensided below 535·25; smoothish mudstone with slickensides and scattered		
sh.	rootlets to 535·65; broken, sheared fragments from 535·65 to 535·73; smooth slickensided		
	mudstone with ironstone nodules to 535·80		
sh	gouge band 535·80 to 535·83; sheared		
sh	shale and gouge to 535·90	2·33	535·90
LOWER SEVEN FEET	COAL	0·26	536·16
	Seatearth: silty mudstone, medium grey; siltstone below 536·30; silty mudstone below 536·75; siltstone below 537·50; much ironstone from 538·60 to 539·00; passes down into: -	3·04	539·20
	Siltstone, medium grey, rootlets, which decrease in quantity downwards; polished 45° surface at 539·64; hard siltstone with scattered rootlets to 540·50; ironstone layer to 540·53; coarse siltstone to 540·90; finer siltstone with slickensides to 541·06; coarse siltstone to 541·10; 28° slickensided surface at 541·10; siltstone with plant debris, including common calamitid straps and some leaf impressions to 543·40; 43° polished surface at 543·40; 40° polished surface at 543·49; 30° polished surface at 543·72; 43° polished surface at 543·94; hard siltstone throughout, with occasional plant fragment from 543·40; tough, coarse siltstone with sandstone wisps from 543·94 to		

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	Brought Forward		539.20
	544.30; sandstone layer at 544.30; 20° polished surface at 544.40; fine siltstone with plant debris, some sandstone wisps to 544.75; silty mudstone/ siltstone with some polished shear surfaces, scattered plant debris to 545.38; thick ironstone bed from 545.38 to 545.62; fine siltstone or		
Dip c.10° at 545.90.	silty mudstone to 545.90; silty mudstone with plant debris (l.p) to 546.43;		
Dip 5° at 546.40	siltstone, with sandstone layers to 546.60; silty mudstone to 546.96; ironstone layer to 547.10; silty mudstone with plant debris, slickensides (l.n) to 547.80; ironstone nodule 547.80 to 547.87; silty mudstone to 547.95; siltstone layer 547.95 to 548.05; silty mudstone to 548.24; sandstone layer to 548.26; thin sandstone layers at 548.31 and 548.35; silty mudstone with plant debris, some leaf impressions, some sandstone wisps, some slickensides to 549.00; slickensided fragments to 549.05;		
Dip 15° at 549.20	silty mudstone with slickensides to 549.20; weakly laminated sandstone bed 549.20 to 549.29; silty mudstone with plant debris, some leaf impressions to 549.60; 30° slickensided surface at 549.60; coarse silty mudstone with plant debris including leaf impressions to 549.78; ironstone layer 549.78 to 549.82; silty mudstone to 550.10; 53° slickensided surface at 550.10; Core in large slickensided fragments of silty mudstone with plant debris, leaf impressions common from 550.10 to 550.37; silty mudstone, becoming finer downwards with some slickensides and		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		539.20
	much plant debris, including leaf impressions to 551.00; ironstone layers 551.00 to 551.17, and 551.18 to 551.29; silty mudstone, slickensided,		
sh	broken to 551.35; gouge band to		
	551.39, ironstone nodules to 551.42,		
sh	gouge band to 551.45; broken,		
	slickensided mudstone (silty) to 551.55;		
	slickensided siltstone with sandstone		
	layers to 551.60; silty mudstone with		
	sandstone layers disturbed, folded,		
	slickensided 551.60 to 551.75;		
sh	slickensided, broken silty mudstone with		
	sandstone laminae 551.86; core solid,		
	some slickensides to 552.03, siltstone,		
	with sandstone laminae to 551.92;		
	siltstone to 552.03; core broken into		
	slickensided siltstone fragments, with		
	sandstone striping to 552.10; sandstone		
	fragment at 552.10; vertically		
	bedded, slickensided siltstone to 552.10		
Dip 48° at 552.15	steeply dipping slickensided siltstone		
	to 552.15; disturbed folded siltstone		
	with sandstone laminae to 552.76;		
	slickensided, low dipping siltstone		
Dip 25° at 552.70	to 552.85; steeply dipping slickensided		
	siltstone to 553.40; core solid below		
Dip 65° at 553.00	553.40; massive siltstone with some		
	slickensides, scattered plant debris,		
	including leaf impressions to 554.00;		
	broken, slickensided at 554.00; slickensided		
	siltstone with plant debris to 554.28;		
	ironstone layer 554.28 to 554.34; slickensided		
	siltstone to 554.55; broken, slickensided		
	fragments to 554.66; slickensided siltstone		
	with ironstone nodules 554.66 to 554.82;		
	slickensided siltstone with some scattered		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		539.20
↑ sh	plant debris to 555.70; fractured, slickensided siltstone from 555.70 to 556.35 with some silty mudstone;		
↓	slickensided siltstone with some sandstone laminae, fractured, disturbed,		
Dip c.30° at 557.40	to 557.62;	18.42	557.62
Dip 40° at 557.55. F.	Gouge; mudstone, sheared to gouge mainly; flattish (c.6°)		
	contact with:-	0.22	557.84
	Seatearth; siltstone, medium grey; hard, sandy in parts with sphaerosiderite		
sh	patches to 558.20; sheared in parts;		
	soft sheared mudstone seatearth to		
sh	559.20; ironstone bed to 559.35; ironstone		
↓	nodules 559.36 to 559.48; sheared		
	gouge band to 559.50; soft sheared		
	mudstone seatearth to 559.80; harder		
	slickensided, fractured siltstone		
	seatearth below 559.80, with rootlets		
	decreasing downwards, passes into	2.76	560.60
	S.iltstone, medium grey, fractured		
	slickensided, some rootlets; ironstone		
Dip c.25° at 561.20	layer from 561.05 to 561.14; sandstone		
	wisps in siltstone, slickensided throughout		
	to 561.40, silty, slickensided mudstone		
	to 561.70; soft, intensely sheared		
	mudstone, gouge in part to 561.80;		
	slickensided, broken siltstone and silty		
	mudstone to 562.06, hatchetite smear		
	at 562.00; gouge band from 562.06 to		
	562.11; ironstone layer 562.11 to 562.15;		
Dip c.24° @ 562.11 ↑ sh	highly slickensided, broken siltstone to		
	562.24; siltstone below 562.24, passing		
	down into	1.70	562.30
	Sandstone, medium grey, fine-grained,		
	current laminated; but laminations badly		
	disturbed by small scale [illegible]		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		562.30
	to 562.53; siltstone layer to 562.58; tough, cross-laminated fine sandstone with much small scale faulting and fracturing with calcite fill from 562.58 to 562.80; tough ferruginous layer to 562.89; tough ferruginous layer to 562.93; broken, slickensided siltstone and silty mudstone fragments to 563.05; sand core from 563.05 to 563.40:- faulted contact (50°) between siltstone parting at 563.05 and sandstone below:- massive, with faint current lamination, fine-grained, tough, quartzitic; core split by dilated, calcite-filled joint from 563.40 to 563.90; [strong ground from 563.05 to 568.85];		
Dip 25° at 564.00	weakly cross-laminated quartzitic sandstone from 563.90 to 564.70; well laminated with some mudstone partings, cross-laminated, jointed, fractured to		
Dip 30° at 565.10	565.00; well-laminated striped beds of siltstone and sandstone from 565.00 to 565.45; microfaulted from 565.45 to 565.54; cross-laminated fine-grained quartzitic sandstone with some siltstone laminae		
Dip 42° at 566.00.	from 565.54 to 565.95; silty mudstone partings 565.95 to 565.97; siltstone striped with sandstone, but lamination intensely disturbed by faulting and folding, from		
Dip 38° at 566.90	565.97 to 566.63; gouge film at 566.63 (sheared mudstone parting); pale to medium grey, fine to medium grained, tough, faintly cross-laminated, 'massive' quartzitic sandstone from 566.63 to 567.10; core fractured by joints from 567.10 to 568.00, in very tough fine to medium grained quartzite, 'massive' with faint cross-lamination		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		562.30
	'massive' very tough quartzite with faint current-lamination, fine to medium grained, some fractures to 568.65; very fractured (core solid) below 568.65, with small faults; quartzitic mélange at base – probably tectonic.	6.55	568.85
Dip 36° at 568.85	Silty mudstone; crushed, slickensided, gauge in part.	0.05	568.90
	Striped beds; siltstone with sandstone laminae; core in broken slickensided fragments to 569.17; breccia of sandstone fragments in darker argillaceous matrix from 569.17 to 569.23; intensely disturbed sandstone with siltstone stripes from 569.23 with microfaulting and folding of laminae to 569.40; fractured, veined quartzitic sandstone, fine to medium grained, faintly current-laminated, (much disturbed lamination), drab grey/buff, from 569.40 to 569.70, core largely broken; mudstone parting in faulted contact with highly veined sandstone fragment at 569.70; steeply dipping (58°) striped silty mudstone and sandstone from 569.70 to 570.00	1.10	570.00
Dip 50° at 569.80			
Dip 57° at 570.10	Siltstone, medium grey, faint sandstone streaks, steeply dipping slickensided bedding planes; passes into sandstone with siltstone streaks at c. 570.35; medium grey fine grained quartzitic sandstone to c. 570.50; siltstone with some sandstone streaks from 570.50 to 570.60. Common sandstone streaks to 570.70; some sandstone streaks to 570.90; passes into sandstone with siltstone streaks at 570.90; dips lessening, some microfaulting to 571.10; striped bed from 571.10 to 571.15;		
Dip c. 50° at 570.60			
Dip 38° at 570.90			

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		570.00
	siltstone, slickensided to 571.40'; sandstone and siltstone with some microfaulting of laminae from 571.40 to 571.60'; highly slickensided silty mudstone with some plant straps, siltstone in part, to 571.85'; shear with gouge at 571.85'; highly slickensided silty mudstone to 571.95'; highly slickensided broken mudstone fragments to 572.00'; highly slickensided, fractured silty mudstone (core solid) with some plant straps from 572.00, becoming increasingly sheared down to 572.35	2.35	572.35
	Gouge; clay and slickensided mudstone fragments to 572.60'; clay with mudstone debris and some coal dirt to 572.88', ("Dip 55°"); Fault.	0.53	572.88
	Siltstone, medium grey, hard, rootlets; slickensided; steeply dipping (72°)	0.14	573.02
	Seatearth; medium grey; soft, intensely sheared mudstone; gouge in parts, some harder sphaerosiderite patches, to 573.65'; less sheared below 573.65', mudstone seatearth with abundant sphaerosiderite to 573.95'; soft and highly sheared from 573.95 to 574.30'; firmer, but highly slickensided siltstone seatearth to 574.58'; ironstone layer to 574.64'; intensely sheared, soft, gouge in part to 574.90, probably passes into	1.88	574.90
	Mudstone, medium grey, soft, highly sheared, some rootlets, to 575.05'; from below 575.05':- highly slickensided silty mudstone with abundant sphaerosiderite, some rootlets; to 575.40', highly sheared, soft from 575.40 to 575.52'; hard slickensided silty mudstone from 575.52 to 575.60';		

FAULT: probably large; 55°

sh ↓

sh ↑

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		574.90
sh ↓	broken, slickensided silty mudstone at 575.60; hard slickensided siltstone with plant straps from 575.60 to 575.84; soft, intensely sheared, crushed shale to 575.93; ironstone layer from 575.93 to 576.12; crushed shale, gouge and ironstone fragments to 576.15; slickensided silty mudstone to 576.20; hard ferruginous siltstone layer with rootlets to 576.25; from here down to c583.83, ground is mainly broken and degraded to gouge and fragments; broken silty mudstone fragments, some rootlets to 576.65; gouge and fragments to 577.30; some soft, sheared buff mudstone fragments at 577.30; gouge to 577.65; mudstone. Seatearth fragments 577.65 to 577.90 (with gouge); gouge to 578.15; some sheared shale seatearth fragments and ironstone fragment at 578.15; gouge and shaly debris to 578.50; ironstone layer c.578.50 to c 578.58; gouge, and 'plenty' shale fragments to 578.75; silty mudstone fragments to 578.80; gouge bed to 578.83; silty mudstone seatearth to 579.05; (solid bed); broken sheared mudstone debris to 579.10; soft, sheared buff mudstone seatearth 579.10 to 579.55, gouge in parts; intensely sheared grey mudstone seatearth, gouge in parts, soft, clayey throughout (core solid) from 579.55 to 581.40; colour change to buff at 581.40; soft, intensely sheared gouge in part, mudstone seatearth from 581.40 to 581.70; gouge and fragments to 582.07, fragments of grey/buff soft		
Dip c.25° at 575.93.			
Dip c.45° at 578.15			
Dip c.50° at 578.50.			
sh ↑	sheared mudstone seatearth. core solid		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		574.90
Sh ↓	from 582.07 to 582.25 in highly sheared, soft, grey mudstone seatearth; gouge with some fragments of seatearth and hard sphaerosiderite seatearth to 582.64; Core solid 582.64 to 582.80 in gouge and biff soft sheared seatearth fragments; gouge and clay from 582.80 to 583.10; Core solid from 583.10 in soft intensely sheared mudstone seatearth to 583.45; gouge and shaly debris to 583.83; Core solid below 583.83 in:-	8.93	583.83
FAULT Sh ↑ — — — MIDDLE COAL MEASURES ↓	Mudstone, dark grey, Cannel, listric surfaces, hard, carbonaceous; Core solid to 584.00; broken, highly slickensided,		
Sh	fragments, one folded fragment,	0.41	584.24
	COAL; one or two broken fragments only; penetration times indicate c.0.30 from c.584.40 to 584.70.	—	584.24
Sh.	Seatearth, mudstone, silty; medium grey; fragments to 584.50, highly sheared; Solid core below 584.50 in siltstone seatearth to 584.75; soft sheared		
Sh	mudstone seatearth to 584.90; sheared silty mudstone seatearth with <35°		
	shear planes with gouge films to 585.30; siltstone seatearth with 35° shears to		
Sh	585.65; silty mudstone seatearth to 585.85; highly sheared mudstone seatearth/gouge		
	to 585.95; siltstone seatearth with shears		
Sh.	(up to 50°) to 586.20; mudstone seatearth		
Dip c. 40° at 586.39.	to 586.22; ironstone bed to 586.39;		
	sheared mudstone seatearth, shearing at		
Sh	40-50° to 586.90, shears flatten to dip		
	c.20°-25° from 586.90 to 587.00; degraded		
	to gouge to 587.10; nodular ironstone		
	layer 587.10 to 587.24; mudstone seatearth		

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	Brought Forward		584.24
	highly sheared gouge in parts to 587.60; ironstone layer from 587.60 to 587.68; mudstone-seatearth, sheared to gouge in part to 588.00, highly sheared, broken grey/buff mudstone seatearth, gouge in part to 588.10; gouge to 588.26	4.02	588.26
	Core lost.	0.94	589.20
figure to fill in here.	N.B. The ground is good, and strong below 589.20, and this ends a long run of soft, broken and disturbed ground which started at ? check c 551m.		
	Seatearth-mudstone; medium to dark grey, carbonaceous to 589.28, medium grey from 589.28 to 589.40 with ironstone nodules; strong silty mudstone seatearth to 589.55, passing into fine grained sandstone seatearth at 589.55 to 589.81 sheared 45° mudstone parting at 589.81	0.61	589.81
	Sandstone, medium grey, fine-grained, some rootlets, some calcite veins (lithology as above parting at 589.81), to 589.90, deformed mudstone parting at 589.90,	0.09	589.90
	Siltstone, medium grey, with deformed sandstone laminae; detached rolled ripple at 590.00; siltstone from 590.06 to 590.20; current laminated sandstone with calcite veins, base deformed, from 590.20 to 590.28; siltstone to 590.35; siltstone and mudstone laminae with microfaulting to 590.40; fine grained sandstone with rootlets to 590.50; well laminated micaceous sandstone with siltstone wisps to 590.60; tough, ferruginous sandstone bed to 590.73; well laminated striped beds of silty mudstone and sandstone laminae, plant debris,		
Dip 15° at 590.55			

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		589.9c
Dip 5° at 591.00	finely micaceous, some polished bedding planes to 591.20; finely micaceous mudstone, mainly silty, some fine mudstone laminae, with current laminated sandstone laminae, some worm markings on finer mudstone bedding planes to 591.35; str.ped silty mudstone and cross-laminated sandstone below 591.35, solid mussel at 591.35; to 591.45; finely laminated silty mudstone, drab medium grey, finely micaceous, plant debris, some slickensides, to 591.70, ironstone nodules at 591.70; 591.72; silty mudstone, finely laminated, worm markings on final laminae, one or two scattered mussel fragments to 592.03; sheared bedding plane at 592.03; finely laminated		
Dip 8° at 592.10	silty mudstone with worm markings, mussel fragment at 592.10, crushed at base, to 592.20; ironstone layer to 592.25; slickensided silty mudstone to 592.29; ironstone layer to 592.31; mudstone, broken, slickensided with thin ironstone layers at top, becoming finer near, worm markings, finely laminated, one or two slickensided surfaces and shear bands throughout to 592.65; thin ironstone layer at 592.65; smoothish silty mudstone, mainly soft, with shear bands, mussel fragment at 592.90; smooth, slickensided mudstone with thin ironstone layers to 593.05;		
sh. ↓	mussel at 593.05; very sheared, slickensided with gouge in parts, and ironstone nodules to 593.42; broken, slickensided smooth		
Amman Marine Band from 593.45	mudstone below 593.42, lingula at 593.45; broken, highly sheared mudstone with ironstone layers to 593.50; broken small fragments		

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Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		589.90
	and gouge to 593.70', pyrite burrowfills at 593.70' and common pyrite knots to 593.80; P. ophthalmoides at 593.80, pyrite knots to 593.83; lingula at 593.83, mudstone continues broken and sheared; lingula at 593.85; 593.86; Core lost in slickensided mudstone below 593.88; lingulids abundant in smooth, medium to dark grey mudstone to 593.9, some large (1mm); mudstone darkening downwards, carbonaceous fragments start at 593.96; continues slickensided, with an abundance of lingulids, often large, and many pyritised, to 594.02; dark slickensided		
Amman ↑ Marine Band. LOWER COAL MEASURES ↓	mudstones to 594.08 left undisturbed	4.18	594.08
	COAL, with pyrite nodule from 594.32 to 594.36	0.32	594.44
	Mudstone Seatearth; medium grey; silty below 595.23; with pyrite knots; soft shaly bed with ironstone concretions from 595.40 to 595.43.	0.99	595.43
Dip 11° at 595.50	Silty mudstone; medium grey, with rootlets to 595.70'; very hard, ferruginous siltstone bed with rootlets 595.70 to 595.95; siltstone with plant detons and straps to 596.10, passing into silty mudstone with plant detons, fining downwards to 596.30'; siltstone from 596.30 to 596.81 thinly laminated, occasional sandstone streaks, plant detons; finely micaceous; passes at 596.81 into sandstone, fine grained, cross-laminated; passes at 597.02 into siltstone which in turn passes into silty mudstone at about 597.15; silty mudstone with fine siltstone laminae, *C. Kochi, at 597.20;		
Dip 10° at 596.35			

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	Brought Forward		595·43
	strong silty mudstone with plant fragments to 597·43; sandstone layer, cross-laminated to 597·49; silty mudstone, with much carbonaceous plant fragments and debris, well-laminated,		
Dip 7° at 597·60	thin sandstone layer at 597·52; to 597·65; silty mudstone with polished bedding planes, and much plant debris from 597·65, becoming darker and carbonaceous downwards; dark, slickensided carbonaceous cannelloid mudstone		
	below 597·90 to 597·80	2·37	597·80
	COAL, some cannel bands	0·17	597·97
	Seatearth: mudstone: dark, carbonaceous, with coal laminae.	0·08	598·05
	Sandstone Seatearth; medium grey/buff; hard, massive; to 598·45; hard siltstone seatearth, fine sandstone in part to 598·87; soft, sheared, buff mudstone seatearth bed to 598·93; tough, vertically jointed sandstone seatearth from 598·93 to 599·40, passing into	1·35	599·40
	Sandstone, medium grey, fine to medium grained, faintly current laminated, tough, jointed, quartzitic, to 599·60; wispy, carbonaceous cross-lamination 599·60 to 600·98; fines		
Dip c 8° at 600·00.	down and passes into	1·58	600·98
	Siltstone medium grey, abundant plant debris at top; thinly laminated; plant		
Dip 8° at 601·00	debris scattered throughout; c kochi at 601·25; bedding planes crowded with plant debris scattered throughout; ironstone layer 601·35 to 601·39; siltstone, with thin cross-laminated sandstone wisps to 601·55; plant debris throughout;		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		600.98
	siltstone with plant debris to 601.50, passing at 601.50 into silty mudstone with worm markings; fines down, occasional plant straps by 602.00, smooth, worm marked mudstone; soft, sheared		
Sh	from 602.10 to 602.32, some ganga beds, is smooth, mudstone becoming darker; harder, silty mudstone with worm traces, including C. kocini from 602.32 to 602.50; finer, smooth, mixed/disturbated layer at 602.50. silty mudstone, with some softer layers, some siltstone layers, one or two thin ironstone layers, scattered plant debris from 602.50 to 602.78	1.80	602.78
	Striped bed; current laminated siltstone with sandstone laminae;		
Dip 8° at 602.90	finely micaceous; passes into	0.22	603.00
	Siltstone, medium grey, slickensided, abundant ironstone nodules, rootlets and plant debris to 603.25; siltstone with scattered plant debris to 603.50; plant straps at 603.50, plant debris common from 603.50 to 603.70. ?seed pods at 603.70; siltstone with cross laminated sandstone laminae 603.70 to 604.15; cross laminated sandstone bed 604.15 to 604.23; siltstone, fining down to silty mudstone with worm		
Coal	markings at about 604.40;	1.46	604.46
	Core lost; cavings only.	0.23	604.69
Dip 5° at 604.75	Silty mudstone, medium grey, worm markings, some thin ironstone layers to 605.23; ironstone layer to 605.30; silty mudstone with worm markings, scattered pieces of plant debris to 605.50; mussel at 605.50; mudstone now smoothish; ironstone nodule		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		604.69
	from 605.51 to 605.55; smooth silty mudstone to 605.60; mussel fragments at 605.60, 605.65; 605.70; core slickensided from 605.65 to 605.70; ironstone nodule 605.70 to 605.74; broken, slickensided ground in smoothish mudstone to 606.10; smooth slightly silty mudstone with one or two mussel fragments to 606.18; mussel at 606.18; ironstone layers 606.20 to 606.26 and 606.28 to 606.38; hard, darker, siltstone bed from 606.38 to 606.54; silty mudstone with worm markings, scattered plant fragments to 606.67; ironstone nodule to 606.72; worm-marked silty mudstone, some slickensides to 607.00; ironstone layers 607.00 to 607.11 and 607.12 to 607.18;		
Dip 8° at 607.30	silty mudstone, some finer layers, worm markings, some ironstone layers, with P. mantanus to 607.40; smooth 'wormy' mudstone from 607.40, mussel at 607.45 to 607.55; harder, silty mudstone, with plant debris, some disturbated layers to 607.75; finer, slightly darker mudstone with scattered plant debris and some mussel fragments to 607.88; abundant mussel fragments in smooth, medium to dark grey slickensided mudstone at 607.88; scattered mussel debris and plant fragments in smooth mudstone, darkening downwards to 607.96; carbonaceous, canneloid mudstone from 607.96 to base	3.32	608.01
	COAL; timings indicate 0.20 @ 608.09.	0.16	608.17
	Seatearth; mudstone, dark grey, carbonaceous; crushed, sheared bed from 608.28 to 608.38; medium grey, slickensided mudstone seatearth;		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		608.17
	nodules throughout; ironstone nodule bed from 610.14 to 610.24; leaf impressions at 610.45 abundant leaf impressions from 610.45 to 610.55; mainly soft, sheared mudstone seatearth with scattered leaf impressions from 610.55; passes into:-	3.38	611.55
	Mudstone, medium grey, plant debris, including leaf impressions, some ironstone layers; abundant leaf impression towards base in rather weak, shaly ground; slickensided, broken at base.	0.94	612.49
YARD.	COAL; timings indicate 1.10, 0.27m stick, broken at base, and coal fragments recovered.	1.10	613.59
	Seatearth: mudstone; soft, sheared to 613.79; medium grey; strong, silty mudstone with brown ferruginous nodules, to c. 615.00, passing into tough siltstone with ironstone nodules; sandstone laminae at 615.47; passes into:- c	1.91	615.50
	Siltstone, medium grey; rootlets, ironstone nodules; sandstone inserts at 615.85, and thin sandstone inserts and lenses from 615.85 to 616.35; cross-laminated thin sandstone layers in siltstone with plant debris from 616.35 to 616.45;		
Dip 6° at 616.40	cross-laminated sandstone bed from 616.45 to 616.52	1.02	616.52
	COAL; fragments only to 616.57 c	0.06	616.58
	Cannelloid mudstone, black with coal laminae; slickensided.	0.19	616.77
	COAL	0.11	616.88
	Seatearth: mudstone; medium grey	0.21	617.09
	COAL	0.03	617.12
sh	Seatearth: mudstone; buff; soft, clayey sheared to 618.34; sphaerosideritic bed to 618.47.		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		617.12
	abundant sphaerosiderite to 619.03; hard sphaerosiderite bed to 619.15; buff/grey soft mudstone seatearth to 619.40; ironstone layer to 619.50; mudstone seatearth, mainly soft, some harder layers, sphaerosiderite throughout from 619.50 to c. 620.00, passing into	2.88	620.00
Sh	Silty mudstone, medium grey, sphaerosiderite, hard bed to 620.30; soft, sheared, shaly bed to 620.55, with plant debris; silty mudstone with abundant plant debris, including calamitid stems and one or two leaf impressions, to 620.65; ironstone layer (nodular) to 620.75; smooth, 'planty' mudstone with abundant calamites from 620.75 to 620.90; silty mudstone		
Dip 8° at 621.20	with plant debris to 621.12; calamites at 621.12; ironstone layer to 621.19; silty mudstone with plant debris, some sandstone laminae to c 621.40, passing into siltstone with sandstone laminae at c 621.40; sandstone bed, cross-laminated from 621.65 to 621.70; siltstone with some plant debris to c. 622.25, passing into silty mudstone at c 622.25, with scattered plant fragments to 623.20; ironstone nodule to 623.05; coarser, siltstone to 623.32; ironstone layer to 623.38; ironstone layer 6338 to 623.47; passes into silty mudstone with plant debris at 624.00 to 624.80; 50° polished shear planes at 624.80, 624.85; ironstone layer 624.85 to 625.00; ?erosion surface at 625.00; very coarse siltstone with cross laminated sandstone laminae from 625.00 to 625.25 passing into fine grained sandstone at 625.25 to 625.55; siltstone to 625.87; ironstone		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		620.00
	layer from 625.87 to 626.00; siltstone,		
	some silty mudstone layers at top,		
	plant debris scattered throughout,		
	some tough ferruginous layers, strong		
	ground with occasional polished		
	breaks, to 629.04; ironstone layer		
	to 629.15; strong siltstone, scattered		
	Calamites, sandstone wisps towards		
	base at 629.95; cross-laminated fine		
	grained sandstone bed 629.95 to 630.15;		
Dip 30° at 631.00	strong, coarse siltstone with sandstone		
	streaks, scattered plant fragments to		
	631.60; sandstone laminae and layers		
	in very coarse siltstone to 631.30;		
	fine siltstone to 631.40; coarse siltstone		
	to 631.80; fine siltstone, one or two ironstone		
Dip 20° at 632.25	layers, to 632.70; leaf impressions		
Dip 15° at 632.70	at 632.70; siltstone with scattered		
	plant debris, including Calamites to		
	633.40; ironstone layer to 633.54;		
	sandstone wisps below 633.60, making		
Dip 22° at 634.20	rock slightly striped to 633.85; siltstone		
	to 634.30; tough ferruginous layer		
	to 634.45; siltstone with one or two leaf		
	impressions to 634.70, passing into		
	silty mudstone with plant debris at		
Dip 16° at 634.75	634.70; leaf impressions scattered		
	throughout in silty mudstone, to 635.11;		
Dip 33° at 635.65	ironstone layer to 635.24; coarse silty		
P	mudstone, siltstone in part, leaf impressions very		
	common, from 635.24 to 636.30, some polished		
	bedding planes; slickensided, coarse silty		
	mudstone to 636.70; siltstone to 636.90;		
Dip 30° at 637.00	ironstone layer to 636.95; siltstone with		
	plant debris to 637.43; ironstone nodule		
	to 637.50; siltstone to 637.54, slickensided,		
F.	tectonic junction with:-	17.54	637.54

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		637.54
	Sandstone, fine grained, well laminated with siltstone striping, much microfaulting to 637.67; trough cross-lamination to 637.84; passes into	0.30	637.84
	Siltstone, medium grey, plant debris, to 637.89; ironstone layer to 637.94; siltstone to 638.04; fine to medium grained sandstone bed from 638.04 to 638.10; siltstone with plant debris to 638.40; large calamites 638.40 to 638.50; slickensided siltstone to 638.60; polished 35° plane at 638.60; siltstone with plant debris to 638.83; sandstone layer at 638.83; siltstone, silty mudstone in part, some slickensides, plant debris, to 639.05	1.21	639.05
sh	Seatearth: mudstone: sheared, shaly, buff, sphaerosiderite, soon passes into:-	0.16	639.15
Dip 18° at 639.50	Mudstone, medium grey, with rootlets, sheared at top; hard silty mudstone with rootlets, ferruginous in places; becomes bedded, with only a few scattered rootlets below 640.00; coarse silty mudstone to 640.52; ironstone layer to 640.59; silty mudstone, below 640.59, fining downwards, C. kochi at 640.70; hard ferruginous layer 640.84 to 640.93; silty mudstone, C. kochi at 641.00; silty mudstone with siltstone laminae to 641.30; siltstone with cross-laminated sandstone laminae from 641.30 to 641.37; siltstone to 641.47; tough, fine grained sandstone bed with strongly scoured base at c 641.65; silty mudstone to 641.76; ironstone nodule to 641.81; slickensided, broken, smoothish mudstone to 641.87;		
Dip 10° at 640.60			
Dip 5° at 641.00			

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		639·15
	hard, finely laminated ferruginous mudstone to 642·00; rather loose ground below 642·00 with many bedding plane shears in smoothish mudstone, finely laminated with silty and fine laminae; largely barren, save for some scattered plant fragments, one faint Mussel fragment (at 642·30); some ironstone layers.	3·87	643·02
	COAL	0·17	643·19
	Seatearth; mudstone; medium grey/brown.	0·90	644·09
	COAL	0·41	644·50
	Mudstone, black, carbonaceous	0·03	644·53
	COAL	0·03	644·56
	Mudstone, black, carbonaceous	0·07	644·63
	COAL	0·13	644·76
	Core lost; penetration times suggest COAL	0·24	645·00
	Seatearth, mudstone, sheared at top; medium grey; some sheared, gouge layers to 645·60; strong silty mudstone seatearth with ironstone nodules to 646·80; soft mudstone seatearth from 646·80 to 647·35, with ironstone nodules; silty mudstone seatearth with ironstone nodules below 647·35; passes into:-	3·00	648·00
	Silty mudstone, medium grey, common scattered rootlets to 648·60; ironstone layer at 648·60; soft, crushed mudstone to 648·65; ironstone layer to 648·68; soft, clayey sheared mudstone with rootlets to 648·82; ironstone nodules at 648·82; smoothish mudstone with silty laminae, thin ironstone layers, rootlets throughout; many soft; Mussel at 649·30; broken 649·40 to 649·40.	1·40	649·40

Dip c 3° at 649·25

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		649.40.
	Core lost; a few fragments of smooth dark mudstone.	0.10	649.50
? LOWER SEVEN FEET.	COAL 0.29 fragmented coal recovered, Penetration time indicates 0.80 COAL (Coal touched near base of barrel – pulled out in coal)	0.80	650.30
Dip 0° at 650.60	Seatearth: mudstone: medium grey; dark grey, carbonaceous at top, to 650.50; carbonaceous coal films, shaly, some pyrite to 650.60; hard silty mudstone with ironstone nodules, passing into	0.70	651.00
Dip 3° at 651.80	Silty mudstone, medium grey, ironstone nodules, rootlets, ironstone layer 651.07 to 651.19; fractured, broken, silty mudstone with rootlets 651.19 to 651.63; ironstone layer to 651.68; silty mudstone with scattered plant fragments to 652.10; C. kochi at 652.10; broken, slickensided silty mudstone to 652.35; ironstone nodule at 652.35; core very broken, in fragments from 652.35 to 652.95; leaf impressions at 652.35; smooth sl. broken, grey/brown mudstone with plant debris, some hard silty layers, slickensided; smooth, medium to dark grey layer at 652.70; smooth, grey/brown mudstone with plant debris, thin ironstone layers to 652.95; Core solid from 652.95 to 653.15 in smooth, very slickensided mudstone; ironstone layer at 653.15; broken, slickensided fragments of smooth grey/buff mudstone with plant debris to 653.40; slickensided mudstone to 653.70; 'planty', slickensided smooth mudstone to 653.90; smooth mudstone with plant debris, slickensided throughout		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		651.00
	to 654.72; ironstone layer to 654.76 'planty' mudstone to 654.95	3.95	654.95
Dip 5° at 656.00	Silty mudstone, medium grey, soon passing at 655.00 into siltstone; Sandstone bed from 655.26 to 655.31; siltstone to 655.60; finer below 655.60 – coarse silty mudstone, with plant debris, thin sandstone laminae to 656.00; coarser siltstone from 656.00 to 656.25; striped with cross-laminated sandstone laminae from 656.25 to 656.60; well-laminated with sandstone and carbonaceous mudstone laminae from 656.60 to 656.84; cross laminated sandstone bed from 656.84 to 656.92; siltstone with some sandstone wisps to c 657.10 passing into silty mudstone at c 657.10; ironstone layer 657.25 to 657.32; silty mudstone with C. koehi common on finer layers, plant debris on coarser layers to 657.80; ironstone layer 657.80 to 657.85; silty mudstone, fining down, with C. koehi to 658.05; ironstone layer to 658.12; silty mudstone with some sandstone wisps, much plant debris to 658.30; silty mudstone, finely laminated, some plant fragments at top to 658.75; C. koehi at 658.75; thin ironstone layers and nodules throughout; core rather broken in large core "biscuits" from 658.30 to 659.00; silty mudstone, fining down, ironstone nodules cause some local slickensiding, finely laminated, smoothish medium grey, silty mudstone, Core in large "biscuits", though breaks not slickensided to 659.50;		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		654·95
	Silty mudstone with some breaks, one or two slickensided, scattered ironstone nodules to 669.75; smoothish, slightly sheared broken mudstone (core in "biscuits"), barren apart from scattered, small circular, coaly blebs to 669.90; some ferruginous burrowfills at 659.90; rather broken, with slickensided joints from 669.90 to 660·03; slickensided, broken smooth mudstone from 660·03, with common ferruginous burrowfills, very disturbed in parts (cf. P. montanus) to 660·18; core solid, but some slickensides below 660·18 in smooth, medium to dark grey mudstone passing at c. 660·24 into dark grey, cannelloid, jointed, barren mudstone to 660·34; similar dark cannel-ad mudstones, jointed, below 660·34, core left undisturbed	5·66	660·61
	COAL	0·21	660·82
	Rashings; sheared and macerated	0·21	661·03
	COAL	0·34	661·37
	Seatearth: mudstone; buff; sheared	0·10	661·47
FIVE FEET	Mudstone; dark grey, carbonaceous	0·13	661·60
	COAL	1·31	662·91
	This is section as logged by driller; timings indicate:- COAL 0·40, Dirt 0·20, COAL 0·50, Dirt 0·30, COAL 1·30 to 663·31; loss in total section of:-	0·40	663·31
	Seatearth: mudstone: medium grey; soft, sheared bed from 663·57 to 663·77;	0·64	663.95
	COAL; crushed at base	0·16	664·11
	Seatearth: mudstone: medium grey* buff; sheared, soft in large part to 665·75; silty mudstone seatearth 665·75 to 665·90, passing into siltstone with rootlets at 665·90, some softer, sheared silty mudstone		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		664.11
	beds; passes into:-	2.49	666.60
	Silty mudstone, medium grey, rootlets common in parts; slickensided from 666.90 to 667.08, ironstone nodules throughout; crushed, sheared band at 667.08	0.48	667.08
	Siltstone, medium grey, hard, ferruginous; polished joint; to 667.20; broken fragments of silty mudstone to 667.22; tough ferruginous siltstone bed to 667.35; broken slickensided siltstone to 667.45; finely micaceous siltstone with C. kueh: to 667.50; fine siltstone/coarse silty mudstone, with slickensided joints to 667.70; hard jointed siltstone to 667.80; hard, siltstone with thin sandstone wisps, calcite filled joints/cracks to 668.12; darker mudstone laminae showing microfaulting at 668.12; sandstone wisps in siltstone to 668.22; ironstone layer 668.22 to 668.27; siltstone with sandstone laminae to 668.38, passing into striped beds at 668.38; cross-laminated sandstone and siltstone (50%-50%) to 668.89, with some microfaulting; siltstone, with thin sandstone laminae to 669.09; sandstone bed to 669.12; slickensided silty mudstone to 669.26 sandstone wisps towards base; cross-laminated sandstone bed 669.26 to 669.34; striped beds with cross-laminated sandstone and siltstone (50%-50%), with microfaulting to 669.95; ironstone layer 669.95 to 670.00; cross-laminated sandstone with siltstone wisps from 670.00 to 670.35; striped siltstone and sandstone, some microfaulting, and sedimentary		
Dip 10° at 668.00			

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		667.08
	deformation of laminae; to 671.90; burrowed siltstone to 671.20; hard siltstone with plant debris from 671.20 to 671.25, passing into fine grained sandstone at 671.25; burrowed fine grained sandstone to 671.45; cross-laminated sandstone to 671.52; erosion surface at 671.52; siltstone and silty mudstone, finely micaceous, some plant debris; sandstone wisps towards base to 671.92	4.84	671.92
Dip 5° at 671.90	Sandstone, pale to medium grained; cross-laminated to 672.00 with some deformed laminae, coaly films, and one large coal chip; very tough, medium grained quartzite below 672.00 with scattered coal, and siderite wisps and chips	0.34	672.26
	Siltstone, medium grey, finely laminated, micaceous, some ? burrows; silty mudstone below 672.35, with some sandstone laminae, some plant debris to 672.50; cross-laminated sandstone and siltstone to 672.64; sharp change at 672.64 to dark grey, mudstone with coaly films.	0.42	672.68
	COAL	1.00	673.68
	Seatearth: mudstone, medium grey, soft, sheared, slickensided at top; silty mudstone below 674.00; siltstone below 674.50; passes into:-	1.07	674.75
Dip 6° at 675.25	Siltstone, medium grey, with rootlets at top; sandstone laminae towards base; passes into:-	0.95	675.70
	Sandstone; cross-laminated with siltstone laminae to 675.78; pale to medium grey fine to medium grained		

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Ic

Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		675.7c
	quartzitic sandstone to 675.90; finely laminated micaceous siltstone with sandstone laminae to 676.10; very tough, fine grained massive quartzite to 676.60; pale to medium grey, fine-grained cross-laminated quartzitic sandstone to 677.50; massive, pale grey, quartzite to 677.95; bioturbated bed of siltstone striped with sandstone laminae, with worm burrows to 678.90; cross-laminated sandstone with siltstone wisps to 679.80; massive fine to medium grained quartzite, with some silty mudstone laminae, pale grey, to 681.35; striped, cross-laminated sandstone and siltstone to 681.53; massive quartzite to 681.75; with some mudstone wisps; bioturbated, striped silty mudstone and sandstone, with abundant burrows (up to 3mm - "chubby worms" of R.H.P.) to 681.80; siltstone with 'chubby worms' to 682.10; intensely bioturbated bed with bedding destroyed by burrowing from 682.10 to 682.15; bioturbated siltstone, sandstone laminae towards base, to 682.30; medium grained quartzite with some mudstone wisps and laminae, some large worm burrows, to 683.00; striped sandstone and silty mudstone with large burrows (up to 7mm) to 683.10; intensely burrowed siltstone with large burrows, some slickensides to 683.33; burrowed striped bed to 683.42; intensely deformed striped quartzitic sandstone and siltstone (tectonic) from 683.42 to 684.13 with some		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		675.70
	burrows, and also some sedimentary deformation; (very similar to tectonically deformed sandstone at 566.63); quartzitic sandstone with microfaulted, cross-laminated siltstone striping in parts to 684.50; sandstone with cross-laminated siltstone laminae to 684.70; striped, cross-laminated		
Dip c. 35° at 684.70	sandstone and silty mudstone with one small microthrust to 684.56;		
Dip 45° at 685.10	cross-laminated sandstone with silty mudstone wisps and laminae to 685.25; some slickensided bedding planes; intensely disturbed fine grained quartzitic sandstone, pale to medium grey, with faint green tint to 685.34; intensely disturbed crumpled siltstone and sandstone laminae to 685.44; broken sandstone fragments, slickensided, steeply dipping, to 685.54. Core solid to 686.00; very disturbed microfaulted, fractured quartzitic sandstone to 685.84; massive fine to medium grained pale grey quartzite with some wispy laminations and some microfaulting to 686.00; cross-laminated quartzitic sandstone with siltstone wisps, some slickensided, numerous microfaults		
Dip c. 30° at 686.50	to 686.52; massive quartzite, with some faint micaceous laminae, pale grey with faint green tint in parts; much micro-faulting to 686.93; sandstone and silty micaceous mudstone in thin slickensided layers, erosion surfaces between layers, to 686.95;	11.25	686.95
	Siltstone; medium grey; slickensided, steeply dipping bedding planes (up to 40°)		

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	Brought Forward		686·95
	thin sandstone laminae, much		
Dip 33° at 687·20	microfaulted.	0·29	687·24
	Core in small fragments of		
	intensely sheared slickensided silty		
	mudstone, one ironstone fragment (nodule		
	5cms)	0·11	687·35
Dip 30° at 687·40	Silty mudstone, medium grey, intensely		
	slickensided; some thin ironstone layers;		
	to 687·45, harder, intensely slickensided		
	siltstone, with some ironstone nodules,		
Dip c.30° at 687·50	some rootlets scattered throughout to		
	688·00, Core broken from 687·60 to		
	688·00; core solid 688·00 to 688·41;		
	intensely slickensided siltstone with some		
Dip c. 45° at 688·10	rootlets, ironstone nodules to 688·27;		
	ironstone layer from 688·27 to 688·36.		
(688·27) 35° (688·36) 25° F	intensely slickensided siltstone to 688·41	1·06	688·41
	Gouge; mudstone sheared to		
	clay and mudstone fragments; general		
	"grain" of material dips about 48°;		
c. 40°	slickensided to 40° dipping contact with:-	0·22	688·63
	Siltstone, medium grey; intensely		
	slickensided; low dipping contact with:-	0·25	688·88
F	Gouge; compact, stiff clay composed		
	of intensely sheared mudstone debris,		
	no obvious "grain", to 689·03; c.25°		
	Junction with thin COALY dirt		
	film at 689·03, under which is intensely		
	sheared brown mudstone debris; may be		
	a seatearth, but too sheared to see if any		
	rootlets present; polished 35° contact with:-	0·29	689·17
Dip 35° at 689·20	Siltstone, medium grey; thin sandstone		
	laminae, some polished bedding planes;		
	(core solid with some polished breaks from		
	689·17 to 692·23); to 689·22, sandstone		
	bed to 689·27; hard siltstone, with thin		
	sandstone laminae, some ironstone, scattered		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		689.17
	plant debris, slickensided bedding planes, steeply dipping - up to 40° to 689.50, dip steepens to 50° below 689.50, to 690.00; Continues siltstone with parallel laminated thin sandstone laminae to 690.60; hard, slickensided siltstone with one or two thin ironstone layers, occasional thin sandstone laminae, steeply dipping to 691.00; parallel laminated siltstone with carbonaceous debris on some bedding planes from 691.00 to 691.05; slickensided siltstone with thin sandstone laminae, scattered plant debris (only some bedding planes are slickensided, and this ground is strong) to 691.25; slightly finer below 691.25:- coarse silty mudstone, or fine siltstone, with parallel sandstone laminae. C. kochi common 691.30 to 691.35; siltstone/silty mudst to 691.75; slickensided silty mudstone, dip lessened, some ironstone to 691.90; intensely slickensided silty mudstone with some ironstone, carbonaceous plant debris, some thin sandstone laminae to 692.05; harder, siltstone with thin sandstone laminae, carbonaceous debris on some bedding planes, slickensided bedding planes from 692.05 to 692.13		
Dip 40° at 690.00			
Dip 45° at 691.00			
Dip 32° at 691.30			
Dip 10° at 691.80			
Dip 5° at 692.13.	dips low; silty mudstone to 692.20;		
F	broken silty mudstone with ironstone, slickensided, disturbed, faulted against:-	3.05	692.22
	Mudstone, brown; sheared to debris; and gouge; dark carbonaceous shale debris and gouge below 692.25; flat lying 6°		
–	junction with:-	0.11	692.33
	Siltstone, medium grey; very disturbed, slickensided; thin sandstone		
Dip c. 20°	laminae to 692.36; ironstone laminae to 692.41		

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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/02

National Grid Reference

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		692.33
	intensely slickensided mudstone with ironstone to 692.52.	0.19	692.52
	Gouge; mudstone sheared to clay and debris, some coal dirt at top	0.03	692.55
	Broken, jumbled intensely slickensided silty mudstone fragments, some ironstone fragments.	0.19	692.74
	Core lost	0.30	693.04
	Mudstone, medium grey, core very broken, slickensided, some folded crumpled fragments, scattered plant debris, mudstone as above loss, but becoming smoother; some harder silty fragments; folded, crumpled fragments towards base	0.73	693.77
Dip 28° at 693.50	COAL; top dips at c 30°-35°. good, hard coal to 694.17; broken to 694.31	0.54	694.31
F	Seatearth: mudstone; completely crushed and sheared debris to 694.57	0.26	694.57
	Gouge; fault plane; "grain" or cleavage at c 55°-65°; some mudstone debris; c.8° contact with:	0.77	695.34
Dip 15° at 695.40	Mudstone; core solid to 695.80; polished bedding planes; ironstone layer from 695.36 to 695.40; medium grey, rather silty smoothish to 695.52, fining down and becoming smooth mudstone, medium to dark grey, some vague brown traces only; slickensided throughout;	0.53	695.87
Dip 22° at 695.60;	COAL; largely crushed; may be faulted contact with roof beds; some dirty, mudstone fragments; 0.62 recovered; timings indicate 1.20	1.20	697.07
	Seatearth: mudstone; medium grey soft to 697.22; silty mudstone slightly [illegible]		

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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		697.07
	hard core in large fragments to 697.36.	0.29	697.36
Dip c.30° at 697.50	Siltstone, medium grey, rootlets, slickensided; some ironstone: drilled intact but largely broken when removed from barrel:- intensely slickensided, fines down to silty mudstone below 698.00; scattered rootlets to 698.20;		
Dip 52° at 698.00	Dip lensens below 698.00: Core in polished		
Dip 35° at 698.20	discuits below 698.20 to 699.65: Silty mudstone,		
Dip 24° at 698.50	fining downwards, scattered plant debris, slickensided throughout, some thin ironstone layers, softer, fine mudstone with plant debris at 698.72; hard, slickensided siltstone, finely laminated, with plant debris, to 698.90; fine, smooth mudstone layer at 698.90; smoothish slickensided, finely laminated		
Dip 53° at 699.00	silty mudstone to 699.20; dip steepens below 699.20 in smoothish mudstones,		
Dip 35° at 699.20	medium grey, finely laminated,		
Dip 40° at 699.30	scattered plant debris; some thin ironstone layers; to 699.60;		
Dip 48° at 699.60	bedding plane with abundant ostracods at 699.60; smooth mudstone to 699.65;		
Dip 45° at 699.90	intensely sheared shaly debris, some crumpled fragments from 699.65 to 699.85; intensely sheared, steeply dipping, slickensided, slightly folded, mudstone with plant straps		
Dip c.20° at 699.95.	from 699.85 to 699.90; Dip lensens below 699.90; highly slickensided mudstone fragments to 699.98;	2.63	699.98
	Gouge; intensely deformed, crushed shale "cleavage" at about 50° dip at top, c.35° near base	0.34	700.32
Dip 73° at 700.32 to 701.00	Silty mudstone, very steeply dipping, thinly spaced polished bedding planes,		

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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		700.32
	c. 20 cms of sequence seen from 700.32 to 700.95; smooth mudstone below top few cms; abundant ostracods* at c 700.50; smooth mudstone in polished steeply dipping "wafers" to 701.00; [* apparently confined to one plane, may be a repeat of plane at 699.60?]		
Dip 60° at 701.40	dip lessens slightly in harder silty mudstone below c 701.00' to c.701.30; broken sheared debris to 701.50; debris consists of smooth mudstone with some plant debris; harder, silty mudstone below 701.50 intensely slickensided, steeply dipping, some flexuring, to 701.75; soft, crushed, crumpled mudstone to 701.85;		
Dip 47° at 701.85	harder, smoothish intensely slickensided mudstone to 702.00; soft, crushed mudstone to 702.14; harder silty mudstone with some thin sandstone laminae, plant		
Dip 40° at 702.20	fragments, to 702.25; crushed mudstone to 702.30; silty mudstone to 702.38;		
Dip 62° from 702.55 to 703.00	Dip steepens below 702.38, with some fairly tight folding; mudstone, with some plant debris; plant straps common to 703.00; less disturbed beds below 703.00,		
Dip 50° at 703.30	hard silty mudstone, with some ironstone layers, slickensided, polished bedding planes, some hatchetite at 703.40; some plant straps, harder towards 703.53;		
Dip 56° at 703.53	ironstone layer 703.53 to 703.70 (layer is actually 0.06 thick); broken, crushed mudstone debris and fragments to 703.94.	3.62	703.94
	Core lost. 0.51	0.51	704.45
	Mudstone; broken, steeply dipping, slickensided fragments of smoothish mudstone, some ironstone fragments.	0.25	704.70
	Mudstone, medium grey core		

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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		704.70
Dip 50° at 704.75	in large, steeply dipping, slickensided fragments; very disturbed ground; smooth, slightly silty mudstone scattered rootlets. Dip steepens to vertical at 705.00, core in long slickensided "wafers", one thin ironstone layer, one or two silty, herded layers; dip lessens to 50° at c 705.70		
Vertical beds from 705.00 to 705.70	hard, ferruginous bed (with rootlets) from 705.70 to 705.80; softer, crushed fragments to 705.85. Brown, slickensided fragments only to about 705.90; jumbled COAL and slickensided mudstone fragments to 706.16;	1.46	706.16
	COAL. 0.53m of broken fragments recovered; timings indicate 0.90 Coal to 707.06	0.90	707.06
	~~Seatearth~~: mudstone; highly disturbed, slickensided, core largely in fragments; 0.25m of this material, which does not look much different from material in COAL roof (few rootlets); dips steep, up to vertical; also there is a slight hint in the core fragments recovered, of folding;	c. 0.25.	707.31
?? ?F →	Seatearth: silty mudstone; ground is now good, strong, undisturbed from here down, with dips flattened again; strong silty Seatearth, with many irregular ironstone nodules passes into:	1.79	709.10
Dip 1° at 709.85	Silty mudstone, medium grey, scattered rootlets; ironstone layer from 709.44 to 709.57; fines downwards; ironstone layer 709.83 to 709.85; smooth mudstone, some rootlets scattered throughout to 710.05; faint [illegible]		

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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		709.11
Dip 0° at 710.21	at 710.05' smooth silty mudstone to 710.17; ironstone layer to 710.20. smooth slightly silty mudstone, some worm markings to 710.42; 2 solid mussels at 710.42. one or two solid mussels to 710.45' mussel, ostracod at 710.45. smooth, dark mudstone layer at 710.47; some pyrite nodules at 710.48; smooth, medium to dark grey mudstone, one or two thin ironstone layers with ? P. montanus to 710.57; basal 0.09m. left undisturbed.	1.56	710.66
	COAL; slight discrepancy here; timings suggest core starts at c 710.96; Good, solid section of COAL:-		
	COAL	0.29	
	Parting	0.03	
	COAL	0.26	
	Parting	0.06	
	COAL, broken at base	0.38	711.68
	Seatearth: dark grey carbonaceous shale with coal fulms	0.19	711.87
Dip c 1° at 713.00	Silty mudstone, medium grey; with rootlets to 712.15; hard siltstone with rootlets to 713.15; slickensided silty mudstone with rootlets from 713.15 to 713.20; ironstone layer from 713.20 to 713.35; silty mudstone, with scattered rootlets, some slickensides to 713.54;		
Dip 6° at 713.70	ironstone layers to 713.67; silty mudstone, becoming finer, with scattered plant debris to 713.97; smoothish silty mudstone with coalified wood debris and plant debris 713.97; smooth mudstone with plant debris including neuropterid impressions, one or two thin ironstone layers, some very 'planty'		

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Name and Number of Shaft or Borehole : Mary in Borehole N°5

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

National Grid Reference

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		711.87
	bedding planes with carbified		
	streaks to 714.13; harder silty mudstone		
	with plant debris to 714.28; smooth,		
	fine mudstone with scattered plant		
	debris, one or two thin ironstone layers,		
	some 'worm' markings, some polished		
	bedding planes to 714.55; harder smoothish		
	silty mudstone with some thin ironstone		
	layers to 714.75; smooth mudstone		
	below 714.75; ?estheria at 714.80,		
	some scattered plant fragments,		
	slickensides; ?shell mussel at 714.85,		
	solid ironstone preserved mussel and		
	mussel fragment at 714.88; 'planty'		
D-P 5°-7° at 714.90	layer at 714.89; ostracods at		
	714.90; polished bedding planes		
	to 714.95; smooth mudstone with		
	some thin ironstone layers, some 'planty'		
	layers and many ostracods from		
	714.95 to 715.03; mudstone with		
	much plant debris, some carbified		
	slickensides to 715.10; very 'planty',		
	slickensided mudstone, 'loose ground',		
	much carbified wood debris, makes		
	rock shaly from 715.10 to 715.20;		
	very slickensided 'planty' coaly		
sh	shale from 715.20 to 715.40; broken,		
	crumpled slickensided mudstone at		
	715.40; to 715.47; slickensided shaly		
	mudstone, some crumpling, much		
	plant debris to 715.53; firmer mudstone		
	with much plant debris, some ironstone		
	nodules, some slickensides, slightly		
	folded in parts to 715.71	3.84	715.71
	Striped beds: cross laminated		
	silty micaceous mudstone and fine grained		
	sandstone layers	0.29	716.00

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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		716.00
	Siltstone, medium grey, some thin sandstone laminae, micaceous, some plant fragments, C. koeni at 716.00; Core cut by slickensided shear surfaces with calcite to 716.12; ironstone nodule 716.34 to 714.46; strong grain below 714.46 in micaceous siltstone with scattered plant fragments, occasional thin sandstone lamina; passes into silty mudstone at 716.50; C. koeni at 716.52; silty mudstone to 717.63; siltstone with plant stems 717.63 to 717.78; dip steepens below 717.78 and beds slightly folded in slickensided silty mudstone; dip flattens out below 718.00 in slickensided silty mudstone with scattered plant fragments to 718.10; rather broken below 718.10 fractured, slickensided silty mudstone to 718.25; dip straightens below 718.25; ironstone layer to 718.27 very slickensided, fractured silty mudstone, dip up to 70°, fine ironstone from 718.27 to 718.65; core in small jumbled fragments from 718.65 to 719.00; one core fragment at 718.70 shows overturning all the fragments are of intensely slickensided, crumpled, disturbed medium grey silty mudstone; some fine sandstone seams with plant remains; Sand core piece from 719.00 to 719.07 of flexured ironstone layer;		
Dip 40° at 717.50			
Dip 33° at 718.27			
	End of core at 719.07m.		
	End of Borehole 719.17m.		

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BGS ID: 372610 : BGS Reference: SS88NE34
British National Grid (27700) : 286505,185962

FORM P 70
SERIES 680

Section of MARGAM BOREHOLE NO. 11
(Craig Fadoc)

Purpose To prove the succession to the Carw

Exact Site N.G.R. E. 286504.502
N.185961.995

Level at which bore commenced relative to O.D. 10653.35 ft*

Date of sinking or boring July/August 1977

Sinker or borer KENTINGS

6-INCH MAP	B/H REGD. No.
SS 88 NE (County, Sheet and Qtr.)	34
(Nat. Grid, Sheet & Qtr.)	

Attach tracing from a map or sketch map if possible

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA		THICKNESS Metres	cm.	DEPTH Metres	cm.
	OPEN HOLED TO 501 m.					
	Casing shoe at 42 m.					
From BPB Logs	NO. 1 RHONDDA	COAL	1	00	165	60
	NO.2 RHONDDA/WERNPISTYLL Horizon	from			318	00
		to			342	00
	~~NO.3 RHONDDA COBS (solid Pillar)~~				~~435~~	~~50~~
	~~BASE OF LLYNFI ROCK~~				~~487~~	~~00~~
	CORED FROM 501-m					

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British Geological Survey

BGS ID: 372610 : BGS Reference: SS88NE34
British National Grid (27700) : 286505,185962

FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NE	34

Section of MARGAM BOREHOLE NO.11

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	CORED FROM			501	00
	Mudstone, silty, grey, scattered thin iron-stone bands, vague worm trails to 501.30 m.; mineralised vertical joint 501.20 to 501.40m.; partings packed with comminuted plant debris from 501.70m.; vertical joint 501.80 to 502.40m., shearing at 502.30m., bands of slightly silty mudstone from 502.00m.			502	40
Dip 11° @ 502.50m	Mudstone, slightly silty, grey, wormy; ?Planolites Sp., faint mussel at 502.40m.; shearing at 502.50 m., coal bands below to base; polished surfaces from 502.50 m. to base			502	60
	Seatearth, muddy, grey/brown, roots, packed with polished partings			502	90
	COAL, fragments		04		
	Dirt - rashy grey/brown mudstone		06		
	COAL, 16 cm. stick		16		
	Dirt, dark grey planty mudstone		04		
	COAL, 10 cm. fragments		10	503	30
	Seatearth, dark grey, muddy, packed with roots rashy, grey/brown, badly sheared at 503.45m.			504	00
	COAL, fragments		05		
	COAL, stick		07		
	COAL/dirt bands		03		
	COAL, stick		09	504	24
	Seatearth, muddy, grey/brown with roots; packed with polished partings in top, becoming grey and finer at 504.40m. with occasional listric surface; irregular iron masses from 504.60m., becoming dark grey at 504.80m.; grey, silty from 505.00m.; packed with irregular iron masses; siltstone seatearth from 506.00m.			506	80
	Siltstone, grey, with scattered plant debris; occasional root, fairly massive, faint sandy wisps; sub-vertical joint at 508.50m. to 508.70m., rapidly changes to (in solid core)			508	80
	Mudstone, silty, dark grey shearing at 508.90 mudstone, grey, below, becoming darker grey again with bands of smooth mudstone; steep joints. 30 cm. CORE LOST @ 509.28m. Silt-stone, grey with bands of light grey sandstone ripple bedded; lens of coal at 508.40m.; closely spaced sandstone laminations 508.80m. to 510.30m.; massive and coarse below to 510.50m.			510	50
Dip 13° @ 510.60m.	Mudstone, grey, very silty, rare plant debris, faint sandstone lamina-tions, 30 cm. ferruginous band at 510.80m.			511	20
				.../	

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FORM P 71
SERIES 680

Section of MARGAM BOREHOLE NO.11

6-INCH MAP	B/H
SS 88 NE	34

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			511	20
	Striped beds below, closely interbanded sandstone/silty mudstone, occasional thick sandstone band			511	90
	Mudstone, very silty, grey with closely spaced sandstone laminations to 512.80m. and scattered below; siltstone from 512.80m. to 513.10m., becoming mudstone, silty from 513.50 closely spaced sandstone laminations from 514.70 to 515.10m., more below with very silty mudstone, some partings packed with plant debris; steep mineralised parting @ 515.50m becoming darker grey at 515.80m., thick ironstone band @ 516.00m.; Ostracods from 516.10m. and shell fragments; vertical joint @ 516.10 mussels from 516.12 m., large mussels @ 516.15 m., very shiny crushed mussels at 516.20m.; siltstone, massive from 516.30m., very micaceous to 516.55m., packed with large mussels in base and Ostracods Siltstone again from 516.70m. to 516.80m. with scattered mussel; Ostracods @ 516.90m., small Lingula at 517.00m.; packed with mussels @ 517.05 m.; large Lingulae @ 517.10 occasional small pyrite mass from 517.20m., massive, mudstone - medium grey; small Lingula @ 517.30 Brachiopods? at 517.35m.; vertical joint with pyrite film from 517.40 to 518.20m., with core fragments below to 518.40m.; Brachiopods at 518.00m., ironstone band at 518.10m., Lingula @ 518.40m.; numerous pyrite blebs to 518.60m.; fish scale at 518.60m., becoming less massive, small Lingulae at 518.80m.; occasional thick ironstone bands; vertical joint 519 m. to 519.40m.; ?species of Pectin @ 518.85m., Lingula @ 518.90m.; Brachiopods @ 519.00m.; sheared and slickensided at 519.30m. with broken ground; occasional large pyrite masses/lenses from 519.50m. 10 cm. ironstone mass @ 520.00m., becoming slightly silty, faintly wormy from 520.20m., worm trails; thin colour banding to core, broken with veining at 521.30m., faint Planolites Sp., silty/ from 522.00m., shell fragments @ 522.10m., slightly silty, wormy again from 522.20m., large irregular pyrite masses from 522.30m.; Planolites Sp. at 523.00m., occasional thin ironstone			...../	

None

Dip 11° @ 516.15m.

START OF MARINE PHASE

UPPER CWM GORS MARINE BAND

Dip 11° @ 519 m.

Dip 9° @ 523.00m.

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FORM P 71
SERIES 680

Section of MARGAM BOREHOLE NO.11

6-INCH MAP	B/H
SS 88 NE	34

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			511	90
	band, small Lingula @ 524.20 m.; large Planolites Sp. at 524.25 m.; no longer wormy; packed with pyrite blebs at 524.50m., dark grey and silty from 524.50m.; fish scale at 524.52 m.; sub-vertical joint at 524.70m. to 524.90m. and from 524.90m. to 525.20m. with some irregular veining; small Lingula at 524.90m., becoming dark grey/ carbonaceous and slightly silty at 525.00m. to 525.10m.; medium to dark grey below; large Lingula at 525.30m.; Orbiculoidea at 525.35m., some irregular calcite veining; Lingula perpendicular to bedding @ 525.40m.; occasional polished parting from 525.50m., bra chiopod at 525.60m., becoming dark grey and slightly silty from 525.50m., sheared with rashes at 525.70m.			525	70
END OF MARINE PHASE	Mudstone, slightly silty, medium grey with large pyrite blebs and lenses, very wormy, packed with G.carbonaria Some mineralisation in top 5 cm. Thin ironstone band with associated shearing at 526.40m. with vertical joint below; becoming darker and smooth at 526.70m.; thin ironstone band at 526.75m.; sheared to base with rashes			526	85
Dip 8° @ 526.00m.	Mudstone, silty, grey, worm trails in top; occasional thick ironstone band; strong, very silty in top 50 cm.; colour banded with muddy bands 528.30 to 528.60m.; occasional worm trail below; vertical joint with movement (slickensided) at 529.10 to 529.50m.; steep slickensided parting at 529.50m., becoming slightly silty with partings packed with G. carbonaria; rapidly becoming dark grey smooth in base. Core fragments only in basla 10 cm. including a few coal fragments			529	90
	~~Mudstone, grey, packed with plant debris, core coalified, a few roots. Coalified streaks in top; 1.90m. core missing at 532.41m. (Core slipped out of core barrel some core redrilled); mudstone, dark grey with coal streaks and coalified plant debris, Ostracods, packed with coalified plant debris below~~			532	90
Dip 9° @ 532.50m.	~~Seatearth, muddy, grey with roots, becoming silty with sandstone laminations~~			533	50
				.../	

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FORM P 71
SERIES 680

*Section of MARGAM BOREHOLE NO.11

6-INCH MAP	B/H
SS 88 NE	34
	6

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			533	50
	Mudstone, very silty, grey with sandstone laminations, bands and occasional roots; rare sandstone laminations from 534.00m., occasional ironstone band, becoming silty still with rootlets, vaguely wormy;				
Dip 11° @ 535.80m.	vertical joint 535.90 to 536.30m. and from 536.40 to 537.00m.			536	00
	Siltstone, grey with light grey sandstone laminations and thin bands, micaceous			536	30
	Mudstone, silty, medium grey, finely micaceous; unfossiliferous, vertical joint 537.10m. to 537.90m. with horizontal slickensiding; occasional sandstone laminations from 538.00m. to 538.50m. Muddy bands giving colour banding to core; occasional ironstone band. "Thick" G. carbonaria at 538.70m. in ironstone; sub-vertical joint 539.00m. to 539.30m.; scattered plant debris Seed pod? at 539.50m.; locally				
Dip 12° @ 540.00m.	slightly silty to 541.00m. and wormy; subvertical joint at 542.00, thin sandstone bands at 542.20m., locally slightly silty from 542.20;				
	sub-vertical joint 542.60 to 543m.			543	50
Dip 11° @ 543.90m.	vertical joint 543.00m. to (base); Mudstone, grey, wormy, occasional thin ironstone band, faint G.carbonaria, some coalified plant debris, steep polished surfaces from 544.90m. to base, becoming darker grey, polished contact onto			544	11
HAFOD	COAL, stick, some shearing, 68cm. recovered		68	544	79
	Seatearth, muddy, dark grey, packed with polished surfaces, becoming light brown at 545 m.; vertical joint at 545.10m. with pyrite film; pyrite film on roots, becoming sandy/medium grey at 545.30m., large ironstone nodules at 545.50m, patches of sandy seatearth from 545.50m.			546	00
	Siltstone, grey, massive, scarce roots, locally sandy at 546.80m., becoming mudstone, silty, packed with plant debris and roots; some are coalified			547	10
	Seatearth, sandy with roots, becoming grey/brown, coarse grained, light grey, silty at 547.25m. with coarse grained, light grey sandy layers, scattered sphaerosiderite, large ironstone nodules at 547.50m.			547	80
	Sandstone, grey, scattered roots, massive with bands of silty material, hard and quartzitic with no roots from 548.30m.			548	60
				.../	

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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NE	34

Section of MARGAM BOREHOLE NO.11

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			548	60
	Mudstone, silty, grey, still massive, sphaerosiderite from 549 m. in very silty mudstone			549	50
	Sandstone, grey, quartzitic, massive, steep polished surface at 549.60m.			549	80
	Siltstone, grey, massive, unfossiliferous. Vertical joint 550.90m. to base, very silty mudstone in basal 50 cm. Sharp base			550	50
"HAFOD" SANDSTONE	Sandstone, coarse grained (top 20 cm. is grit) pale white large quartz grains in light matrix, feldspathic? some green chloritised grains, coaly "smuts" at 551.00m., 10 cm. of grit at 551.80m. with "rosy" quartz large feldspars, coal grains, 15 cm. of coaly wisps at 553.10m., grit below to 553.60m.; wavy sutured contact at 553.80m., sandstone below is medium grained with dark laminations. Vertical quartz filled joint 553.75m. to 554.00m.; becoming coarse grained with 10 cm. of grit in base, sharp contact	4	60	555	10
Dip 9° @ 555.20m.	Mudstone, silty, grey, wormy, occasional ironstone band; vertical joint from the top, slightly silty from 555.60m., steep shear at 555.50m.; faint Planolites Sp. at 556.70m. to 557.20m., vertical joint at 557.00m.; faint worm trails from 557.30m.; polished bedding planes at 557.80m.; thick irregular ironstone band at 557.90m.			557	95
Dip low in Core fragments	Mudstone, very silty, grey with light grey sandstone laminations; 10 cm. sandstone band at 558.00m., steep foreset bedding below, sandstone laminations end at 558.10m. 3.00m. Core lost to 561.10m., core fragments only 561.10m. to 561.50m. (some re-drilled fragments); no sandstone laminations plant straps; sandstone laminations and thin bands again from 561.50m., becoming siltstone			562	20
Dip 10° @ 561.60m.	Sandstone, light grey, quartzitic, fine to medium grained with thick silty bands and wisps and occasional ironstone band			562	80
	Siltstone, sandy, grey, massive, to 563 m.; light grey sandstone laminations and bands below; slumped bedding 563.10 to 563.20m., predominantly light grey sandstone below with silty bands to 564 m., some striped bedding to 564.20m.			564	20
				.../	

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6-INCH MAP	B/H
SS 88 NE	34
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Section of MARGAM BOREHOLE NO.11

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA *	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			564	20
	Sandstone, light grey, quartzitic, fine to medium grained, silty bands/ wisps to 565 m., fairly massive below; vertical quartz filled vein 565.60 to 565.80m., coaly streaks at 565.80m., becoming wispy bedded, coal threads and carbonaceous partings from 566.20 sporadically to 568 m.; vertical joint 567.00 to 568.10m.; silty laminations and bands below with regular ironstone bands (every 10 cm.), 10 cm. slumped bedding at 568.70m., becoming striped in the base	4	80	569	00
Dip 9° @ 569.60m.	Mudstone, silty, grey, scattered plant debris, rare sandy laminations; comminuted plant debris fairly common; closely spaced sandy laminations 570.20m. to 570.50m.; thick sandy bands from 572.00m. to 573.00m.; closely spaced; rare plant debris below 573.00m., becoming slightly less silty below 573 m.; steep mineralised vein 573 m. to 574.10m., ironstone bands from 574.70m.; no sandy laminations below 574.70m.; sub-vertical joint 575 m. to 575.20m., open. Scattered plant debris, becoming more common below 575 m., becoming vaguely wormy; steep slickensided parting 576.30m.; worm trails at 576.60m., ironstone lenses from 576.80m.; mussel fragment 576.70m.; P.ophthalmoides from 576.70m.	7	80	576	80
	~~Mudstone, slightly silty, P.ophthalmoides common; G.carbonaria and C.kochi common, scattered plant debris; ironstone nodules throughout; pyrite blebs from 577.10m.; pyrite and ironstone nodules from 577.10m.; P. ophthalmoides becoming very common; P. montanus at 577.30m., Estheria fairly common~~		70	~~577~~	~~50~~
LOWER CWM GORS MARINE BAND HORIZON	~~Mudstone, silty, faint sandy laminae; occasional worm trails; Estheria scattered throughout; faint G. carbonaria from 578.50m.~~	1	00	~~578~~	~~50~~
Dip 8° @ 579.90m.	~~Mudstone, slightly silty, grey; occasional thin ironstone bands and lenses; large coalified plant debris at 578.60m.; small ironstone blebs at 578.80m.; pyrite blebs at 579 m.; mussel fragment @ 579.20m. Steep open joint at 579.70m., becoming darker grey; coaly plant debris @ 580.65 m.; carbonaceous with thin coal bands and pyrites from 580.72 m.~~			~~580~~	~~75~~
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			580	75
	COAL, fragments		40	581	15
	Seatearth, muddy, soft, numerous roots; listric surfaces fairly common, dark grey, small ironstone nodules			582	20
	Mudstone, dark, very carbonaceous/ canneloid, very smooth, listric surfaces, pyrite common; 10 cm. ironstone blackband at 582.60m.; ironstone/ coal mixture			582	73
	COAL, stick		12	582	85
	Seatearth, silty, large roots, hard		40	583	25
	Mudstone, carbonaceous with thin coal bands packed with plant debris; abundant pyrite, very friable		20	583	45
	Seatearth, sandy, roots common, large well preserved plants		70	584	15
	Sandstone, cross-bedded, quartzitic, medium grained, coaly grains in matrix. Very small ironstone pellets; occasional carbonaceous laminations, packed with plant debris	1	35	585	50
	Mudstone, silty, grey, occasional partings packed with plant debris; fairly massive; sharp, listricated, clayey contact		50	586	00
Dip 8° @ 586.50m.	Mudstone, slightly silty, packed with polished partings in top 20 cm.; occasional roots, faint worm trails; thin ironstone bands; occasional siltier bands packed with large plant fragments; occasional partings packed with comminuted plant debris		70	586	70
Dip 8° @ 590.00m.	Mudstone, silty, occasional laminae/lenses of sandstone, fairly massive; large coaly plant at 587.50m., sandstone laminations common from 587.70m.; partings of plant debris very common; bedding more strongly developed below 590.00m., bedding break fairly consistent	4	55	591	25
	Mudstone, slightly silty, grey, well bedded; laminations of silty mudstone throughout, faint worm trails common; planty partings common; G. carbonaria from 591.70m.	1	55	592	80
Dip 7° @ 593.80m.	Mudstone, silty, grey, fairly well bedded, tough; partings of plant debris common; sandy laminations common below 593.00m.; small pellets of sandstone very common, giving a pimply appearance, sandy phase dying out at 595.20m.	2	55	595	35
	Mudstone, slightly silty, grey, well bedded; thin ironstone bands common throughout; occasional coaly plants; large worm trails common		95	596	30
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6-INCH MAP	B/H
SS 88 NE	34
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Section of MARGAM BOREHOLE NO.11

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			596	30
	Mudstone, smooth grey, well bedded, blocky, very wormy; thin ironstone bands throughout; polished partings very common, and closely spaced from 596.50m. to 597.30m.; Planolites sp. common from 597.00m.				
Dip 8° @ 596.50m.	Open joint 65° at 597.30m.	1	20	597	50
	Mudstone, smooth, carbonaceous, very dark grey, very well bedded, blocky; ground broken and listricated from 597.30 to 598.15m.; pyrite very				
BROKEN GROUND	common in this broken ground; occasional pyrite nodules below		65	598	19
	COAL, geolograph suggests 20 cm. Recovery amounts to 5 cm. crushed mudstone with coal fragments		20	598	39
	Seatearth, silty, hard; roots fairly common		10	598	49
	Mudstone, very silty, grey, fairly well bedded, very strong; long plant straps common, some coaly		41	598	90
	Siltstone, quartzitic, massive, very strong; occasional long plant straps clearly preserved		35	599	25
	Sandstone, very quartzitic, almost a pure quartzite; fine grained, cross-bedded, thin wisps of darker silty material fairly common throughout; small grains of pyrite fairly common in matrix; open joint 45° at 600.20m.; silty laminations becoming increasingly important in bottom 20 cm. as the sandstone passes into	1	75	601	00
	Mudstone, silty, grey, massive; partings of plant debris very common throughout; occasional wisps of light grey sandstone throughout;				
Dip 5° @ 601.90m. WASHOUT	tough, sandstone laminations become very common in bottom 20 cm.	1	75	602	75
	Seatearth, silty, very tough, large roots very common; some coaly plants with associated pyrite; open joint 45° at 602.95m.; open joint in opposite direction, 65°, 603.15m.; ironstone nodules common throughout; listricated surfaces, 70° at 10 cm. intervals 603.30m. to 603.80 m.; lowest plane at 603.80m				
FAULT	has 5 cm. of crushed ground below	1	05	603	80
	Seatearth, mudstone, weak, large roots common, some coaly plants; occasional Stigmaria; open joint 60° at 604.50m.; bottom 10 cm. highly listricated	1	25	605	05
	COAL, stick recovery, pyrite common		25	605	30
	Seatearth, mudstone, roots common, small fault 65° at 605.90m.; ironstone band 606.10m. to 606.35m.	1	35	606	65
	COAL, badly broken		35	607	00
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6-INCH MAP	B/H
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Section of MARGAM BOREHOLE NO.11

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			607	00
	Seatearth, mudstone, highly sheared		10	607	10
	Mudstone, smooth, grey, well bedded and blocky; worm trails common; ironstone bands throughout, broken		34	607	54
	COAL, stick recovery, pyritic		49	608	03
	Seatearth, mudstone, listricated, weak; becomes firm at 608.80m. Open joint 80° at 609.20m.; seatearth becoming silty and strong at 610.15 m.	2	22	610	25
	Sandstone, quartzitic, massive, fine to medium grained; ironstone nodules throughout, occasional roots; very erosive base with load casting		90	611	15
	Sandstone, quartzitic, ripple bedded, laminations and bands of darker silty mudstone common throughout; plant debris abundant in silty bands; closed mineralised joint 70° at				
Dip 6° @ 612.10m.	611.30m.	1	85	613	00
	Mudstone, silty, massive; ground smashed and recemented from 613.05m.; fault dipping 80° at 613.25m.,				
FAULT	fault gouge - silty mudstone in a quartz and pyrite matrix; 35 cm. thick; sandstone bands and lenses fairly common to 613.75m.; steeply inclined listricated planes to 613.80m., often infilled with pyrite; ground below fault is still silty mudstone; scattered plant debris; open joint 70° at 616.00m.; open joint 70° at 617 m., closed mineralised joints at 617.15m. and 617.25m.; becoming slightly less silty below 618 m.;				
BROKEN GROUND	ground badly broken and sheared from 618.80m.; fault gouge from 619.10m. to 620.80m. - broken				
FAULT	silty mudstone recemented; silty mudstone continues below fault; occasional partings packed with				
Dip 10° @ 621 m.	comminuted plant debris; open joint 60° at 622.05m.; closed joint vertical 622 m. to 622.45m. Mudstone becoming less silty below				
	622.55m.	9	85	622	85
Dip 9° @ 623.10m.	Mudstone, slightly silty, grey. Well-bedded but very strong; occasional thin clay ironstone bands, P. ophthalmoides common from 623.15m.; G. carbonaria common from 623.25m. Closed joint 45° at 623.05m.;				
	30 cm. rubbed away at 624.84m.	2	05	624	90
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6-INCH MAP	B/H
SS88 NE	34

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			624	90
	Mudstone, smooth, grey, well bedded, blocky; thin clay ironstone bands very common throughout; P.ophthalmoides and G. carbonaria very common; large coaly plant at 625.10 m. Open joint 55° at 625.70m., 2 cm. broken ground associated with joint; Ostracods common from				
BROKEN GROUND	626.35m., Foraminifera at 626.40m. Broken and listricated from 626.50m.				
FORAMINIFERA MARINE BAND	Small coarsely ribbed steel fragments (Brachiopods) at 626.90m. bottom 2 cm shaly and broken	2	10	627	00
PENTRE RIDER	COAL, large fragments; geolograph suggests 60 cm.; 46cm. recovered		60	627	60
	Seatearth mudstone, fairly strong; roots abundant; sheared from 628.40m.; weak from 629.00m., very friable and crumbly 629.50m. to 629.90m.; sphaerosiderite 630.00m. to 630.25m. becoming silty and hard from 631.30	3	95	631	55
	Mudstone, silty, grey, massive; sandstone laminations and thin sandstone bands common throughout; thin band of sphaerosiderite at 632.45m.		95	632	50
	~~Seatearth, mudstone; large plants common including Calamites; occasional roots, Stigmaria scattered throughout; weak, becoming weaker and more friable downwards; open joint 45° at 633.00m.; highly listricated 633.00m. to 634.35m.; becoming silty and strong below 634.35m. Open joint 60° at 634.80m.; open~~				
SHEARED GROUND	~~joint 65° at 635.15 m.; ground badly sheared 635.45m. to 635.75m.~~	3	25	635	75
Dip 10° @ 636 m.	~~Mudstone, slightly silty, grey, well bedded; large plants very common, including Calamites and Equisitites; some plants are coaly; mudstone is almost carbonaceous due to plant density~~		75	636	50
	~~Seatearth, mudstone, firm, roots common, many are coaly~~		75	637	25
	~~Mudstone, carbonaceous, fissile, packed with large plants, most of which are coaly; thin coal bands present throughout; sequence ends on a 2 cm. coal band~~	1	49	638	74
	~~Seatearth, mudstone, listricated, weak; contains thin coal bands from 639.15m. to 639.50m.; open joint 45° at 639.65m.; becoming slightly silty and strong at 640.60m.; steeply inclined slickensided planes to 641.70m.; sphaerosiderite from 641.20m. to 641.45m.~~	2	96	641	70
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6-INCH MAP	B/H
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			641	70
	Mudstone, silty, grey, massive, steeply inclined slickensided planes continue to 642.30; plant debris common; becoming less silty downwards; thin ironstone band at 643.20m. Open joint 60° at 643.30m.	1	60	643	30
	Mudstone, slightly silty, grey		18	643	48
	COAL, broken small		18	643	66
	Seatearth, mudstone, soft, friable and very weak; becomes firm at 644.30m.; becomes silty and hard at 645.00m.; small bodies of sphaerosiderite common below 645.45m.; open joint 65° at 645.65m.; open joint 65° in opposite direction at 646.00m. Millerite (fibrous pyrite) on joint face. Open joint 30° at 646.70m.	3	19	646	85
	Mudstone, silty, grey, massive, scattered roots, sharp boundary at base		35	647	20
Dip 6° @ 648 m.	Mudstone, smooth, grey, very tough; open joint 45° at 647.80m.; plant debris rare; occasional large plants; slickensides 648.20m. to 648.30m.; ironstone band 648.30m. to 648.55m. with coal inclusions 13 cm. down	1	70	648	90
	Mudstone, silty, grey, massive; occasional large coaly plants	1	65	650	55
	Sandstone, quartzitic, light grey; medium to fine grained, massive, ripple bedded laminations of darker grey, silty mudstone throughout, packed with plant debris; occasional ironstone nodules; closed joint 70° at 651 m. Sharp erosive boundary at base	1	15	651	70
	~~Mudstone, slightly silty, grey, fairly well bedded; superbly preserved fronds at 651.85m.~~		30	652	00
SHEARED GROUND	~~Mudstone, smooth, grey, large plants common; highly sheared, soft and friable~~		50	652	50
LOWER PENTRE	~~COAL badly broken~~		50	653	00
	~~Mudstone, carbonaceous, stick~~ [Tonteg band]		05	653	05
	~~COAL, badly broken~~		10	653	15
	~~Seatearth, mudstone, sheared, friable, weak. Grey/brown rashes from 653.00m. to 654.50m.; silty seatearth in base~~			654	60
	~~Mudstone, silty, grey with roots and large plant debris; irregular polished partings throughout, locally muddy, sheared at 655.00m.; thick ironstone mass at 655.80m. with irregular polished vertical surfaces; thick ironstone band with associated broken/sheared ground at 656.60m. Sandstone laminations below and ironstone, roots; 20 cm. light grey sandstone band at 657.20m., mudstone very silty below with few polished surfaces; sheared at 658.00m.~~			...	

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6-INCH MAP	B/H
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			654	60
Dip 3° @ 658.20m.	Mudstone, silty below, packed with polished bedding planes, no sandstone laminations, occasional ironstone band, becoming slightly silty from 658.50m. and darker grey				
				659	20
	Structural rashes, grey/brown, soft and friable, occasional ironstone lens			660	00
	COAL, a few cm. pulverised coal, fragments on timings		30	660	30
	Seatearth, brown/grey with coalified roots; muddy, becoming hard and silty at 660.80m., grey with ironstone nodules from 661.00m.; thin sandstone laminations, sandy band at 661.50m.			661	80
	Siltstone, grey with sandstone laminations, occasional roots and plant debris, Stigmaria in top 20 cm.			663	50
Dip 6° @ 663.70m.	Mudstone, very silty with muddy bands, sandstone laminations; occasional thin ironstone band, scattered roots; only silty from 664.50m., scattered plant debris, no roots, some comminuted plant debris, sandstone laminations again from 665.00m.			665	70
	Sandstone, light grey, fine to medium grained, quartzitic, wispy bedded, vertical joint from top to 666.20m. and vertical quartz filled veins, 15 cm. silty band at 666.50m.			666	70
Dip 5° @ 667 m.	~~Mudstone, silty, grey, faint sandstone laminations, occasional thin ironstone band, wormy (some C. carbonaria) mussel fragment at 667.50m.~~			~~667~~	~~50~~
	~~Mudstone, dark grey, smooth, packed with polished surfaces to base; Ostracode, ghost and solid mussel silty in basal 5 cm.~~			~~667~~	~~70~~
	~~COAL, 25 cm. stick 15 cm. fragments~~		~~40~~	~~668~~	~~10~~
	~~Seatearth, grey, silty, roots, sandstone laminations and bands, ironstone nodules~~			~~669~~	~~20~~
	~~Sandstone, light grey, quartzitic, fine to medium grained, irregular vertical quartz veining, massive to 670.30m., faint carbonaceous wisps below; vertical joint 670.50 to base~~			~~670~~	~~80~~
Dip 10° @ 671.50m.	~~Mudstone, silty, medium grey, occasional ironstone band, sheared and broken in top 30 cm. with some rashes between steep shear planes, vague worm markings in top (Planolites sp.-like markings), becoming packed with plant debris with occasional faint sandstone~~			~~...~~	

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			670	80
	laminations, locally steep dips in core fragments only 671.80 to 671.90m.; mudstone, very silty from 672.20 with rare plant debris in unbroken core, 10 cm. sandstone band at 672.30m.; silty again below with vague worm trails locally, rare sandstone laminations; sub-vertical joint				
Dip 8° @ 673 m.	at 673.80m., mussel at 674.00m, worm trails, occasional thin ironstone bands, occasional very silty band with sandstone laminations, packed with plant debris Sandstone laminations from 674.50 to 675.50m., pyrite crystals at 675.10m.; ironstone nodules and lenses to 675.50m., vague Planolites sp. from 675.50m., becoming				
Dip 7° @ 677 m.	darker grey from 678.00m.,?Fish scales at 678.30m.			678	40
COAL?	on timings core lost 20 to 30 cm.		30?	678	70
Seatearth,	grey to light grey, very silty, roots and scattered plant debris, locally muddy from 679.80m., steep joint at 680m. to 680.20m. very silty below to base			681	00
Mudstone,	very silty, medium grey with occasional roots, packed with coalified plant debris from 681.60m. to 682.00m. with occasional sandstone laminations; scattered plant debris below, becoming silty only from 682.00m., micaceous, grey, becoming packed with plant debris including leaf impressions; colour banding to core with dark muddy bands, occasional thin ironstone bands and nodules, packed with coalified plant debris at 683.80m. with occasional steep polished parting, some slickensiding			684	00
Dip 32° @ 685 m.	~~Mudstone, very silty, medium grey, only scattered plant debris, massive, light grey sandstone bands from 684.50m., steepening up to base, becoming packed with plant debris~~			685	20
	~~Core fragments only from 685.20m. to base with approx. 30 cm. lost core~~				
	~~Rashes, dark brown/black, some fragments of seatearth~~				
	~~3 cm. COAL fragments at 685.55m.~~				
	~~Rashes below, dark grey, locally dark brown, muddy, some fragments with coalified plant debris~~			687	80
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			687	80
Dip 6° @ 689.20m.	Mudstone, very silty, grey with plant debris and roots, scattered sandstone laminations, packed with sandstone laminations from 688.20 to 688.40m., 10 cm. wispy bedded sandstone at 689.00m., only silty below, closely spaced sandstone laminations with occasional sandstone band and slumped bedding 689.50m. to 690.00m., only rare sandstone laminations below, 20 cm. thick ironstone band at 690.80m.			691	00
Dip 4° @ 693.30m.	Mudstone, slightly silty, dark grey, worm trails, rare leaf impressions, polished bedding planes in top 30 cm., closely sheared in basal 10 cm.			693	40
	Sandstone, light grey, fine grained, wispy bedded with irregular quartz veining, broken with steep quartz veins from 694.00m. to base			694	80
	Mudstone, silty, medium grey to dark grey with occasional light grey sandy laminations, micaceous, fish scale at 695.00m. (shell like ?Lingula at 695 m., several shell fragments to 695.20m. and other rare shell debris; 20 cm. sandstone band at 695.20 to 695.40m.				
	Siltstone, grey, sandy in top 30 cm., massive			695	80
Dip 6° @ 696.00m.	Mudstone, silty, grey, scattered plant debris in top, vaguely wormy, occasional thin ironstone band, faint Planolites sp. at 696.30m., becoming				
Dip 5° @ 696.50m.	slightly silty and vaguely wormy, steep joint at 697.00m., worm trails, becoming silty again, sandstone laminations from 697.20m. to 698.50m.; P. ophthalmoides from 697.30, rare plant debris; 15 cm. ironstone band at 698.50m., worm trails from 698.60m. and rare P. ophthalmoides, occasional polished bedding plane; broken and sheared from 699.30 to 699.50m., fairly massive below, no longer wormy, some steep partings at 700.00m. with polished bedding surfaces, badly sheared at 701 m., ground below broken with steep polished partings to 701.80m.			702	00
Dip 18° @ 702.30m	Mudstone, very silty, grey, fairly massive, 15 cm. ironstone band at 702.00m. ground broken with steep slickensided partings to				
Dip 30° @ 703.10m Dip 19° @ 604.60m	10 cm. ironstone band at 702.60m., scattered plant debris, occasional polished irregular surface, becoming only silty at 704 m. with rare plant debris and less massive,			.../	

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FORM P 71
SERIES 680

Section of MARGAM BOREHOLE NO.11

6-INCH MAP	B/H
SS 88 NE	39

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			702	00
	broken and sheared at 704.60m. and 705.00m.; occasional thick				
Dip 27° @ 705.20m.	ironstone band, quartz veining			706	20
	Mudstone, grey, slightly silty, closely spaced polished bedding planes, fairly well bedded, sheared at 706.40m., locally silty, occa-				
Dip 24° @ 706.30	sional thin ironstone band, badly sheared to rashes, 707.10m. to				
Dip 17° @ 707 m.	707.30m., ground strong and silty below to 707.70 m., below closely packed polished bedding planes, badly broken/sheared from 708.00m. to 708.50m., pyrite blebs at 708.30m., thick ironstone band at 708.55, becoming silty below, sheared at 709.00m. to 709.20m., becoming slightly silty, packed with polished partings, silty again from 710 m., hard and unbroken to 711.50m., packed with polished surfaces and occasional sheared to base especially asso- ciated with ironstone bands, pyri- te blebs from 712 m., rashes from 712.60 to 712.70, badly sheared				
Dip 20° @ 711.60m.	and broken from 712.70 to base -				
Dip 17° @ 712 m.	core fragments only, packed with pyrite blebs at 712.90m. in silty				
Dip 26° @ 713.00m.	mudstone to 713 m., smooth and dark grey below to base with				
CEFN COED MARINE BAND	small Lingulae, fish scale, shell fragment (?Brachiopod) large Lingulae in base			713	16
	Seatearth, brown/grey, muddy, with roots, sphaerosiderite from top, steep shear planes, becoming sandy and hard			714	00
	5 cm. soft clay gouge at 714.00m.				
	Sphaerosiderite rock			714	30
	Sandstone, grey, massive, fine grained in quartz veining at 714.50m. to 715.00m.			715	10
	Siltstone, grey, massive, broken with hori- zontal mineralised parting, some slickensided and several irregu- lar vertical partings, scattered plant debris, irregular ironstone mass 715.60 to 715.80m., sandstone laminations from 716.00m., frag- mented from 716.10m., large re- welded rock fragments with steep irregular fractures - sandstone laminations broken up, steep slickensided partings below to 718.00m Steep partings disturbing sandstone laminations below in core frag- ments, gouge on steep parting @ 718.00m., ground broken below to 718.50m. Steep, broken contact			718	50
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6-INCH MAP	B/H
SS 88 NE	34
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Section of MARGAM BOREHOLE NO. 11

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			718	50
	Sandstone, light grey and wispy bedded in top 20 cm., becoming grey and massive with scattered plant debris, fine grained. Passes to			719	00
	Siltstone, grey, massive, steep faulted contact			719	20
	Sandstone, light grey, wispy bedded, quartzitic scattered plant debris, becoming			719	50
Dip 24° @ 720 m.	Siltstone, grey, massive with scattered plant debris, irregular quartz veining throughout; 10 cm. fractured sandstone band at 720.50m., steep slickensided parting at 721 m., locally muddy, fairly massive, 10 cm. grey sandstone band at 721.50m., 20 cm. grey sandstone @ 722.00m., some large plant debris			722	30
	Sandstone, light grey, quartzitic, wispy bedded with vertical joints			722	50
37° dip @ 722.60	Siltstone, grey, scattered plant debris, sandy laminations, becoming muddy in base, dip decreases to base		30	722	80
Position of Britannic Marine Band Washout?	Sandstone, light grey, quartzitic, fine to medium grained, carbonaceous wisps, irregular vertical quartz veining from top to 723.30m., ironstone and mudstone lenses at 723.30m., 20 cm. of banded silty mudstone at 723.70m.; coaly material at 724 m., rare carbonaceous laminations below, vertical joints with pyrite, sharp base at 725.80m.	3	00	725	80
	Seatearth, medium grey, silty, Stigmaria roots, ironstone nodules, sandy from 726.30m., light grey sandy laminae from 726 m. in silty seatearth from 726.80m.	1	70	727	50
	Mudstone, silty with roots - Stigmaria, occasional large ironstone nodules		60	728	10
	Sandstone, light - medium grey, fine grained, wispy bedded, sedimentary structures throughout		30	728	40
21° dip @ 729.50	Mudstone, very silty, occasional roots. Fairly massive; faint sandy wisps from 729.20m.	1	00	729	40
	Siltstone, grey, sandy wisps; rare plant debris, micaceous, horizontal mineralised parting at 729.90m.		60	730	00
	Sandstone, pale grey, quartzitic, fine grained, with silty laminations, some laminations are carbonaceous; fine vertical quartz veins in top; vertical joint from 731.30 to 731.70m. Sharp base	1	80	731	80
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			731	80
14° dip at 732.m.	Mudstone, silty, rare sandstone laminations. Ironstone lenses at 732.40m.; 732.50 m. end of sandy laminations; vaguely wormy from 733.50m. and rare plant debris; small ironstone masses worm trails at 733.80m., steep irregular surface at 734.10m.; mussel from 734.50m., faint Planolites; 10 cm. ironstone band at 734.60m.; steep polished surface at 734.80m., becoming darker grey and fissile; P. ophthalmoides; pyrite nodules from 725.50m.; occasional ironstone bands, sheared at 725.60m.; vertical joint from 735.80m. to 736 m., very wormy 735.80 to 735.90m.; Lingula at 735.90m., pyritised tubes; several Lingula below; abundant pyrite blebs from 736 m.; thick ironstone band at 736.10m.; several Lingula at 736.50m.; several ironstone bands at 736.60m.; Lingula @ 737 m. becoming lighter grey with scattered partings; several small Lingula from 737.50m.; becoming slightly silty from 737.80m. and abundant pyrite blebs; sheared at 738 m.; thin ironstone bands from 738.20m. to 738.80m. with associated polished surfaces and occasional pyrites blebs; vertical joints at 738.50m. to 739 m.; dark grey from 738.70m.; coalified plant debris, abundant pyritised plant debris and ironstone band at 739.15 m.				
Dip 15° @ 736 m.					
Hafod Heulog					
		7	35	739	15
	Black rashes		05	739	20
	COAL, 10 cm. tiny fragments recovered		40	739	60
	Seatearth, muddy, grey/brown, roots below 739.80m.; occasional coalified plant debris, ironstone nodules at 740.50m., silty from 740.80m.; ironstone band at 741 m., becoming darker grey with sphaerosiderite at 741 m. to 741.70m.; irregular polished surfaces, becoming silty; abundant ironstone nodules from 742 m.				
		3	40	743	00
	Mudstone, very silty, medium grey, sandstone laminations, roots, abundant plant debris on more carbonaceous partings; becoming more sandy from 745.70m.,				
Dip 10° @ 743.50m	ironstone nodule at 745.60m.; 10 cm. sandstone band 746.20m.; irregular quartz veining at 747.50m. sedimentary structures from 748.50m quartz mineralisation at 749 m.; becoming predominantly sandstone laminations in base. Vertical joint @ 749.60m., some polished bedding planes at 749.75 m.				
		7	30	750	30
				.../	

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6-INCH MAP	B/H
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			750	30
	Sandstone, light grey, quartzitic, wispy bedded, slump structures 750.60 to 750.80m., sharp base with steep foreset bedding; plant debris on more carbonaceous partings.	1	10	751	40
Dip 14° @ 752.40m.	Mudstone, silty, grey with light grey sandy laminations and wisps to 752.40m. Rare plant debris, some ripple bedding; occasional polished bedding surface from 752.60m.; becoming slightly silty at 753 m. locally to 753.50m.; vertical joint 753.30 to 753.50m.; sheared at 753.70m., broken with mineralisation at 753.90m.; closely spaced polished bedding planes; locally high dips from 754 m.; 5 cm. ferruginous band, fault at 754.40m. with shallow plane, broken and vertical bedding with veined ironstone - overturned @ 754.90, beds dipping normally below; abundant polished surfaces throughout	3	80	755	20
20°dip @ 754 m. High dips	~~Mudstone, bastard seatearth, with sphaerosiderite, no roots, steep polished surfaces throughout, becoming sandy~~		30	755	50
FAULT (Small Thrust) Shallow dips	~~Sandstone, light grey, quartzitic, sphaerosiderite in top and veined ironstone band, broken and fractured throughout, with steep fracture and irregular veining, silty laminations~~	1	10	756	60
Dip 9° @ 757.30m.	~~Mudstone, grey, slightly silty, thin ironstone bands, abundant polished surfaces and broken, rashy vertical bedding in top, flattening off to normal dip at 757 m.; wormy, faint P. montanus, ironstone bands, some small scale folding 757.30m.; becoming dark grey; very wormy, small ironstone nodules, sheared at 757.40 and broken, carbonaceous from 757.40; fault Planolites sp.(?op) a pyrite bleb, small amount of coalified plant debris~~		90	~~757~~	~~50~~
	~~COAL, few fragments, on timings~~		~~40?~~	~~757~~	~~90~~
	~~Seatearth, muddy, dark grey/brown, becoming hard and silty, scattered roots sphaerosiderite from 758.50m. and steep shear planes; sandy from 759 m. , hard~~	~~1~~	~~50~~	~~759~~	~~40~~
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			759	40
	Sandstone, light grey, quartzitic, colour colour banding, vertical joint from top; polished surface at 759.85 m., becoming fractured and broken with veining at 760.20m. with silty laminations; 30 cm. core lost 760.50m. to 760.80m., lamination vertical 761.13m., broken core from 761.13 m.	1	73	761	13
	Quartzite, fractured throughout, steep veining at 761.80m., heavily veined 762 m. to base	1	27	762	40
	30 cm. core lost 762.10m to 762.70m.				
	Seatearth, muddy, dark grey with coal bands at top, steep shear planes(closely spaced), roots, ironstone nodules and bands	1	60	764	00
	Mudstone, dark grey, occasional roots to base, scattered plant debris, closely spaced, steep shear planes, thick ironstone bands at 766 with associated broken ground, becoming silty from 766.50m., broken,badly sheared ground 767 to 767.30m., slightly silty below, closely sheared to base, broken from 767.90 to base	4	10	768	10
	COAL, core lost,on timings 1.00mCore left from 768.10m. to 769.1 m. approx.		80	768	90
	Seatearth, 20 cm. (floor not recovered)				
	Seatearth, grey/brown, silty in top,becoming muddy, patches of sphaerosiderite, rashy/sheared from 770 m. to 770.60m., steep mineralised partings below in silty grey seatearth	1	85	770	75
	Mudstone, grey, very silty with light grey sandstone laminations - disturbed by vertical breaks, core fragments only 770.60m. to 771.50m., occasional polished parting with slickensiding, steep mineralised parting at 771.50m., 20 cm. veined ironstone band at 771.70 m., faint sandstone laminations below to 772 m., only silty mudstone below with scattered plant debris, 20 cm. ironstone band at 773 m. with associated shearing below to 773.50m. with steep bedding; roots below sheared ground - vague seatearth texture for 20 cm. occasional ironstone band, sandstone wisps and laminations from 773.80m., ferruginous 774.20m. to 774.50m., slumped bedding 774.60m to base	4	95	775	70
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6-INCH MAP	B/H
SS 88 NE	34

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• Section of MARGAM BOREHOLE NO. 11

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			775	70
	Sandstone, light grey, quartzitic, wispy bedded, occasional silty band, steep partings (core fragments only) at 776.20m., steep mineralised partings veins from 777 m. to base . Sharp base	2	20	777	90
	Siltstone, grey, massive, scattered plant debris, light grey sandstone bands from 779.50m.	2	10	780	00
Dip 7° @ 780.20m.	Mudstone, silty, grey with faint sandstone laminations to 780.50m., scattered plant debris, occasional polished bedding surface; thick ironstone band at 780.80m., vaguely wormy from 781.50m., worm trails at 782.00m., muddy bands, faint sandstone laminations 782.30m.to 782.50m., becoming slightly silty from 782.70m. with closely packed polished surfaces to 783.10m., solid mussel at 783 m., thick veined ironstone band at 783.90m., occasional thin ironstone band below and small ironstone nodules, some coalified plant debris at 784.10m., wormy from 784.50m., thin silty bands giving colour banding to core to 784.60m. Thick				
Dip 4° @ 784.60m.	ironstone band at 785 m., small blebs (small ironstone nodules?) at 784.80m., ghost mussel 784.90m. badly sheared 785.10 to 785.40m., becoming darker grey, thinly bedded mudstone, thick worm trails, solid mussel at 785.80m., thick ironstone band at 786.10m., sheared/broken at 786.50m., dip steepens slightly below, sheared 786.70 to 786.85m., broken and sheared 787 m. to 787.40m., thick worms in ironstone bands, occasionally broken with steep surfaces, dark grey from 787.70m., black rashes from 787.90m. – solid core			788	20
	COAL/rashes mixture (27 cm. recovered)		48	788	68
	COAL (73 cm. broken stick recovered) (48m. coal core lost)	1	00	789	68
	Rashes, dark grey/brown with occasional ironstone lens		70	790	38
	Mudstone, dark grey, vague seatearth texture, badly broken and sheared throughout,packed with polished surfaces, occasional ironstone lens & band		68	791	06
	Black rashes (fragments only)		10	791	16
	COAL (tiny fragments 10 cm.,broken stick 45cm		55	791	71
	Dirt,18cm. fragments including black rashes		20	791	91
	COAL, stick 35 cm.		35	792	26
	Dirt, 15 cm., fragments		15	792	41
	COAL, fragments/broken stick 45,pulverised 47cm	1	71	794	12
	95cm. core lost from 793.70m.				
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			794	12
	Seatearth, muddy, grey, roots, ironstone bands, sandstone band at 794.60m., thick ironstone band in base			795	00
	Sandstone, light grey, quartzitic, wispy bedded, fractured to 996.10m. with steep mineralised fracture, some with pyrite crystals, cross bedded with silty bands in base	1	30	796	30
Dip 10° @ 796.35m.	Mudstone, silty, grey, scattered plant debris, very silty in top 30 cm., faint light grey sandstone laminations from 797 m., 10 cm. sandstone band at 797.30m., closely spaced sandstone laminations 797.70m. to 797.90; thick ironstone band below some partings packed with plant debris, rare sandstone lamination from 798.70m., thick ironstone band at 799 m., 10 cm. muddy band packed with polished partings at 799.40m., vertical joint 799.90m. to 801 m., faint sandstone laminations from 800.30m. to 801 m.;				
Dip 3° @ 999.70m.	5 cm. sandstone band at 800.80m., C. koohi at 801.10m., 10 cm. ironstone band at 801.50m., worm trails at 801.70m., occasional polished bedding surface from 802.00m., becoming slightly silty, wormy, (abundant C. carbonaria), sub-vertical joint 802.60 m. to 803.00m.,				
Dip 4° @ 803.00m.	rare plant debris, locally silty from 802.80m. to 803.00m.; packed with polished surfaces from 803m. in darker grey mudstone, sheared from 803.40m., thick worms	7	35	803	65
	COAL, fragments		12	803	77
	Dirt, seatearth, muddy, dark grey, stick		10	803	87
	COAL, stick		04	803	91
	Dirt, mudstone with coal bands (19cm. recovered)		22	804	13
	COAL, 60 cm. fragments recovered		72	804	85
	Seatearth, grey, silty with roots, steep polished parting at 805.10m., ironstone masses below, steep parting at 805.60m., occasional sandstone laminations; vertical joint 805.80m. to 806.50m.	1	45	806	30
Dip 6° @ 807 m.	Mudstone, silty, grey with occasional roots, fairly broken from 806.30 to 807 m. with thin ironstone bands thick ironstone band at base, becoming silty below and darker grey, still with occasional roots, sheared at 808 m., core fragments to base, packed with polished surfaces	1	90	808	20
	Seatearth, sandy (fragments only), broken with steep fractures		20	808	40
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6-INCH MAP: SS 88 NE | B/H: 39

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			808	40
	Mudstone, grey, very silty with sandstone laminations, thick bands in top broken and displaced by steep fractures, occasional sandstone laminations from 509 m., partings packed with plant debris; occasional thick ironstone band, becoming silty from 810 m., no sandstone laminations from 811 m., broken with steep fractures 812 m. to 812.80m., polished surfaces in base, becoming slightly silty, ends on polished surface	4	50	812	90
	Seatearth, mudstone, grey with roots, plant debris, coalified plant debris, becoming silty, sheared/rashes at 813.60m., muddy seatearth below	1	10	814	00
Dip 8° @ 814.30m.	Mudstone, silty, grey with roots to 815.00m., broken 814.20 m. to 814.70m., occasional ironstone band, wormy (faint G. carbonaria) from 815 m., becoming slightly silty, ?mussel at 815.20m., occasional polished bedding surface, broken/sheared at 815.40m., packed with polished surfaces to 815.50m., ironstone nodules, silty from 815.60m., thick ironstone band at 815.80m., sheared/broken at 816.30m., several steep joints with slickensiding 816.60m. to 817 m., becoming slightly silty and darker grey from 816.20m., mussel impressions @ 816.25m., silty and grey from 816.60m., no longer wormy, sandstone laminations at 817 m. to 817.10m., thick ironstone band steep joints below to 817.30m.,				
Dip 2° @ 817.50m.	broken/sheared 817.70m. to 817.86 associated with thick ironstone band, large plant debris at 817.90m. faint sandstone laminations from 818.10m. and occasional partings packed with plant debris, broken ground in muddy phase associated with ironstone band, C. kochi at 819.50m. 20 cm. ironstone band @ 819.70m. with associated broken ground, fractured and veined ironstone band at 820 m., faintly wormy below, sheared 820.20 to 820.30m. with mineralisation, becoming slightly silty and darker grey from 820.40m., badly sheared from 820.60m. to 820.90m., mainly rashes, broken and occasional shear below to 821.10m. mudstone, dark grey/carbonaceous, silty, scattered plant debris, mussel @ 821.15m., scattered mussel debris				
Dip 4° @ 821.20m.	below, packed with polished surfaces	7	37	821	37

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			821	37
UPPER SIX FEET	COAL, 37 cm. recovered - tiny fragments pulverised;		48	821	85
	50 cm. core lost at 822.10m.				
	Seatearth, muddy, grey/brown, very rashy, soft and friable throughout	1	48	823	33
LOWER SIX FEET	COAL, frag.emts, pulverised, 58 cm. recovered	1	58	824	91
	Rashy seatearth, grey/brown, soft/friable, becoming grey seatearth packed with polished surfaces at 826.00m. grey/brown, muddy seatearth from 826.60 with coalified plant debris and occasional coal streak to 827.20m., few polished surfaces below 827.20	2	59	827	50
	Mudstone, very silty, grey with roots, occasional ironstone nodule, sandstone laminations from 528.00m. Steep polished surfaces, a little slickensiding and broken lamination at 828.60m. with quartz veining	1	50	829	00
	Sandstone, pale grey, quartzitic, wispy bedded with silty bands		50	829	50
	Mudstone, grey, very silty with light grey sandstone laminations and bands, 10 cm. sandstone band @ 830 m., slumped bedding	1	50	831	00
	Sandstone, light grey, quartzitic with silty bands and laminations, 20 cm. siltstone band at 832.50m., large irregular lens of ironstone at 832.75m., slumping at 832.80m., vertical quartz veining and irregular parting at 832.35m.	2	00	833	00
Dip 3° @ 833.10m.	Mudstone, silty, grey with scattered plant debris and sandstone laminations, micaceous		50	833	50
	Sandstone, light grey, quartzitic, wispy bedded		30	833	80
	Mudstone, silty, grey, sandstone laminations in top, ripple bedded, becoming bands in base		50	834	30
	Sandstone, light grey, quartzitic, silty laminations in top 30 cm., massive below, vertical joint 834.70 to 835.50m., mineralised fracture at 836 m. to 836.20m., steep joints below, occasional carbonaceous wisp from 836.80m., vertical mineralised veins 838m. to 838.50m., small ironstone pellets at 839 m. to 839.15m., silty band below, massive below with occasional carbonaceous wisp, small ironstone pellets at 840m., 10 cm. ironstone band at 840.20m., steep mineralised joints below, core broken with			.../	

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6-INCH MAP	B/H
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			834	30
	steep mineralised veins from 841m. to 841.70m., carbonaceous laminations to 842.70m., massive below; steep joints from 843 m.	9	10	843	40
	Ironstone		10	843	50
	Mudstone, very silty, grey, massive, scattered plant debris		80	844	30
	Siltstone, grey, scattered plant debris; irregular sandy bands from 845 m.; 10 cm. ironstone band with associated broken ground at 845.20m., 20 cm. light grey sandstone at 845.50 m. with vertical veining and Hatchetite, several thick ironstone bands from 846 m.	2	80	847	10
	Sandstone, light grey, medium grained, quartzitic, slump bedding in top 10 cm., carbonaceous laminations, ironstone lenses and pellets, coaly material at 847.30m., sharp polished base		70	847	80
10° dip @ 849m.	Mudstone, grey, silty, massive, polished surfaces from 848m. to 849 m., slickensiding at 848.10m., broken ground below, thick ironstone at 848.50m., sandy band at 848.80m., large plant debris, occasional polished surfaces, broken and sheared from 849.50m., packed with polished surfaces to base	2	50	850	30
CAERAU	COAL, on timings, 5 cm. recovered		20	850	50
	Seatearth, mudstone, silty, roots		50	851	00
dip 9° @ 851.20m.	Mudstone, silty, grey, scattered roots, occasional sandy laminations, small ironstone nodules; 20 cm. ironstone band from 851.50m., Stigmaria, 25 cm. of sandstone, light grey with irregular base; no roots below sandstone, 5 cm. of wispy sandstone at 852.50m., 5 cm. of wispy sandstone at 852.90m. no sandy laminations below, rare plant debris, and occasional polished surfaces, broken at 853.60m., sub-vertical joints below, wormy, small ironstone nodules, shell fragments @ 853.80m, large ironstone band at 853.90m. steep joints from 854m. to 854.50m chubby worms at 854.30m., slightly silty and dark grey from 854.50m., mussels from 854.40m., thick ironstone band at 854.50m., return to medium grey, packed with polished surfaces and broken ground associated with 10 cm. ironstone band at 855.10m., Hatchetite, small blebs at 854.70m.?Ironstone lenses shears 855.20m. to base, small ironstone concretions, P.montanus in ironstone, dark grey from 855.35m., rashes in basal 3 cm.	4	60	855	60
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6-INCH MAP	B/H
SS 88 NE	39

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• Section of MARGAM BOREHOLE NO. 11

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			866	90
	at 868.10m., polished surfaces at 868.20m., sub-vertical joint 868.20 to 868.50m., mussel fragments at 868.20m., solid mussel 868.30m.	1	60	868	50
	Mudstone, grey, abundant coal streaks and coalified plant debris with listric surfaces, rashy to 868.70m., fissile packed with coal streaks and plant debris, irregular polished surfaces at 868.90m.		60	869	10
	Mudstone, silty, grey, abundant plant debris, ironstone band in top, associated listric surfaces with seatearth texture, rooty, Stigmaria, pyritic veins and ironstone nodules from 869.40 to 870 m., coal streak at 869.80 m., less planty, coalified plant debris at 870 m., 10 cm. ironstone band at 870.20m., becoming very silty from 870.90m., scattered fragments broken, plant debris sandstone laminations from 871.10m. and occasional thick sandstone band 10 cm. sandstone band at 871.50m. 20 cm. sandstone band at 871.80m. with vertical joint and veining;				
Dip horizontal at 872.00m.	polished surfaces at 872m., occasional ironstone band from 872.30m.,				
Dip 5° @ 873 m.	polished surfaces at 873.30m. with coalified plant debris, sandstone band with thick quartz veining and irregular base, end of sandstone laminations and bands at 874.90m., thin ironstone bands below, occasional coalified plant debris, scattered plant debris, occasional polished bedding plane, becoming darker grey from 875.80m. and locally slightly silty, vaguely wormy, polished surfaces 876.70m. to 877 m. in muddy ground, darker grey, shearing at 877 m., occasional polished surface below 877 m. in grey silty mudstone, wormy to 877.50m., small concretions or blebs (?ironstone nodules), 10 cm. ironstone band at 878 m., mussel fragment at 878.30m. (covered in concretions), mussels below in slightly silty mudstone, dark grey and slightly fissile from 878.60m. to 878.70m., mussel below, grey below, wormy to 878.90, C. kochi, thick ironstone band with Hatchetite at 879 m., silty below with scattered plant debris, sandstone laminations at 880.00m., occasional polished parting from 880 m., occasional coalified plant debris, becoming darker grey from 880.20m. numerous polished partings from 880.30m.				
Dip near horizontal @ 875.80m.					
Dip 5° @ 878.60m.					

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			880	40
UPPER NINE FEET	COAL (5cm. fragments)		05	880	45
	Mudstone, dark grey, packed with plant debris		05	880	50
	COAL, 120cm. broken stick	1	24	881	74
	Mudstone, grey/brown, packed with plant debris, some coalified, polished surfaces		26	882	00
	Seatearth, muddy, grey with small sandstone lenses, packed with polished surfaces to 882.30m.; sandstone laminations below in silty seatearth to 882.50m.; muddy seatearth below, occasional polished surface		56	882	56
LOWER NINE FEET SEAM (disturbed) Based on Schlumberger Dipmeter log	COAL (15 cm. broken stick)		54	883	10
	Dirt, rashes, 9cm. recovered		20	883	30
	COAL, broken stick, 27 cm. recovered		57	883	87
	Rashes, black		35	884	22
	Seatearth, muddy grey with roots (10 cm. recovered)		18	884	40
	COAL (1.00m. coal/rash mixture recovered from this horizon)	1	63	886	03
	Approximately 1.30m. core lost from 882.56 to 886.03m.				
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Section of MARGAM BOREHOLE NO. 11

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			886	03
	Mudstone, silty, grey, seatearth texture in top 20 cm., roots (Stigmaria), occasional sandstone laminations, pyritic nodules at 887.40m., polished steep contact		37	887	60
	Sandstone, very quartzitic, light grey, broken fractured throughout with irregular quartz veins, core fragments only Steep faulted contact in solid core bedding dipping steeply against contact.		40	888	00
	Mudstone, silty, grey with light grey sandstone laminations, polished bedding surfaces, thick, veined ironstone band at 888.50m., occasional 5 cm. sandstone band, partings packed with plant debris, sandstone laminations closely spaced and ripple bedding steep fracture disturbing sandstone laminations at 889.50m., occasional ironstone band, "striped bedding" 890.20 to 891.50m., slumped bedding below, thick ironstone band at 891.60m., few sandstone laminations from 892 m., very silty mudstone to 893 m, thick ironstone band at 893.30m. with associated polished surfaces, no sandstone laminations below 893.60m., mineralised parting at 893.70m., vaguely wormy, only scattered plant debris and occasional mineralised ironstone band and lens, occasional irregular polished surface from 893.90m. to base, G. carbonaria @ 894.20m., slickensided parting at 894.20m., slickensided parting at 894.30m., solid mussel at 894.30m., broken 894.40m. to base with irregular polished surfaces	6	50	894	50
Dip 10° @ 893.80m.					
	Mudstone, carbonaceous with irregular polished surfaces, smooth, rare plant debris, black rashes in basal 3 cm.		24	894	74
BUTE	COAL, 10 cm. tiny fragments) 62 cm. stick) 92 cm. 20 cm. fragments) recovered (fragments brown rashes mixed into coal at base)	1	39	896	13
	Seatearth, grey, roots very silty with sandy patches, hard/compact, ironstone nodules, slightly mineralised parting at 896.70m.		87	897	00
	Siltstone, grey, locally sandy, occasional roots, sandstone bands and slumped bedding at 897.20m. to 897.30m., sandstone bands below		80	897	80
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			897	80
Dip horizontal at 898.60m.	Mudstone, silty, grey, with light grey sandstone laminations, some partings packed with plant debris, occasional thick ironstone band, only faint sandstone laminations from 898.50m., faint worm trails from 898.90m., G. carbonaria @ 899.10 occasional ironstone nodules, broken ground with polished partings at 899.90m., mussel @ 900.10m slightly silty below to 900.50m., broken ground associated with ironstone band at 900.20m., irregular polished partings at 900.40m. to 900.50m. associated with thick ironstone band at 900.60m., mussel at 900.40m., pyrite blebs above and below ironstone band at 900.60m.				
Dip 5° @ 900.06m.					
AMMAN MARINE BAND	small Lingula from 901 m., polished partings at 910.20m., steep polished surface at 901.40m., Planolites sp. at 901.50m., numerous small Lingula with some pyritised tubes at 901.60m., sheared at 902 m., scattered Lingulae with pyritised tubes below, coalified plant debris with 10 cm. pyritic band 902.18m. to 902.28m., coal band at base	4	38	902	18
	Mudstone, grey, packed with plant debris, some coalified, occasional coaly streak, sheared at 902.50m.		32	902	50
	Seatearth, silty, grey with roots		20	902	70
Dip 2° @ 904.80m.	Mudstone, silty, grey with roots, micaceous, sandstone laminations from 903 m., pyritised nodules from 903.20m., 80 cm. core lost at 904.33m., faint sandstone laminations from 904.90m., packed with pyritic nodules and scattered pyritised plant debris to 905 m., sandstone bands below with comminuted plant debris horizons, thick ironstone bands at 905.60m. with associated broken ground	3	00	905	70
	~~Mudstone, silty, grey, packed with roots, vague seatearth texture, steep polished surface at 906 m., packed with polished surfaces below, sheared to 906.20m., fragment of sandstone with coal streaks~~		55	906	25
	~~Seatearth, muddy, grey/brown, root, becoming sandy and very hard at 906.50m., very silty from 907 m. with ironstone nodules, irregular polished partings at 907.20m.~~	1	35	907	60
	~~Sandstone, light grey, quartzitic with vertical quartz veining~~		25	907	85
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			907	85
Dip 6° @ 909m.	Mudstone, silty, grey with light grey sandstone laminations to 909 m., partings packed with plant debris, 30 cm. ironstone band at 908.80m., with associated broken ground, scattered roots, occasional irregular polished partings from 909 m. in muddy ground; slickensided/polished partings at 909.30m., broken, sheared below, associated with ironstone band and 10 cm. sandstone band at 909.60m. with thick vertical veining, sandstone bands below to 910 m., dark grey, micaceous, silty mudstone below with scattered plant debris; heavily veined 20 cm. ironstone band at 911.10m. with associated broken ground	3	85	911	70
	Mudstone, dark grey, mussels at 911.80m., packed with polished surfaces, mussel debris to base (solid core)		25	911	95
	Seatearth, muddy, grey/brown, roots, sphaerosiderite in top 5 cm., becoming grey, silty from 912 m., 20 cm. ironstone band, fractured at 912.70 broken below with irregular polished surfaces, slickensided at 913 m.	1	35	913	30
	Mudstone, grey/brown, packed with plant debris some coalified, coaly streaks at 913.50m., packed with polished surfaces, occasional ironstone band, grey, slightly silty with well preserved plant debris from 914 m., 20 cm. silty band 914.30m., broken with steep mineralised partings, slickensides, occasional polished parting below, muddy again, sheared at 915 m. and coal streaks at 915.20m., sheared 915.20 to 916.10m. in muddy ground, packed with large plant debris and occasional coal streak, grey/brown, slightly silty below, becoming grey at 916.30m., quartz veining and broken ground at 916.50m.	3	30	916	60
Dip 5° @ 917.20m.	Mudstone, silty, grey with scattered well preserved plant debris occasional large plant, large ironstone band at 917m., slickensided parting at 917.40m., occasional ironstone band sheared at 918.20m. with veining, rare plant debris from 918.50m. to 919 m., faint sandstone laminations from 918.80m., coalified plant debris at 919.10m.	2	60	919	20
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			919	20
	Mudstone, grey with roots, especially in top 20 cm., packed with polished surfaces, ?rashy from 919.40m., rashes in basal 10 cm.		65	919	85
	COAL, core lost		35	920	20
	Seatearth, grey/brown, muddy, roots, sheared from 920.20m. to 920.40m., rashy, occasional ironstone nodule		80	921	00
	Mudstone, silty, grey with roots, packed with sandstone bands and ironstone from 921.10 to 921.60m., slumped bedding thick wispy sandstone at 921.50m. to 921.60m., occasional thin sandstone laminations below, occasional roots, 2 cm. coal band at 921.20m., dark grey, packed with coalified plant debris below with polished surfaces, 2 cm. black rashes at 922.07m.	1	10	922	10
	COAL, 33 cm. broken stick recovered, on timings		72	922	82
	Seatearth, dark grey with roots and occasional listric surface, muddy, grey/brown from 923.10m., hard/silty from 923.60m., muddy again from 924 m., large ironstone nodules, patches of sphaerosiderite at 924.70m., becoming grey below, packed with polished surfaces, sheared at 924.90m., associated with ironstone band	2	18	925	00
Dip 6° @ 925.10m.	Mudstone, silty, grey, scattered plant debris, leached appearance, friable with occasional polished surface to 925.90m., small patches of sphaerosiderite in top 50 cm.		30	925	30
	Mudstone, slightly silty, dark grey, packed with plant debris, sheared through out		20	925	50
	Mudstone, slightly silty, grey with roots, occasional polished surface, thick ironstone band at 927 m. to 927.30 with associated sheared ground, packed with plant debris below, some coalified	2	50	928	00
	Mudstone, silty, grey with scattered roots, leached appearance at 928.50m.		60	928	60
Dip 7° @ 930m.	Siltstone, lighter grey with sphaerosiderite to 929 m., no plant debris or roots massive, very silty and tough, 20 cm. ironstone band at 929.20m., rare sandstone laminations from 930.50m., 20 cm. veined ironstone band at 930.80m., sandy 931 m. to 931.40m., 10 cm. light grey sandy bands from 931.50m., occasional light grey sandy band below with slumping, 10cm. sandstone band at 932.20m., silty bands below to 932.50m., 30cm. grey sandstone 932.80 to 933.10m. with thick veined ironstone below to 933.30m.	4	70	933	30

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Section of MARGAM BOREHOLE NO. 11

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			933	30
	Sandstone, light grey, mixed with bands of siltstone on top 80 cm. with slumped bedding, 10 cm. band of ironstone nodules at 933.50m. with light grey sandstone slumped between ironstone, quartz veining and flat polished partings disturbing sandstone at 933.80m., heavily veined sandstone band at 934.20m. and thin silty bands and wisps below in quartzitic sandstone, veining at 934.50m., occasional thick dark silty band below 935m.	2	20	935	50
	Mudstone, very silty, grey, micaceous with occasional sandstone laminations and wispy bands		80	936	30
	Sandstone, light grey, wispy bedded with dark grey silty bands, slumped bedding 936.50 to base		40	936	70
	Mudstone, very silty, grey, micaceous, scattered plant debris, occasional thick wispy sandstone and ironstone nodule, broken with quartz veining at 937.50m., 10 cm. sandstone band below with lenses and bands of sandstone/mudstone - sedimentarily disturbed with occasional ironstone pellets to 937.90 Steep foreset bedding below, passes into	1	40	938	10
	Sandstone, light grey with silty bands, wispy bedded, coaly parting at 938.90m., quartzitic, medium grained, pale grey, bands/laminations of carbonaceous material, ironstone band at 938.90m., sedimentary features at 939 m., irregular sub-vertical veining and jointing from 939 m.; coalified material at 939.50m., 20 cm. coalified wisps, streaks and pellets at 939.70m. 10 cm. coal streaks in base with sharp erosive base	2	60	940	70
Dip 25° @ 941m.	~~Siltstone, medium grey with abundant plant debris, plant debris occasionally coalified, occasional polished surfaces, small dislocations 941m. to 941.20m., displacing bands, broken ground below to base, occasional small plant fragments below 941.20m., becoming paler grey at 941.60m., muddy bands 941.90m. to base, coalified plant debris 942 m., pyrite and quartz veins in sandstone fragments in base~~	~~1~~	~~60~~	~~942~~	~~30~~
5° dip at 942 m.	~~COAL, core lost, on timings~~		~~40~~	~~942~~	~~70~~
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Section of MARGAM BOREHOLE NO. 11

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS		DEPTH	
	B/F			942	70
	Seatearth mudstone, sandy in top 10 cm., dark grey, roots, ironstone bands at top, coalified plant debris, polished surfaces at 942.90m., becoming lighter grey, silty, ironstone nodules at 943.60m. to base	1	80	944	50
	Sandstone, medium grained, pale grey, Hatchetite , pyrite and white clay mineral, 20 cm. sub-vertical vein and jointing from top, mineralised mudstone laminations, becoming		40	944	90
Dip 5° @ 945.20m.	Mudstone, slightly silty, medium grey, scattered plant debris from 945.20m., with sandstone laminations		50	945	40
	Mudstone, very silty, scattered plant debris, thin sandy laminations, vertical joint 946.20m. to base, ironstone nodules at 946.40m., becoming less silty to base, pyritised ironstone nodules in base, dark grey mudstone in base, planty in base	1	50	946	90
	COAL, core lost, on timings		20	947	10
	70 cm. core lost at 947.43m.				
	Seatearth mudstone, pale grey, roots, coalified material, ironstone band at 948.60m., slightly silty below, pyritised ironstone nodules at 949 m., ironstone band at 949.10m.	2	50	949	60
	Sandstone, medium grey, thin micaceous mudstone laminations, scattered plant debris, roots in muddy bands, irregular polished surface at 950m, sedimentary structures throughout, ironstone nodules at 950.20m., sub-vertical quartz veins 950.20m. to 950.60m., carbonaceous laminations from 950.80m., 60° joint at 950.90m.	1	40	951	00
Dip horizontal at 951.50m.	Mudstone, silty, sandy laminations in top; scattered plant debris, medium grey, micaceous, sub-vertical joint at 951.30m, 45° polished surfaces at 951.90m., sheared/broken ground 952.10m. to 952.80m. with 10 cm. rashes	2	00	953	00
	Sandstone, fine grained, thinly laminated with mudstone, medium grey with sedimentary structures and sub-vertical veining, sheared/broken ground 953.10m. to 953.80m., multiple dislocation, 5 cm. of rashy ground at 953.15m., numerous polished surfaces below, abundant plant debris		80	953	80
	Mudstone, silty, grey with plant debris		20	954	00
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	cm.	DEPTH Metres	cm.
	B/F			954	00
	Sandstone, fine grained, medium grey, silty 45° joint from 954.50m., comminuted plant debris below, abundant comminuted plant debris at 956.50m carbonaceous partings 957.20m., sedimentary features at 957.50m.	3	70	957	70
	Mudstone, very silty, 10 cm. ironstone band in top, medium grey, thin ironstone bands, becoming slightly silty from 958.50m., becoming rashy from 958.55m. to 958.60m., ironstone nodules from 958.60m., occasional polished surface broken, friable and thinly bedded	1	65	959	35
	Mudstone, dark grey/carbonaceous, friable, slightly pimply		30	959	65
Five Feet seam	COAL (10cm. pulverised coal recovered) with sphaerosiderite ? band (from electric logs)	1	55	961	20
	Seatearth, rashy and soft, dark grey, grey/brown from 961.40m., listric surfaces, but no longer rashy, fairly friable, patches of sphaerosiderite from 962.20m. to 962.30m., grey below 962.30m.			962	50
5° dip @ 963.30m.	Mudstone, medium grey, very silty, occasional roots, sub-vertical joint 962.70 to 963.00m., leached appearance to base, thick ironstone band at 963 m.; light grey sandy laminations 963.50m. thick ironstone band at 963.80m. this is heavily veined	1	30	963	90
	Siltstone, grey with light grey sandy bands, scattered plant debris, slump pouches, sandy from 964.50m., massive, broken with irregular fractures at 965.20m., veined ironstone band at 965.60m.	3	10	967	00
	Mudstone, very silty, grey, scattered plant debris, sandy laminations, steep polished surface 967.50m., some large plants, thick ironstone band 968.50m. with associated polished surfaces, fairly massive, irregular polished surface 968.70m., sandy bands in base	2	00	969	00
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			969	00
	Sandstone, medium grained, light grey, ironstone nodules, coal streaks in top 5 cm., irregular quartz filled joint at 969.30m. to 969.50m., occasional ironstone pellets at 969.70 to 969.85m., massive, 10 cm. muddy band at 969.90m., faint carbonaceous wisps which are steeply dipping, 10 cm. muddy band at 970.30m., mineralised parting at 970.43m., vertical joint 970.50 to 971 m., carbonaceous laminations from 971.20m. to 971.40m., 10 cm. carbonaceous laminations at 971.90m., muddy band 972.20m., irregular muddy band in base	3	28	972	28
	Mudstone, silty, grey, fragments only		05	972	33
FIVE QUARTERS	COAL, 38 cm. recovery - fragments, on timings 80 cm.		80	973	13
	Seatearth, muddy, grey brown, roots, occasional listric surface, coalified plant debris at 973.30m., becoming silty 973.50m., packed with ironstone nodules from 973.80m., grey from 974.30m.		87	974	40
	Mudstone, grey, very silty, fairly massive, faintly sandy laminations, few roots		60	975	00
	Siltstone, grey, hard, rare plant debris, leaching, thick veined ironstone at 976.m.	1	00	976	00
	Mudstone, silty, grey, scattered plant debris, some large plant debris, rooty in top, coalified plant debris, polished surfaces at 976.30m., becoming packed with plant debris at 976.60m., becoming slightly silty below 976.30m., becoming silty, grey with only scattered plant debris, occasional ironstone nodules, packed with sandy laminations from 976.90m.				
	Siltstone, grey, fairly massive, light grey, sandstone laminations from 978 m. to 978.20m. to 978.70m., slumped bedding/pouches throughout, thick sandstone band at 979 m., cross-bedding in base	4	50	980	50
	Sandstone, light grey, quartzitic, wispy bedded with silty bands and laminations - cross-bedding becoming		50	981	00
	Striped bedding below 981 m., rapidly alternating sandstone/siltstone laminations - local steep foreset bedding, polished partings @ 981.60m. with slight steepening of dip, packed with irregular polished surfaces in base		90	981	90
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			981	90
	Sandstone, light grey, quartzitic, 10 cm. packed with small mudstone/ironstone lenses in top - occasional polished parting in becoming massive below to 982.50m., sub-vertical quartz veining to 982.50m., sharp base, silty laminations developing, 20 cm. silty band at 982.60m., packed with small angular fragments of mudstone to 983 m., large lens of mudstone at 982.90m., massive below, irregular lens of ironstone at 983.20m. and mudstone at 963.30m., vertical quartz vein below to base	1	90	983	80
	"Striped beds" rapidly alternating mudstone/light grey sandstone laminations, occasional cross-bedding becoming		80	984	60
	Sandstone, light grey, quartzitic, massive, carbonaceous wisps		40	985	00
	Siltstone, grey, poorly bedded, packed with sandstone laminations in top 30cm, sandstone bands in base	2	10	987	10
	Sandstone, quartzitic, light grey, fine to medium grained, wispy bedded, occasional carbonaceous laminations to 988 m., steep joints from top to 987.50m., faint irregular vertical quartz veining at 988m., massive, vertical joint at 988.50m. Vertical veining and steep fractures in sandstone at 989.80m. to 990.10m., occasional steep quartz vein below, packed with irregular veining from 990.30m. with voids, 30 cm. silty mudstone band at 990.90m., steep quartz vein below to 991.60m., irregular vertical veining from 992 m. to 993 m. with sub-vertical jointing from 992 m. to 995 m., massive sandstone throughout, core fragments 993.50m. to 994 m., scattered mudstone pellets from 994.20m. 50 cm. core lost from 995 m., sandstone below with occasional carbonaceous wisps, regular but faint silty bands from 996.20m. with closed vertical joint, massive from 997 m.; 20 cm. silty mudstone with thick ironstone band 997.20 to 997.40m., massive and medium grained below with faint carbonaceous wisps from 998.20m., thick ironstone band @ 998.80m., massive below, 10 cm. rooty, silty mudstone band at 1000 m., wispy with silty bands				

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British National Grid (27700) : 286505,185962

FORM P 71
SERIES 680

6-INCH MAP	B/H
SS88 NE	34

Section of MARGAM BOREHOLE NO. 11

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			987	10
	and occasional ironstone bands below to 1000.80m., occasional silty band/wisp below, packed with carbonaceous wisps at 1001.10 (some coalified material), 10cm. rounded ironstone pellets at 1001.75m., vertical joint 1002m. to 1003.00m., 10 cm. rounded ironstone pellets at 1003.20m., becoming massive (no silty wisps) from 1004 m., wispy bedded from 1005.50m. with silty bands from 1005.80m.	8	90	1006	00
Dip 5° @ 1006.10m.	Mudstone, very silty, grey/dark grey scattered plant debris, some coalified plant debris, sandstone wisps and bands, thick wispy grey sandstone 1006.04m. to 1006.14m., mussel fragment at 1006.16m., polished surface in base		20	1006	20
GELLIDEG	COAL, stick	2	06	1008	26
	Seatearth, silty, grey, firm with roots, large ironstone nodules and sandy laminations, becoming sandy seatearth at 1008.80m.		74	1009	00
	Sandstone, pale grey, quartzitic, scattered roots, silty wisps		90	1009	90
	Ironstone		10	1010	00
Dip 5° @ 1010.30m.	Mudstone, silty, grey, sandy laminations in top only, becoming slightly silty, rare plant debris, polished partings at 1010.90m., very silty below with sandy laminations to 1013.30m., becoming silty from 1011.30m., occasional thick ironstone band, mussel at 1012.00m. with Planolites sp. likemarkings, dark grey and micaceous from 1013.50m., pyritised plant debris at 1013.80m., fish plate at 1013.90m., slightly silty, smooth, dark grey from 1014 m., large mussel, fissile, several large mussels at 1014.10m. 50 cm. core lost at 1014.96m., worm trails, occasional fish scale, Ostracods at 1015.20m., Bingula? like shell at 1015.30m., packed with mussels at 1015.46m., silty below, occasional parting packed with mussel debris, scattered fish plates, polished surface at 1015.60m., structural rashes, black below, compact and solid with occasional black mudstone and occasional steep polished parting, thick ironstone				

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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS8 NE	34

*Delete as appropriate

Section of MARGAM BOREHOLE NO. 11

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			1010	00
	band at 1016 m. to 1016.50m., dark grey, slightly silty below with occasional fish scale, wormy at 1016.60m., becoming grey below, sheared at 1016.80m., becoming darker grey/silty below 1017 m., pyrite mass at 1017m., becoming slightly canneloid mudstone for 20 cm., silty/dark grey below with scattered				
Dip 7° @ 1017.20m.	plant debris (some coalified)	7	68	1017	68
	Seatearth, grey, very silty with roots, Stigmaria, occasional polished surface in muddy seatearth from 1018.20m., coalified plant debris from 1019.20m.	1	52	1019	20
	Mudstone, silty, grey with roots, occasional occasional light grey sandstone laminations and thick band in top, some large plant debris,				
	thick ironstone band at 1020 m.	1	00	1020	20
	Siltstone, grey with sandstone laminations, closely spaced - cross bedding and sedimentary structure, very micaceous, vertical fracture displacing laminations at 1020.50		40	1020	60
	Sandstone, grey, silty, fine grained, fairly massive, numerous vertical quartz filled joint at 1021 m., micaceous	1	40	1022	00
	Sandstone, light grey, quartzitic, fine grained, massive with thick vertical veining from top to 1022.50m. and 1024m. to 1024.80m. wispy in base	2	90	1024	90
	Mudstone, silty, grey with thick ironstone band, packed with sandstone laminations and occasional bands from 1025.10 to 1026.50m., scattered plant debris, worm markings and small ironstone nodules @ 1026.90				
Dip 5° @ 1026.80m.	thick ironstone band at 1027.60m. wormy again from 1028.50m., numerous Planolites at 1029 m., becoming slightly silty, occasional polished surface, large mussels at 1029.50m. and occasional ironstone lens, small mussels at 1029.70m., becoming darker grey, Ostracods and fish plate at 1029.90m., fish tooth at 1070m becoming silty /dark grey, millerite parting at 1030.20m., sharp sheared with rushes, large coalified Pseudo-robusta below to 1030.40m., polished parting at 1030.50m., grey, wormy, silty mudstone below with muddy bands, sheared/broken at 1031m. and polished surfaces below to 1031.80				
Dip 13° @ 1031.20m.	Planolites sp. at 1031.60m.			.../	

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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS88 NE	34
	41

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Section of MARGAM BOREHOLE NO. 11

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			1024	90
	occasional thick ironstone band, worm trails at 1033 m., broken with polished partings below to 1033.50m., slightly silty from 1033m. on and dark grey, packed with polished surfaces, occasional thick ironstone band *C. pseudorobusta* at 1033.10m., rashes at 1033.15m., becoming silty and micaceous, packed with calcified *C. pseudorobusta* from 1033.60 to 1034.10m., abundant Ostracods, 20 cm. ironstone band at 1034.30m., packed with pyrite pimples, fissile from 1034.40m. occasional *fish* scale, coalified plant debris from 1034.60m., scattered pyrite blebs	9	85	1034	75
Dip 11° @ 1034.50m.	Seatearth, muddy, grey/brown, packed with roots/plant debris, listric surfaces		25	1035	00
	Mudstone, silty, grey, rooty, light grey, sandstone laminations		30	1035	30
	Sandstone, quartzitic, wispy bedded in top, massive below with vertical vein, occasional silty band and lamination below 1036 m. - cross bedding, 35 cm. ironstone band at 1035.65m., thick ironstone band at 1037.60m., slumped bedding at 1077.80m.	2	70	1038	00
Dip 7° @ 1038.20m.	Mudstone, very silty with light grey sandstone bands in top; polished partings in top, "partially" polished bedding below, sandy laminations from 1039m., becoming only silty, worm trails at 1039.20m., closely spaced sandstone laminations below, becoming very silty again, slight parting at 1040.40m., passes into	2	50	1040	50
	Sandstone, light grey, quartzitic, wispy bedded with slumping		50	1041	00
	Mudstone, silty, grey, occasional sandstone lamination to 1042 m., siltstone band 1041.20m. to 1041.50m., thick ironstone band at 1041.80m. worm trails from 1042 m., becoming slightly silty from 1043 m. broken ground with polished				
Dip 7° @ 1042.70m.	surfaces at 1043.10m., associated with thick ironstone band, becoming darker grey and silty, scattered coalified plant debris, sheared at 1043.60m., Ostracods				
	Mudstone, silty, medium grey, fairly fissile, wormy, *Planolites* sp., occasional listric surfaces, vague plant debris at 1045.50m., occasional thin ironstone band from 1045.60 with associated broken ground				
Dip 8° @ 1044.40m.	plant straps at 1045.20m.	4	90	1045	90

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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS88 NE	39

*Delete as appropriate

Section of MARGAM BOREHOLE NO. 11

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			1045	90
Dip 1°/2°@ 1046.10 Dip 5° @ 1046.70m.	Mudstone, slightly silty, darker grey, slightly wormy, occasional listric surfaces, plant straps at 1046.50m. fragments of Lingula-like mussel? at 1046.60m., 70° joint at 1046.70m. coalified plant debris at 1047 m., sheared at 1047 m. with broken ground, occasional mineralised ironstone band, comminuted plant				
Dip 10° @ 1047.10m	debris at 1047.20m., some coalified plant debris, thick ironstone band at 1048.30m., thick ironstone band				
Dip 1/2°@ 1050m.	at 1050m., vague P. ophthalmoides, becoming wormy from 1050.50m., 30° polished surface at 1050.80m., coalified plant debris at 1050.90m., carbonaceous, sheared, packed with polished surfaces	5	18	1051	08
GARW	COAL, 15 cm. stick, 5 cm. fragments recovered		50	1051	58
	Seatearth, muddy, light brown, large distinct roots, very soft/rashy in top 10 cm, large coalified roots, becoming silty from 1051.80m., occasional large ironstone nodules from 1051.90		42	1052	00
	Siltstone, light grey/brown, muddy, roots, occasional coalified plant debris, micaceous from 1052.80m., ironstone nodules	1	00	1053	00
	Sandstone, pale grey, fine grained, massive, 10 cm. mudstone band at 1053.70m. muddy bands from 1053.70m. to 1054.50m., sub-vertical mineralised (with pyrite) joint from 1054.10m. to 1055.20m, muddy laminations from 1054.90m. to base	2	60	1055	60
	Mudstone, silty, medium grey, occasional ironstone nodules in top 20 cm., slightly wormy from thin sandstone band 1055.90 to 1056.10m., fragmentary sandstone clasts at 1056 m.		60	1056	20
Dip 5° @ 1056.50m.	Mudstone, slightly silty, dark grey, large well preserved mussels from 1056.20m. wormy, micaceous, thin ironstone band at 1056.80m., fish scale at 1056.90m., sheared with rashes at 1057.15m., large pyrite nodule, becoming	1	10	1057	30
	Sandstone, pale grey, fine to medium grained abundant plant debris in top, vertical mineralised veins in top, 20 cm. mudstone laminations with ironstone nodules in top, massive below T.D.		80	1058	10
	Borehole logged to 1044.10m. by Schlumberger (Aug. 14th) and B.P.B. (Aug. 15th) Hole cemented to surface with 65 tons of shallow oil well cement on Aug. 17th, 1977				

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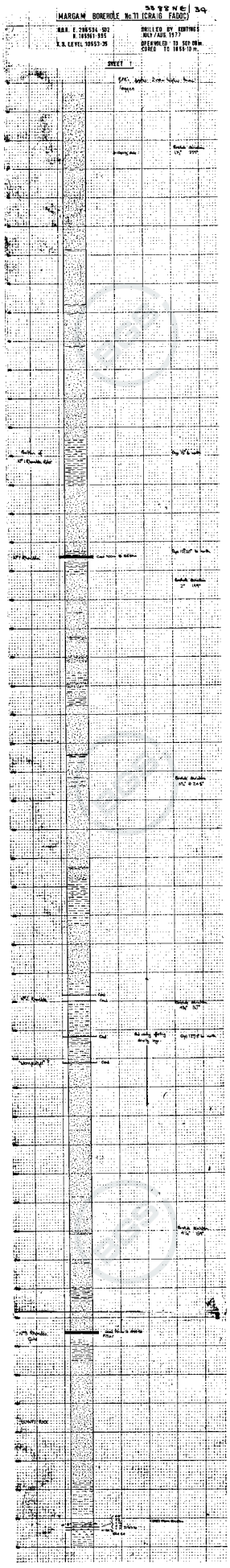
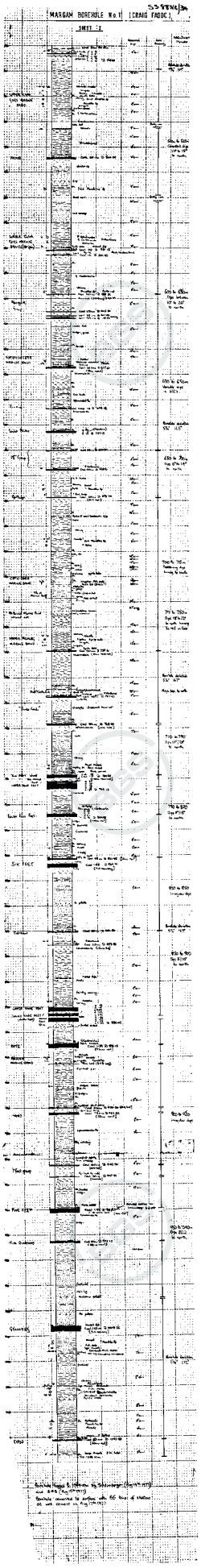

MARGAM BOREHOLE No.71 (CRAIG FADOC)
SHEET 1


MARGAM BOREHOLE No 1 (CRAIG FADOC)
SHEET 2

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BGS ID: 372611 : BGS Reference: SS88NE35
EPSG: 27700 : 286866,185033

FORM P 70
SERIES 680

Section of MARGAM SURFACE BOREHOLE NO. 12
(Ffordd-y-Gyfraith)

Purpose To prove the succession to the Gellideg

Exact Site N.G.R. E.286865.596
N.185032.728

Level at which bore commenced relative to O.D. K.B.L. 10649.67 m.

Date of sinking or boring 28.10.77 to 8.1.78

Sinker or borer FORAKY

6-INCH MAP	B/H REGD.No.
SS 88 NE (County, Sheet and Qtr.)	35
(Nat. Grid, Sheet & Qtr.)	

Attach tracing from a map or sketch map if possible

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	OPEN HOLED TO 241.80 m.				
Interpreted from BPB Logs	Resumed No. 2 Rhondda horizon between 50.00m to 83.00m. (No COAL).				
	No. 3 Rhondda Gobs at 174.35m. (Full mud loss)				
	Tormynydd (?) COAL		80	229	40

PU.917

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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NE	35

Section of MARGAM NO. 12 B.H. (Ffordd-y-Gyfraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
				241	80
12°dip @ 241.80m.	Mudstone, silty, grey, broken from 242.05m. with joints; thin ironstone band; becoming dark grey from 242.20m. with pyrite; plant debris; dark ironstone band at base		60	242	40
	Mudstone, slightly canneloid, carbonaceous, pyrite lens, polished surfaces		10	242	50
13°dip @ 246 m.	Mudstone, silty, grey, micaceous, sandy laminations from 242.60m.; 10 cm. sandy band at 242.80m.; occasional sandstone bands to 244.50m.; vaguely wormy at 245.60m.; thin ironstone bands; plant debris; sandy laminations from 247m. to 248 m., wormy at 248 m.; shear at 248.20m.; dark grey, micaceous below; 20 cm. grey fine grained sandstone band from 248.20m.; mussel debris below. Spirorbis on mussel fragments. Lingula at 248.50m. and micaceous with scattered Lingula below. Pyritic plant debris at 249 m. Lingula at 249.50m.; fish scale at 249.60m. and Planolites; 10 cm. ironstone band at 249.70m. and pyritic blebs; wormy and slightly silty below. Occasional thin ironstone bands associated with shears.				
10°dip @ 250.60m. UPPER CWM GORS	Slightly sheared at 251.80m. and no longer wormy. Shear at 252 m. associated with thick ironstone band.				
MARINE BAND?	Vertical joint from 252.30m. to 253 m. Occasional polished bedding surfaces; sheared at 254.20m.				
10°dip @ 255.50m.	Becoming silty at 254.40m.; wormy trails. Sub-vertical joint through ironstone band at 255.30m.; slightly silty from 255.50m. P.ophthalmoides at 256.40m.; dark grey, silty, packed with pyritic blebs; shell fragments, fish scale, micaceous from 257.30m. to 257.35m., then unfossiliferous. High angle joint 257.50 to 258 m.	15	35	257	85
	Mudstone, Lingulae 257.90m., dark, slightly carbonaceous, pyritic ironstone nodules, fish scale at 258 m. Sheared at base		25	258	10
	Mudstone, grey, slightly silty, wormy, 10 cm. dark grey mudstone band at 258.80m.; silty mudstone below; occasional ironstone band; C. kochi at 261 m. C. carbonaria, thin ironstone band at 262.10m.; sheared at 262.20m.		10	262	20
	Mudstone, slightly silty, medium to dark grey, large plant debris pyritised, some coalified		10	262	30

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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NE	35

Section of MARGAM NO.12 B.H. - (Ffordd-y-Gyfraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			262	30
	Mudstone, grey-brown, packed with plant debris, occasional thin ironstone bands; well preserved plant debris Becoming silty at 264 m. Polished surfaces at base	2	65	264	95
	COAL and dark grey ferruginous mudstone intermixed (solid core 30 cm.). Steep base (Possible rafted coal)		30	265	25
	Ironstone, veined, irregular solid contact with coal		20	265	45
	Mudstone, silty, grey, plant debris, sheared at 266 m. immediately below; very wormy		65	266	10
	Mudstone, slightly silty, dark grey, Ostracods vertical pyritised veining; abundant Ostracods		45	266	55
	Siltstone, grey, roots, seatearth in top 20 cm., micaceous, sandy bands	1	45	268	00
10° dip @ 268.50m.	Mudstone, medium grey, very silty, scattered plant debris and rare roots, sandstone bands from 269 m.; 10 cm. sandstone band at 269.70m., bands end at 270 m. Becoming silty at 270 m. and wormy with occasional ironstone. Steep joint at 271.90m. Steep slickensided fractures 272m. to 273m.. Vertical joint below to 273.50m., vaguely wormy, arrow-head plant at 273.60m.; numerous ironstone nodules at 274 m. Sub-vertical joint to base; becoming smooth, dark grey at 274.20m.; rashes from 274.40m.	6	48	274	48
HAFOD	COAL, stick and fragments in base		32	274	80
	Seatearth, mudstone, numerous polished surfaces in top 5 cm., becoming grey/brown seatearth, soft and rashy		40	275	20
	Mudstone, medium grey, silty, no roots. Joint 80° at 275.80m.; occasional thin ironstone band. Steep mineralised fracture with gouge at 276.20m., broken below; unfossiliferous	1	90	277	10
Dip 10° @ 277 m.	Seatearth, grey-brown, roots, rashy; numerous irregular polished surfaces. Rashes at 277.40m. and 277.70m. 10 cm. ironstone band at 278.35m. Becoming compact and firm from 278.90m.; large discrete roots; thick ironstone band at 278.90m.	2	00	279	10
	Mudstone, very silty, well-preserved plants, medium grey, coalified plant debris at 279.50m.; irregular polished surfaces. 80° joint at 279.80m.; seatearth texture at 280 m. Darker grey and rashy; packed with polished surfaces. Pyrite on jointd, packed with plant straps in base	1	50	280	60
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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NE	35

Section of MARGAM NO.12 B.H. (Ffordd-y-Gyfraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			280	60
	Sandstone, fine grained, quartzitic, micaceous, scattered plant debris, tough, grey/brown, 30 cm. siltstone band from 280.80m.		50	281	10
	Sandstone, coarse grained, occasional carbonaceous partings; high angled joints; very broken with 80° dark grey mudstone band 20 cm. from base	6	75	287	85
Dip 23° @ 288.90m.	Siltstone, medium grey-brown, broken in top, 20 cm. ironstone band at 288.60m. Abundant plant straps and fragments to 290.20m., micaceous. Vertical joint from 289 m. Sandstone and mudstone laminations from 289.50m.; locally very micaceous; high angled polished surface at 292.30m.	4	65	292	50
Dip 5° @ 296.80m.	Mudstone, silty, grey, sandstone laminations to 293.70m.; micaceous, rare plant fragments. Large plant straps at 295.80m., tough, wormy from 297m. P. ophthalmoides at 297.90m. Occasional thin ironstone band from 298.20m.; plenty from 298.50m. Mussel at 298.60m.	6	10	298	60
	Siltstone, with light grey sandstone laminations from 298.80m. and occasional muddy bands; scattered plant debris, micaceous, 10 cm. sandstone band at 299.50m.; 10 cm. turbulent sandstone band at 302 m., becoming muddy in base	4	90	303	50
Dip 9° @ 303.70m.	Mudstone, silty, grey, wormy, light grey sandstone laminations in top. Occasional thin ironstone band. Steep joints and broken ground 303.70 to 304.30m. Estheria shells at 304.50m.; small blebs. Subvertical joints to 305.20m. with some shearing. Sheared at 306.30m. with broken ground; becoming slightly silty from 306.50m. Slight shear at 307 m.; darker grey below; occasional pyrite blebs in basal 5 cm.; packed with plant debris (some coalified) from 307.47 m.	4	00	307	50
HORIZON OF LOWER CWMGORS MARINE BAND	COAL, stick		43	307	93
Dip 7° @ 306.80m.	Seatearth, muddy, grey-brown, steep polished surfaces, roots, friable and rushy from 308.10m.; becoming carbonaceous from 306.20m.		47	308	40
	Seatearth, silty, grey, roots, small ironstone nodules, leached appearance in base		60	309	00
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6-INCH MAP	B/H
SS 88 NE	35

Section of MARGAM NO.12 B.H. (Ffordd-y-Gyfraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			309	00
	Mudstone, very silty, grey, leached appearance, sandy laminations, patches of sphaerosiderite in top; scattered plant debris, large ironstone mass at 310.50m.; 10 cm. grey sandstone at 311 m.			311	30
	Siltstone, grey, massive, scattered plant debris, micaceous, light grey, sandy bands from 312.50m. to 313m. Steep shear at 312.80m.	2	20	313	50
Dip 8° @ 314 m.	Mudstone, very silty, grey, micaceous. Vertical joint with pyrite at 313.80m. 45° polished surface at 314 m. Sandstone wisps and deformed bands from 315 m.; locally sandy, steep polished surface at 315.10m.	2	20	315	70
	Sandstone, light grey, fine to medium grained, coal lens at 315.80m. Mudstone and ironstone band at 316m. Vertical joint below		60	316	30
	Mudstone, silty, grey, scattered plant debris packed with sandstone bands throughout		50	315	80
	Sandstone, medium grained, light grey, silty wisps; occasional band up to 10cm. of silty mudstone to 319m. Coal lens at 319.50m. at 319.90m. Sub-vertical quartz veins at 320.20m. Occasional carbonaceous wisps from 320.90m. Coal scars and debris from 322.40m.	6	00	322	80
Dip 12° @ 323 m.	Mudstone, very silty, grey, micaceous; partings packed with plant debris, sandy bands to 326 m., sandstone laminations with scattered plant debris below; worm - tubes and Planolites sp. like markings. Silty from 326.80m. to 327.10m. with thick worm tubes and occasional thin ironstone band. Mussel fragments at 327 m.; becoming silty from 327.80m. Sheared and broken below throughout to 329.60m. - occasional rashes, packed with polished surfaces 20 cm. rashes 327.90m. to 328.10m. Carbonaceous, dark grey from 328.90m., rushes from 329.45m. to base, few coal fragments (pyritic) in base	6	80	329	60
Dip 12° @ 327 m.	Seatearth, silty, grey, roots, becoming sandy in base		60	330	20
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6-INCH MAP	B/H
SS 88 NE	35

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ion of MARGAM NO. 12 B.H. (Ffordd-y-Gyraith)

EOLOGICAL SSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			330	0
	Siltstone, grey, occasional roots with light grey sandy laminations and thin bands. 10 cm. ironstone band at 330.70m., becoming packed with sandy wisps - ripple bedded from 331.00m.	1	00	331	20
	Sandstone, fine grained, wispy bedded, light grey; massive from 331.80m.	1	00	332	20
2° @ 332.26m	Mudstone, dark grey, silty, micaceous, sheared with rashes		07	332	27
	COAL, stick		03	332	30
	Seatearth, dark grey, becoming grey/brown, roots, muddy, 5 cm. gouge at 332.50m becoming sandy with few roots from 332.80m.	1	30	333	60
	Seatearth, muddy, grey, roots, patches of sphaerosiderite, slightly sheared, rashy/grey brown in base		20	333	80
	Seatearth, very silty, grey, roots, becoming silty		20	334	00
? @ 334.30m.	Mudstone, silty, grey to dark grey, scattered roots, ironstone nodules; light grey sandstone laminations from 334.70m.; becoming very silty and micaceous	1	20	335	20
	Sandstone, light grey, quartzitic, fine grained, wispy bedded		80	336	00
	Siltstone, sandy grey, micaceous, scattered plant debris		30	336	30
	Mudstone, silty, grey, micaceous, scattered plant debris		70	337	00
	Siltstone, grey, becoming dark grey, micaceous sandstone laminations		70	337	70
@ 338 m.	Mudstone, silty, grey, scattered plant debris micaceous, sandstone laminations to 338.20m. Some well-preserved plant debris from 339 m. and large plant debris. Occasional thin ironstone band; becoming slightly silty from 339.40m. Sheared at 339.60m. associated with ironstone band	2	20	339	90
	COAL, fragments		08	339	98
	Rashes, grey-brown		18	340	16
	COAL, stick		36	340	52
	Seatearth, silty, roots, grey/brown, becoming grey from 341 m. with patches of sphaerosiderite, becoming muddy with polished surfaces		88	341	40
	Sandstone, light grey, fine/medium grained, sphaerosiderite in top 10 cm. Silty bands to 342.20m. Wispy bedded below; slumped bedding at 344.40m. Silty bands in base; 10 cm. silty bands at 344.80m.; becoming finer grained and	4	00	345	40
	Mudstone, very silty, grey, light grey sandstone bands; occasional thick sandy band; "striped beds" 346.70m. to 347.10m.	2	10	347	50
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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NE	35

Section of MARCAM NO. 12 B.H. (Ffordd-y-Gyraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			347	50
Dip 9° @ 348 m.	Siltstone, grey, scattered debris		50	348	00
	Mudstone, silty, grey, occasional light grey sandstone laminations		20	348	20
Dip 11° @ 351 m.	Siltstone, grey, massive, scattered plant debris, occasional band of silty mudstone. Steep fracture 349.70m.	2	30	350	50
	Mudstone, silty, grey, wormy		50	351	00
	Siltstone, grey, massive, locally sandy, scattered plant debris	1	70	352	70
HORIZON OF FORAMINIFERA MARINE BAND	Mudstone, silty, grey, wormy from 353.70m.; packed with Planolites sp. from 353.80m. to 354.50m. Sheared at 355.40m. P. ophthalmoides from 355.60m. Steep joints from 355.90m. and sheared at 356.20m. Thin ironstone bands below. Sheared at 357m. Steep mineralised fracture at 357.50 Packed with P. ophthalmoides from 357.50m.; occasional ironstone nodules, some with pyrite centres and polished surface, locally sheared to base from 358 m. Badly sheared in basal 20 cm., mainly rashes from 358.80m.	6	20	358	90
Dip 15° @ 357.40m	Coal, stick with pyrite lens at 359.20m.		41	359	31
	Seatearth, dark grey in top 10 cm., becoming grey/brown, roots, silty, firm, becoming grey with ironstone nodules Soft and rashy at 360.10m. Sphaerosiderite patches below	1	19	360	50
	Mudstone, silty, grey, scattered roots; locally very silty from 360.70m.		30	360	80
Dip 14° @ 360.70m	Sphaerosideritic rock with carbonaceous debris		20	361	00
	Mudstone, silty, grey, slickensided surface at 361.50m.; leached appearance, broken in base, steep contact	1	45	362	45
	Sandstone, light grey, wispy bedded, 70° faulted base with gouge		35	362	80
	Mudstone, very silty, sedimentary, distorted sandy bands. Slickensided surface at 362.90m., sedimentary structures		40	363	20
	Sandstone, light grey, fine/medium grained silty bands in top. Steep joint from top. Vertical fractures from 363.50m. to 364 m.	1	10	364	30
	Siltstone, grey, poorly bedded, occasional light grey sandstone band, sub-vertical joint from top		50	364	80
Dip low	Mudstone, silty, leached appearance, irregular sandstone laminations and thin bands. Thick ironstone band at 365.10m 10 cm. siltstone band at 365.70m. 20 cm. packed with sandstone laminations at 366.10m. 20 cm. siltstone below, poorly bedded	2	80	367	60
Dip 8° @ 368.10m.	Siltstone, grey, sandy, scattered plant debris, faint sandstone wisps		70	368	30
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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NE	35

Section of MARGAM NO. 12 B.H. (Ffordd-y-Gyraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			368	30
	Mudstone, silty, grey, scattered plant debris, 45° slickensided fracture at 369.90m.; sheared at 370.20m.; sandstone bands from 370.00m. and locally very silty. Mudstone, very silty, grey, scattered plant debris fairly massive, sheared at 370.80m sheared at 371.20m.; packed with sandstone laminations below to 372 m. Steep fracture at 371.50m. and 371.80m.				
ip 13° @ 371.30		3	90	372	20
	Mudstone, silty, grey. Sub-vertical joint from top to 372.80m. Coalified plant debris at 372.80m.; poorly bedded. Thick ironstone band at 372.90m.		80	373	00
	Mudstone, very silty, light grey, sandstone laminations in top 30 cm.; scattered plant debris. Steep slickensided fracture from top to 374 m.; low polished parting at 374.30m. poorly bedded	2	10	375	10
	Sandstone, light grey, quartzitic, fine to medium grained, wispy bedded		35	375	45
	Mudstone, very silty, micaceous, grey, scattered plant debris, 15 cm. fine grained, grey sandstone band at 375.80m.; poorly bedded, scattered plant debris; occasional band of siltstone; polished surfaces at 376.60m. Occasional light grey sandy band below to base.	1	35	376	80
	Siltstone, fine grained, massive, scattered plant debris, muddy and occasional sandy laminations, some large plant debris, crushed in base		80	377	60
ip 2° @ 377.50m					
	~~Sandstone, light grey, medium grained, veined in top 20 cm. with pyrite infill (looks Pennant like), occasional carbonaceous wisps. 15 cm. mudstone band at 378.30m. with ironstone band; 5 cm. mudstone band at 376.80m., steep veining (displacing carbonaceous laminations) 379.20 to 379.60m. 5 cm. mudstone band with steep fractures at 380.20m., packed with dark, silty laminations below and occasional bands from 381.20m. to 381.80m.; only scattered laminations below. Mudstone and ironstone lenses from 383 m. to 383.20, lens of rafted coal at 383.60m.~~	6	10	383	70
	~~Mudstone, silty, grey, scattered plant debris, turbulent mixture with sandstone laminations and bands~~		50	384	20
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SERIES 680

6-INCH MAP	B/H
SS 88 NE	35

Section of MARGAM NO. 12 B.H. (Ffordd-y-Gyraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			384	20
	Sandstone, light grey, medium grained, steep mineralised veins from 384.40m.; scattered mudstone pellets from top; broken with numerous fractures 386.50 m. to 387 m. Mudstone lens 387.80 to 388 m. Occasional laminations below. Steep fractures 388.80m. to 389.10m., becoming massive. Broken with steep fractures 389.60 to 390.10m. (some with pyrite crystals). Pyrite nodule at 390.25 m.	6	10	390	30
Dip low @ 390.40	Mudstone, silty, grey, faint sandstone laminations - 5 cm. ironstone band in top. Core fragments only including 5 cm. sandstone fragments and some fragments of seatearth (out of place?)		20	390	50
Cores jumbled	COAL, fragments only (on timings)		10	390	60
	Seatearth, muddy, roots, grey, core fragments only to 391.40 m.; sheared at 391.30m. Ironstone nodules	1	90	392	50
	Mudstone, silty, grey, occasional roots, leached appearance. Steep joints from top to 392 m. Several mineral fractures at 392.70m. to 393 m.; polished surfaces 393.30 to 393.50m. associated with large ironstone mass above.				
Dip 10° @ 393.10m.	Polished surfaces at 394.50m.; faint, light grey sandy wisps from 396 m.	4	60	397	10
	Siltstone, grey, locally sandy, 2 cm. coal band at 397.20m.; Stigmaria below; occasional coalified plant debris		60	397	70
	~~Sandstone, light grey, distorted wispy bedding (sedimentary), occasional coal lens. Passes into~~		50	398	20
	~~Mudstone, slightly silty, grey, scattered plant debris, occasional ironstone bands and lenses; polished surfaces throughout~~		20	398	40
	~~Rashes~~		09	398	49
LOWER PENTRE	~~COAL, stick~~		42	398	91
	~~Dirt (Tonstein band)~~		04	398	95
	~~COAL, 12 cm. broken stick, 8 cm. fragments~~		20	399	15
	~~Seatearth, slightly silty, grey to dark grey, roots, ironstone nodules~~		85	400	00
	~~Mudstone, silty, grey to dark grey, roots, badly sheared with rashes from 400.90m. to 401 m., faint sandstone wisps from 401.30m. and occasional sandstone band~~	2	30	402	30
Dip 9° @ 400.10m.	~~Sandstone, light grey, wispy bedded, medium grained, quartzitic~~		20	402	50
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SERIES 680

6-INCH MAP	B/H
SS 88 NE	35

Section of MARGAM NO. 12 B.H. (Ffordd-y-Gyraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			402	50
	Mudstone, very silty, grey, micaceous, scattered plant debris, occasional sandstone band. Steep slickensided fractures at 402.70m., broken 403.20m. to 403.40m. with slickensided partings; 10 cm. sandstone band at 402.80m. and 403.70m. 10 cm. sandstone band at 403.60m., roots at 404 m., becoming silty with no sandstone	2	30	404	80
6° @ 404.60m.	Sandstone, light grey, medium grained, massive. Vertical quartz vein 405.50m. to base	1	00	405	80
	Sharp base with coaly streaks				
	Mudstone, slightly silty, grey, 5 cm. ironstone band at 405.90m.; packed with polished surfaces; sheared throughout, locally rashy; rashes 406.80m. to 407 m. basal 20 cm. rashes	1	95	407	75
	COAL [on timings] 15 cm. fragments recovered 85 cm. lost core (including 50 cm. coal) from 408.75		65	408	40
	Seatearth, muddy, dark grey, packed with roots, and plant debris. Occasional polished surface, grey and silty from 409 m.; ironstone nodules; sheared with gouge at 409.40m.				
	Passing into	1	50	409	90
	Sandstone, light grey, faint silty wisps; fine grained, quartzitic. Steep joints from top to 410.50m. Silty laminations and bands from 410.60m.	1	20	411	10
8° @ 411.50m.	Mudstone, silty, grey, occasional faint sandstone laminations to 411.80m. Vertical joint from 411.40m. to 412 m. with horizontal slickensides Worm trails to 412 m., locally very silty, broken ground, sheared with steep polished surfaces 412.30 to 412.70m.; scattered plant debris; occasional ironstone band. Steep joints at 414.70 m. Polished partings, some slickensiding and sheared ground at 415m. to 415.10m. Sandstone laminations and occasional thin band below to				
13° @ 416 m.	416 m. Plant stems at 415.20m.; some slumped bedding. Sub-vertical joints with slickensiding from 416.60m. to 416.90m.; becoming packed with sandstone laminations below 417 m. to striped beds at 417.10m. to base	6	10	417	20
	Sandstone, light grey, silty laminations throughout, fine grained, quartzitic		70	417	90
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6-INCH MAP	B/H
SS 88 NE	35

Section of MARGAM NO. 12 B.H. (Ffordd-y-Gyraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			417	90
	Mudstone, silty, grey, partings packed with plant debris. Occasional sandstone laminations and bands to 418.30m. Occasional ironstone band; becoming wormy from 418.50m. and darker grey to 419.10 m. with faint Planolites sp.-like markings; faint sandstone wisps from 419.10m to 420 m., Steep fracture at 419.40 to 419.60m. Very silty from 419.70 to 420 m. Steep fractures and shear planes from 420 m. to 420.60m., some with gouge; faintly wormy from 421.50 m. Planolites sp. like markings at 422.80m.; sheared at 423.60m. Worm trails at 423.40m becoming darker grey and slightly				
ip 8° @ 421 m.					
nd of run 24.03m.	silty from 423.50m.	6	13	424	03
	Structural rashes, dark grey, signs of contorted bedding			425	00
	Approx. 2.40m. lost core [including Coal] from 425 m. to 427.40m.				
	COAL, on timings (no sign of coal)		35	425	35
	Brown/grey rashes, signs of pulverised coal at 428.30m., rashes below	1	45	428	60
	Siltstone, sandy, grey, massive with roots, ironstone nodules and large masses. Sandy bands, vertical irregular fracture throughout	1	00	429	60
	Sandstone, light grey, fine grained, grey from 430 m. to 430.30m., massive, quartz filled vein to 430.30m.		90	430	50
p 11° @ 431.60m.	Mudstone, very silty, grey, scattered plant debris, scattered small roots, becoming silty from 431.20m.; vague worm trails; leaf impressions, plant straps from 431.70, becoming slightly silty, occasional polished surfaces; becoming packed with plant debris; sheared at 432.30m.; packed with polished surfaces below to base	1	96	432	46
pprox. 30 cm. issing in run 29.55 to 435.67 m.	~~Black rashes with fragments of coal~~		10	432	56
	~~COAL, stick~~		07	432	63
	~~Rashes, grey/brown, becoming darker in base~~		25	432	88
	~~COAL/dirt mixtures~~		27	433	15
	~~Rashes, grey/brown~~		05	433	20
	~~Seatearth, grey, silty, roots, ironstone nodules, becoming very silty with sandy bands from 433.50m.~~		60	433	80
	~~Mudstone, silty, grey, roots, sandstone bands in top 20 cm.; 20 cm. ironstone mass from 434.60m. Sheared in base; packed with sandstone laminations and bands below 435.20 to 435.50m. -~~				
ip 16° @ 435.50m.	~~slumped bedding~~	1	90	435	70
	~~Sandstone, fine grained, quartzitic, wispy bedded~~		30	436	00
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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NE	35

Section of MARGAM NO. 12 B.H. (Ffordd-y-Gyfraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			436	00
	Mudstone, silty, grey, packed with light grey sandy laminations to 436.50m., occasional laminations below. Steep fracture at 436.80m.; scattered plant debris. Numerous sandstone laminations from 437.20m. and partings packed with plant debris to 438 m.; semi-polished bedding planes from 438.20m.; blocky; thick ironstone band at 438.60m.; becoming darker grey; slightly silty, faintly wormy at 438.80m.; sheared at 439.10m. Worm trails in ironstone band at 439.30m. Shell (mussel)? at 439.40m Sheared at 440 m. Dark grey, silty and micaceous from 440 m. Sheared 440.30m. to 440.40m.; paler grey below, occasional ironstone lens. Wormy with darker mudstone in burrows; becoming massive and very silty at 441.60m.; sheared at 442 m.				
Dip 7° @ 437 m.					
Dip 5° @ 443.70m.	Thick ironstone band at 443 m. wormy from 444.50m.; sandy wisps at 444.86 m.; medium/dark grey; thick ironstone band at 445.20m.; silty from 446 m. bedding scattered plant debris, some pyritised; 15 cm. ironstone band @ 446.60 with pyrite blebs in top; wormy. Faint Planolites sp. Shell fragments (mussel?) at 447 m.; occasional ironstone band below and occasional polished parting. Planolites sp. at 447.20m.; becoming slightly silty; Lingula shells at 447.50m.; polished bedding planes below; wormy trails, sandstone bands at 448 m. Vertical fracture 448.20 to 448.50m. Sheared at 448.60m. and 449.10m. Silty and grey from 449.50 with worm trails - no polished surfaces. Sub-vertical joint				
Dip 5° @ 449.50m.					
Dip 16° @ 452.30	450.10 to 450.50m., becoming massive. Sheared at 451.50m.; becoming slightly silty below; packed with polished bedding surfaces below and broken to 452 m. Dip increases below; sheared and broken 452.50m. to 453 m. with ironstone bands, rashes at 453 m. to 453.10m.; packed with polished bedding below, locally rashy and badly sheared to 454.50m. Dark grey from 454.50m.; occasional polished surface. Coal streak at 454.60m. Carbonaceous from 454.70m.			.../	

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SERIES 680

6-INCH MAP	B/H
SS 88 N E	35

• Section of MARGAM NO. 12 B.H. (Fforddy-Gyfraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			436	00
	Vertical slickensided parting from 454.80m.; packed with pyrite blebs. Shears at 455 m. Shell fragments (Brachiopods?) at 455 m. Coiled shell impression ((goniatite) Crinoid ossicles. Coalified plant debris in base	19	20	455	20
CEFN COED MARINE BAND					
Dip 13° @ 455.10m	Seatearth, grey/brown, muddy, rashy, pyrite in top. Approx. 1.00 m. lost core from 456 to 457 m.; rushes 455.40 to 456 m. Rashy seatearth below to 457.20m.; sphaerosiderite in dark grey seatearth from 457.20 to 458.50m.. Sub-vertical joints from 457.30m. to 457.80m. Reddening in nodules at 457.70m. to 458 m.; becoming very silty and grey in base	3	30	458	50
	Siltstone, grey (mottled appearance in top) with sandstone bands and wisps; massive, large ironstone mass in top; fractured ironstone band at 459.60m. Slumped bedding at 460m. Steep slickensided fracture at 460.20m. with irregular polished surfaces. Irregular steep fracture 461.20 to 641.40	3	50	462	00
Dip 6° @ 463 m.	Mudstone, silty, grey, mottled appearance; occasional patch of sphaerosiderite thick ironstone band at 463.50m.; occasional worm trails. Scattered plant debris from 464 m.; becoming medium to dark grey and micaceous; occasional thick ironstone band; ~~sheared at 465 m.. Sheared with rushes 465.10m. to 465.25m.; becoming slightly silty; very dark grey, slightly carbonaceous from 465.30m.. Thick ironstone band at 465.35m.; becoming silty and medium to dark grey from 465.60m.; sandstone laminations from 466 m. to 466.20m.; occasional polished surfaces from 466.40m.; becoming slightly silty locally; thick ironstone band at 467 m.; sheared with rushes 467.40m. to 467.50m.; broken and sheared in base~~	~~5~~	~~80~~	~~467~~	~~80~~
	~~Rushes, grey/brown~~ (No Coal on B/B Log)		~~20~~	~~468~~	~~00~~
	~~Approx. 50 cm. core lost here~~		~~50~~	~~468~~	~~50~~
	~~Seatearth, grey/brown, roots, scattered sphaerosiderite, muddy; becoming hard and very silty from 469 m.; locally sandy~~	~~1~~	~~20~~	~~469~~	~~70~~
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6-INCH MAP	B/H
SS 88 NE	35

Section of MARGAM NO. 12 B.H. (Fford-y-Gyraith)

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS Cm.	DEPTH Metres	DEPTH Cm.
	Mudstone, silty, grey/brown patches of sphaerosiderite to 470.30m. - grey below. Sub-vertical joint 470.50m. Sandy from 471m. to 471.20m; plant straps, occasional roots; large ironstone mass at 471.50m. Sandstone laminations and occasional band below and becoming very silty. Occasional thick light grey sandstone band from 473m. with ripple bedding. Scattered plant debris; slickensided parting at 474 m. Thick ironstone band at 473.50m; 20 cm. sandstone band at 474.40m.			469	70
Dip < 5°	Sandstone, light grey, quartzitic, medium grained occasional thick band of mudstone. Coal threads at 475.80m. and at 477.20m. Wispy bedded; medium to fine grained from 478m.	5	30	475	00
	Mudstone, silty, grey, micaceous, scattered roots.			485	26
	Sandstone, light grey, fine grained, quartzitic silty mudstone wisps.		20	485	46
Horizon of Britannic Marine Band. Washed out.	Seatearth, muddy in top becoming very silty with occasional sandy band, scattered roots.		40	485	46
	COAL 20 cms. stick		18	485	04
	Sandstone, medium grained, light grey quartzitic carbonaceous laminations throughout.		20	485	24
Runs from 481.71 to 491.15 originally racked upside down - see BPB log.	Mudstone, slightly silty, dark grey pyrite blobs, occasional polished surface.		62	485	86
	Mudstone, grey, very silty, broken core in top, sandstone laminations from top to 487.00, occasional roots, vague seatearth texture in base.		60	486	46
Dip 25° @ 491.50 Part of Britannic Marine Band.	Mudstone, medium to dark grey, badly sheared from top to 490.00. Gouge at 488.50 Lingula shells at 490.20 and pyrite blobs, occasional polished surface and Thick Ironstone band.	1	00	487	46
Dip 60° @ 492m. Dip sub-vertical at 491.50m.	Mudstone, dark grey, slightly silty; pyrite blebs: Lingula at 492m. Core fragments only below 492m.			491	75
Dip 20° @ 491.60m.	Mudstone, silty, grey, occasional ironstone band, polished surfaces @ 493m. with some slickensiding, slickensided parting at 493.20m. becoming slightly silty and darker grey from 494m; badly sheared 494.20m. to 494.50m. Pyrite blebs below.		85	492	60
Local high dip. Small repeat.					

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6-INCH MAP	B/H
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Section of MARGAM BOREHOLE NO. 12 (Fford-y-Gyraith)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
Hafod Heulog Marine Band	B/F			492	60
	Lingula at 494.50m. Occasional thick ironstone band with associated shearing. Sheared 495.10m. to				
ip 15° @ 444.70m.	495.30m.; locally very steep dips				
	Lingula at 495.50m. Sheared 495.70m. to 495.90m. Only occasional pyrite bleb below; polished surfaces. Sheared at 496.60 to 496.80m. Approximately 30 cm. core lost to 497.20m. P. ophthalmoides at 497.30m.; sheared 497.50m. to 497.70m.; silty from 498 m. with scattered plant debris (some coalified)	5	65	498	25
.p 10° @ 498 m.	COAL, 50 cm. recovered stick, crushed in top		60	498	85
	Seatearth, grey/brown, soft, rashy to 499 m. Roots. Vertical joint 499.20 to 499.40m. Sphaerosiderite @ 499.90m to 500.10m. 30° base	1	35	500	20
Repeat	Gouge - dark grey, rashy, clay gouge with fragments of mudstone		20	500	40
	Mudstone, dark grey, slightly silty, Lingula fish scales		60	501	00
.p 40° @ 500.50m	COAL, inferior looking in top 20 cm.		75	501	75
	Seatearth, grey/brown, soft/rashy in top 20 cm., becoming hard and silty with occasional root below. Disseminated pyrite. Patches of sphaerosiderite from 503 m becoming grey with sandy bands from 503.50m.; ironstone nodules Large ironstone band at base	2	75	504	50
	Mudstone, silty, grey/dark grey, scattered roots and occasional ironstone nodules; occasional polished surface; becoming packed with polished surfaces at 505.30m., vaguely				
p 17° @ 504.70m					
p 13° @ 505m.	wormy and slightly silty		30	505	80
	Siltstone, grey/dark grey, scattered plant debris, massive		40	506	00
	Seatearth, grey, silty with roots, sheared in top, occasional ironstone nodule		40	506	40
	Mudstone, silty, grey, roots and occasional ironstone nodules, sheared at				
p 14° @ 506.50m.	506.80m., becoming very silty below with occasional sandy wisp	1	10	507	50
	Siltstone, grey, rare root, occasional light grey sandstone laminations		50	508	00
	Mudstone, silty, grey, scattered roots, micaceous, sandstone wisps; 30 cm. of ironstone from 508.70m.; thick ironstone band at 510 m.; becoming very silty below with faint sandstone wisps; sandstone laminations from 511 m.; slumped bedding at				
) 8° @ 511 m.	511.50m. with polished surfaces. Sandstone laminations and bands, becoming closely spaced to "striped" bedding from 512 to 513.50m.; slumped bedding at 512.70m.;			.../	

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EPSG: 27700 : 286866,185033

6-INCH MAP	B/H
SS 88 NE	35

Section of MARGAM BOREHOLE NO.12(Ffordd-y-Gyraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			508	00
	Occasional polished surfaces and thick grey sandstone band. Closely spaced sandstone laminations below to 514 m. Polished surfaces at 513.20m.	6	00	514	00
p 12° @ 513.20m	Mudstone, silty, grey, occasional sandstone laminations to 515 m.; scattered plant debris; thick ironstone band at 514.60m. Wormy from 514.80m.; broken ground associated with thick ironstone band at 515.10m.; occasional polished bedding planes from 515.50m.; becoming darker grey. Sheared at 516 m. with thin ironstone band; packed with polished surfaces to 516.30m.; thick ironstone band at 516.50m.; packed with polished surfaces below to 517 m.	3	00	517	00
	Solid rashes, badly sheared ground, solid black rashes (no bedding apparent) Occasional lens of ironstone; irregular polished surfaces; solid brown rashes at 517.60m. with carbonaceous patches; vague seatearth texture; black rashes from 517.80m. Clay gouge from 518m., rashy with occasional fragment of dark mudstone. Steep shear planes throughout	2	26	519	26
	COAL (core lost) on timings 1.20m. core lost 518.80m. to 520 m.		30	519	56
	Seatearth, pale grey/brown, solid, very hard, sandy, roots, scattered sphaerosiderite	1	14	520	70
	Mudstone, silty, grey, massive, scattered sphaerosiderite. Thick ironstone band at 521.50m.		90	521	60
	Sandstone, grey, silty laminations, fine grained. Vertical jointing. Thick ironstone band @ 522.10m.		60	522	20
p 18° @ 522.50m	Mudstone, silty, grey, scattered plant debris occasional sandstone laminations Sheared at 523 m.; dark grey, silty and micaceous from 523.30m, brecciated ironstone at 523.90m. to 524.50m. with steep faulted base; slightly silty mudstone below; packed with polished bedding planes. Sheared at 525.20m. Locally rashy below, polished surfaces obliterate bedding; carbonaceous from 525.45m.; sheared in base	3	40	525	60
	COAL, fragments only		05	525	65
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6-INCH MAP	B/H
SS 88 NE	35

Section of MARGAM BOREHOLE NO.12(Ffordd-y-Gyraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
				525	65
	Seatearth, dark grey, roots, becoming silty, steep shear planes at 526.20m. Occasional ironstone nodules; steep shears at 526.50m.		95	526	60
Dip low throughout	Mudstone, silty, dark grey, occasional roots, finely micaceous; packed with irregular polished surfaces Thick veined ironstone at 527.00 Occasional polished bedding plane below.				
	20 cm. immediate roof lost	1	35	527	95
	COAL (70 cm. broken stick/		50		
	COAL and dirt bands (fragments		10		
	COAL (recovered		30	528	85
	Mudstone seatearth, grey/brown, roots, solid becoming grey/silty from 529.30m., sandy patches from 529.20m.; 20 cm. ironstone band at 830 m.	1	35	530	20
Dip 8° @ 530.30m.	Mudstone, very silty, grey, occasional sandy laminations to 532 m.; scattered roots and plant debris Thick ironstone band at 530.80m. Vertical joint below to 522 m.; silty from 531.50m.; ironstone band at 531.70m.; occasional thin ironstone band; becoming darker grey from 532.20m.; vaguely wormy from 533 m.; sheared at 533.10m. and 533.70m. with roots; becoming silty from 533.30m. and wormy, especially in ironstone bands. 10 cm. gouge in base	3	80	534	00
	Mudstone, very silty, grey, roots to 536 m., vague seatearth texture in top 10 cm. 15 cm. ironstone mass at 534.40m., light grey sandstone laminations below and occasional sandstone band; sheared at 535.90m. with local sub-vertical dip; thick ironstone band below; occasional				
Dip 27° @ 535.50m					
Dip 45° @ 536.40m	ironstone band	3	20	537	20
	Mudstone, silty, grey, regular polished bedding planes from top, some with slickensiding; dip gradually eases off; 25 cm. veined ironstone band from 538.10m.; only occasional polished bedding plane below.				
Dip 19° @ 538 m.					
Dip 15° @ 538.70m.	Sandstone laminations from 539 m.; becoming packed with sandstone laminations from 540 m. (striped beds) to 540.80m.; rare sandstone laminations from 541 m.	3	80	541	00
	Mudstone, silty, locally slightly silty, faintly wormy; medium/dark grey; sheared at 541.80m.; G. carbonaria at 542 m.; sheared with roches at 542.60m. associated with ironstone band; slightly silty below. Occasional thick ironstone band			.../	
Dip 9° @ 542 m.					

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6-INCH MAP	B/H
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Section of MARGAM BOREHOLE NO.12(Ffordd-y-Gyraith)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
				525	65
	Seatearth, dark grey, roots, becoming silty. steep shear planes at 526.20m. Occasional ironstone nodules; steep shears at 526.50m.		95	526	60
Dip low throughout	Mudstone, silty, dark grey, occasional roots, finely micaceous; packed with irregular polished surfaces Thick veined ironstone at 527.00 Occasional polished bedding plane below.				
	20 cm. immediate roof lost	1	35	527	95
	COAL (70 cm. broken stick/		50		
	COAL and dirt bands (fragments		10		
	COAL (recovered		30	528	85
	Mudstone seatearth, grey/brown, roots, solid becoming grey/silty from 529.30m., sandy patches from 529.20m.;				
	20 cm. ironstone band at 830 m.	1	35	530	20
Dip 8° @ 530.30m.	Mudstone, very silty, grey, occasional sandy laminations to 532 m.; scattered roots and plant debris Thick ironstone band at 530.80m. Vertical joint below to 522 m.; silty from 531.50m.; ironstone band at 531.70m.; occasional thin ironstone band; becoming darker grey from 532.20m.; vaguely wormy from 533 m.; sheared at 533.10m. and 533.70m. with roots;becoming silty from 533.30m. and wormy, especially in ironstone bands.				
	10 cm. gouge in base	3	80	534	00
	Mudstone, very silty, grey, roots to 536 m., vague seatearth texture in top 10 cm. 15 cm. ironstone mass at 534.40m., light grey sandstone laminations below and occasional sandstone band; sheared at 535.90m. with local sub-vertical dip; thick ironstone band below; occasional				
Dip 27° @ 535.50m					
Dip 45° @ 536.40m	ironstone band	3	20	537	20
	Mudstone, silty, grey, regular polished bedding planes from top, some with slickensiding; dip gradually eases off; 25 cm. veined ironstone band from 538.10m.; only occasional polished bedding plane below.				
Dip 19° @ 538 m.					
Dip 15° @ 538.70m.	Sandstone laminations from 539 m.; becoming packed with sandstone laminations from 540 m. (striped beds) to 540.80m.; rare sandstone laminations from 541 m.	3	80	541	00
	Mudstone, silty, locally slightly silty, faintly wormy; medium/dark grey; sheared at 541.80m.; G.corbenaria at 542 m.; sheared with roches at 542.60m. associated with ironstone band; slightly silty below. Occasional thick ironstone band			.../	
Dip 9° @ 542 m.					

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6-INCH MAP	B/H
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Section of MARGAM BOREHOLE NO.12 (Ffordd-y-Gyraith)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			541	00
	worm trails, 45° polished surfaces at 543.50m.; 45° shear plane at 543.80m. with 10 cm. rashes. Occasional thin ironstone band; occasional polished bedding plane. Small irontone nodules from 544.50 becoming thinly bedded; badly sheared 545.10 m. to 545.20m. Mussel impression at 545 m. Worm trails with iron infilling; dip increasing below sheared ground with packed and polished surfaces.				
p 35° @ 545.30m.	Sheared 545.70m. to 546 m. Dip eases off below; thick ironstone at 546.20m.; solid mussel @ 546.25m packed with polished bedding planes to base	6	40	547	40
	60 cm. core lost in the ground 547.40m. to 548.00m.				
	Rashes, grey/brown, soft/friable, polished surfaces dipping approximately 45°; dark grey from 549.20m.	2	17	549	57
wo Feet Nine.	COAL, 50 cm. broken stick with polished surfaces		55	550	12
	Rashes, soft, grey/brown; packed with polished surfaces		58	550	70
p 33° @ 551 m.	Mudstone, silty, grey, roots, plant debris; polished surfaces, core fragments only; partings packed with plant debris; band of sandstone at				
p 45° @ 551.50m.	552.30m. Becoming dark grey and slightly silty from 552.50m.;				
p 38° @ 553 m.	sheared with rashes associated with ironstone band at 552.80m. little plant debris, C. kochi at 553.50m.; sheared at 553.70m. associated with ironstone bands. Steep polished surfaces to base				
pper Four Feet	Sheared in base	3	15	553	85
	COAL, 30 cm. broken stick 60 cm. fragments steep polished surfaces in basal 40 cm.		95	554	80
	Seatearth, grey, silty with roots, rashy in top 10 cm.		70	555	50
ip 22° @ 555.70	Mudstone, softly grey, roots, sandstone laminations/bands; comminuted plant debris, polished surfaces 556.90m.	1	50	557	00
	Sandstone, light grey, fine/medium grained, quartzitic, silty wisps and bands		50	557	50
	Mudstone, silty, grey, sheared at 557.70m. to 557.80m. with rashes; 10 cm. ironstone band at 558 m.		50	558	00
p 28° @ 558.30m.					
				.../	

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6-INCH MAP	B/H
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ection of MARGAM BOREHOLE NO.12(Ffordd-y-Gyraith)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS		DEPTH	
	B/F			558	00
17° to 20° at 559 m.	Mudstone, silty, grey, partings packed with scattered plant debris, sandstone laminations to 560.50m., sandstone/ironstone bands 560.10m. to 560.30m occasional thick ironstone band below, worny from 561.00m.; polished bedding planes at 562 m., becoming slightly silty from 561.50m. and rare plant debris; 15 cm. ironstone band at 562.80m.; highly sheared in basal 5 cm.				
	No fast drilling	5	25	563	25
	Seatearth, grey, silty, roots, ironstone nodules, sandy from 562.50m.		45	563	70
	Sandstone, light grey, quartzitic		10	563	80
	Ironstone		15	563	95
	Mudstone, silty, grey, roots, light grey sandy bands; 10 cm. sandstone band with steep faulted base at 564.30m large ironstone masses below, still roshy with rare sandstone band; 15 cm. ironstone band with sandstone band in base at 565.20m., no roots below; partings packed with plant debris, sheared at 566 m. with steep polished surfaces	2	25	566	20
	Mudstone, slightly silty and darker grey, polished bedding planes below associated with thin ironstone bands. Worm trails at 567.80m.; sheared with ~~x~~ashes 567.70 to 567.80m.	1	80	568	00
12° @ 568.70m	Mudstone, silty, grey, poorly bedded, occasional thick ironstone band; ~~coaly at, no polished bedding, 15 cm. ironstone band at 569.20m., darker grey from 569.50m. and slightly silty ~~darker~~ grey in base, worny sheared in base~~	2	00	570	00
	~~Seatearth, dark grey, rooty, muddy, polished surfaces in top, becoming very silty and hard from 570.25m.; ironstone nodules, 15cm. ironstone band at 570.80m.~~	1	00	571	00
12° @ 571.50m.	~~Mudstone, silty, grey, scattered roots; 10 cm. ironstone band at 572.20m. ground shuffled below with polished bedding surfaces; sheared at 572.60m. to 572.80m.; thick ironstone band at 573.00m. and at 574 m.; sheared and broken 573.30m to 573.40m.; occasional polished bedding planes to 574.50m., compact and unbroken below, locally very silty to 575.50m., slight bedding shear at 575.60m., faintly worny; thick ironstone band at 576m. and 577m., ; steep shear at 576.50m. with ironstone band at base; occasional polished bedding~~				
12° @ 576 m.					
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6-INCH MAP	B/H
SS 88 NE	35

Section of MARGAM BOREHOLE NO.12 (Ffordd-y-Gyraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS		DEPTH	
	B/F			571	00
	planes below 577m.				
	Wormy at 577.20, becoming darker grey and slightly silty, occasional bedding plane shear from 578.60. Small blebs (Ironstone) Dark grey from 578.60 sheared at 578.25 with gouge. Hard, silty band at 578.30 with mussels. Sheared and broken to base. Large Ironstone band at 578.60 with associated shearing above. Black rashes in base.			579	00
Upper Six Feet.	COAL 5 cms. pulverised coal. 1.35ms.core lost 579.00 to 580.35		76	579	76
	Rashes, grey, brown, contorted		50	580	85
	Seatearth, silty grey with roots, packed with steep polished partings, occasional Ironstone nodules.			582	00
Dip 12°@ 583.00	Mudstone, very silty, grey, scattered roots and plant debris. Ironstone lenses and nodules. Thick Ironstone band at 583.30. No roots below. Packed with well preserved plant debris to base.			583	65
	OPEN HOLED to correct for borehole deviation to			606	29
	Caving in roof indicates weak roof.				
Lower Six Feet	COAL (open holed section)	2	18	599	06
				.../	

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6-INCH MAP	B/H
SS 88 NE	35

*Delete as appropriate

• Section of MARCAM SURFACE B.H. NO.12 (Ffordd-y-Gyraith)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			606	29
	Sandstone, light grey, fine/medium grained, quartzitic, silty laminations in top; thick ironstone band @ 606.40m and 606.80m., irregular veining 607.20 to 607.60m.; carbonaceous laminations below to 608m.; large ironstone lenses at 608.70m.; 20 cm. mudstone band from 609.10m., massive below to 610 m., carbonaceous laminations below with ironstone pellets at 610.50m.; occasional laminations below to base	5	11	611	40
	Siltstone, coarse grained, grey, massive, light grey sandy patches in top 30cm. and cross bedding, compact, thick ironstone band at 613.10m., becoming finer grained	1	90	613	30
	Mudstone, silty, grey to dark grey, micaceous, massive, compact, some plant debris from 614 m.; irregular hairline fractures throughout core, thick ironstone band at 516.40m. with associated polished surfaces; polished surfaces at 617.50m. associated with micaceous ironstone band below	4	40	617	70
	Siltstone, grey, massive, scattered plant debris, steep polished surface at 618.30m.; thick ironstone band at 618.50m.	1	00	618	70
Dip approx. 15° at 619m.	Mudstone, silty, grey, micaceous, massive, scattered plant debris; siltstone band at 619m. and polished surface		57	619	27
	COAL, stick underite veining in top	1	15	620	42
	Dirt, roshes		5	620	47
CAERAU	COAL, fragments		20	620	67
	Gaultearth, dark grey, muddy, ironstone nodules sheared at 621 m., grey and silty below		88	621	50
Dip 8° @ 621.50m.	~~Mudstone, silty, grey, roots, 45° polished surface at 621.60m.; thick ironstone band at 622 m.; sandstone laminations and bands below, partings packed with plant debris, sheared with polished surface from 622.80 to 623m.~~	1	60	623	10
Dip 12° @ 623.50m	~~Sandstone, light grey, quartzitic, wispy bedded, ironstone band at 623.20m~~		20	623	30
	~~Mudstone, silty, grey, scattered plant debris, wormy, occasional ironstone bands and nodules, occasional polished surfaces from 624m. to 625.20m.; broken at 625m., worm trails (G.carbonaria), dark grey, micaceous from 625.20m., mussel impression and mussel debris, grey from 625.50 with blebs (small ironstone nodules?) polished surfaces at 625.60m.; mussel at 626 m.; slightly silty~~			...../	

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- SERIES 680

6-INCH MAP	B/H
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• Section of MARGAM SURFACE B.H. NO.12(Ffordd-y-Gyrnaith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			623	30
	below; sheared at 626.20m.;numerous blebs (Ironstone concretions?); 10 cm. ironstone band at 626.35m.; sheared from 626.50 to 626.59m. with rashes, becoming dark grey and fissile, carbonaceous, polished surfaces, mussel fragment in roof	3	42	626	72
Dip 15° @ 626.72m.	COAL, 25 cm. broken stick, 36 cm. stick		61	627	33
Lower Red	Mudstone, grey, seatearth with roots in top 20 cm., becoming sheared and broken below with occasional rashes to 628.50m., steep shear plane at 628.80m. to 629.10m. - rashes throughout, becoming grey/brown at 629 m.	1	77	629	10
	Seatearth, grey brown, sandy with roots		40	629	50
	Mudstone, slightly silty, grey with roots, mottled with leached appearance; 15 cm. ironstone band at 630.20m., darker grey from 630.50m. with well preserved large plants, some are coalified to 631m.; few roots, scattered plant debris below; thick ironstone band at 632 m.; silty from 632 m.; numerous ironstone nodules at 632.60m.; occasional ironstone band and lens; becoming silty slightly from 634m.; thick ironstone band at 635 m.; becoming darker grey, sheared at 635.50m. with rashes; thick ironstone band				
Dip 5° @ 632 m.					
Dip 6° @ 635 m.	at 635.80m.; sheared at 636 m.; becoming silty locally; several steep joints at 636.60m. Vertical joint 636.80 to 637.80m.; partings packed with plant debris in siltier horizons; comminuted plant debris at 638m. with some coalified plant debris and at 638.50m.; sub-vertical joint at 639m.; thin sandstone bands at 639.90m. with associated polished surfaces; thick ironstone band below ironstone and sandstone mixture at 640.10m. to 640.25m.	10	80	640	30
Dip 7° @ 639 m.	Sandstone, grey, quartzitic, with light grey patches, turbulent bedding with mudstone		20	640	50
	Mudstone, grey/dark grey, slightly silty, rare plant debris, occasional sandstone band; ironstone band with associated polished surfaces at 641 m.		60	641	10
	Sandstone, light grey, quartzitic, fine grained, turbulent mixture with mudstone, becoming striped in base		60	641	70
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6-INCH MAP	B/H
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Section of MARGAM SURFACE B.H. NO.12(Ffordd-y-Gyrwith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			641	70
	Mudstone, slightly silty with silty bands, grey/dark grey, scattered plant debris, thick ironstone band at 641.90m.; polished surfaces at 642.30m., 20 cm. ironstone band at 642.60m.; thick ironstone band at 643.10m. Dip rapidly increases to 60°, then flattens off (small fold) between 644.60m. and 644 m.				
Dip 10° @ 644.50m.	becoming planty and silty; sheared in dark grey muddy ground at 644.10 with occasional thin ironstone bands and lens; mussel fragment at 645.80m. and 645.90m.; sheared at 646 m.; fissile with occasional polished bedding plane; sheared at 646.40m.; thick ironstone band at 647 and at 647.50m.; becoming grey and silty with thicker ironstone bands, stronger, becoming darker grey and wormy and slightly				
Dip 12° @ 647.30m	silty from 647.80m.; numerous mussel debris at 647.90m., carbonaceous at 648m., sheared at 648.10m.; small thrust at 648.30m, sheared with rashes below to 648.50 Vertical bedding 648.70 to 649m.; abrupt change of dip, becoming grey and wormy; mussel at 649.50m occasional polished surface; becoming dark grey with mussel				
SMALL REPEAT	debris, becoming carbonaceous, packed with polished surfaces from 649.80m., becoming grey again and wormy, 20 cm. ironstone band at 650.30m., becoming silty and firm with no polished partings partings packed with plant debris, large worms	9	40	651	10
Dip 5°	~~Sandstone, light grey, quartzitic, wispy bedded throughout~~		30	651	40
	~~Mudstone, silty, grey, scattered plant debris, compact, thin ironstone band, occasional polished bedding surface from 651.80m., sheared with rashes at 652 m., polished surfaces in base, becoming slightly silty and darker grey with coalified plant debris~~				
Upper Nine Feet.	COAL 10 cms. pulverised core.		84	652	14
	102 cms. broken stick.	1	22	653	36
	Mudstone, dark grey, planty, packed with polished srufaces, rashy.		27	653	63
Lower Nine Feet	COAL 65 stick.		65	654	28
	Rashes		04	654	32
	COAL 48 stick, broken in base		48	654	80
	Rashes, dark grey with coal streaks, grey brown from 655.10, rashy mudstone with plant debris, dark grey rashes with coal streaks in base.		80	655	60
	COAL 30 broken stick				
	20 pulverised	1	22	656	82
Lower Nine Feet cont'd?	[illegible] (down dip off in coal)			657	00

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6-INCH MAP	B/H
SS 88 NE	35

*Delete as appropriate

Section of MARGAM SURFACE B.H. NO.12 (Fford-y-Gyraith)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			657	00
	Mudstone, silty, grey, roots, vague seatearth texture, light grey laminations, 10 cm. sandstone band from 657.20m. veined throughout, 20 cm. ironstone band from 657.50m., also veined; sheared at base, striped beds to 658 m.	1	00	658	00
	Siltstone, massive, grey, coarse, scattered plant fragments, sandstone bands from 658.30m.		50	658	50
	Sandstone, light grey, quartzitic, distorted sedimentary bedded, some veining, occasional polished surface, laminated to 659m., quartz veined below		90	659	40
Dip 23° @ 659.30m	Mudstone, silty, grey, scattered plant debris, light grey sandstone laminations, broken with polished surfaces at 660m.; occasional polished bedding plane, thick ironstone band with steep fracture at 660.40m.; thick ironstone band at 661m. with vertical joint below, sandstone laminations, becoming closely spaced to striped beds from 661.50m. to				
Dip 8° @ 660.50m	662 m.	2	60	662	00
	Siltstone, fine grained, grey, sandstone laminations, partings packed with plant debris, steep fracture at 662.60m., disturbed laminations, becoming striped beds from 662.80m.	1	30	663	30
	Sandstone, light grey, well laminated to 664m., ripple bedded, sheared at 663.50m., sub-vertical quartz veining 664.30m. to 664.80m., carbonaceous parting to 664.50m.	1	00	664	80
				.../	

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6-INCH MAP	B/H
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*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			675	05
	Seatearth, silty, grey, roots, ironstone nodules, some pyritised, sheared/rashy in top 10 cm., sandstone laminations from 675.30m.		45	675	50
	Mudstone, silty, grey, thick sandstone bands to 676m., scattered roots packed with polished surfaces from 676.20m. with steep shear planes; steep fractures from 676.50 to 676.70m.;				
dip 15° @ 677 m.	sheared with 10 cm. black rashes dipping at 20° at 677.20m.	1	70	677	20
	Seatearth mudstone, dark grey, packed with roots/plant debris, occasional small ironstone nodules, some pyritised, large ironstone nodule from 667.80m.	1	00	678	20
	Mudstone, silty, grey/dark grey, rooty, large plant debris, some coalified, occasional sandstone band from 678.50m., 20 cm. sandstone/ironstone from 676.90m.		90	679	10
dip 11° @ 679.20m.	Mudstone, silty, grey/dark grey, slightly silty locally, worny, packed with irregular polished surfaces to 680.20m., thick ironstone band at 680 m.; shell ?mussel at 680.20m, sheared with 680.50m., very silty and micaceous, massive below; micaceous, silty from 680.70m.; large mussels at 680.80m., becoming grey from 681 m. with occasional ironstone band; occasional polished				
dip 8° @ 681 m.	bedding plane below; becoming slightly silty and packed with polished surface from 681.50m.; badly sheared and mainly rashy with contorted bedding from 681.80m. to base	3	03	682	07
YARD	COAL, 90 cm. stick, crushed in top; shear plane in middle	1	16	683	23
	Seatearth, silty, grey, firm with roots, occasional ironstone nodule, occasional polished surface, sandstone bands from 684 m.	1	27	684	50
dip about 6° at 685m.	Siltstone, grey with irregular sandy bands; occasional plant debris, ironstone nodules		40	684	90
	Sandstone, light grey, fine grained, quartzitic, silty wisps, steep polished parting in base		30	685	20
	COAL, fragments		15	685	35
	Rashes, brown.		20	685	95
	COAL/dirt mixture		5	685	60
	1.00 core lost 685.70 to 686.70				

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6-INCH MAP	B/H
SS 88 NE	35

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• Section of MARGAM SURFACE B.H. NO.12(Fford-y-Gyraith)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			686	70
	Seatearth, grey-brown, packed with polished surfaces, carbonaceous at 687 m., grey/brown below, rashy, becoming grey and firmer, band of sphaerosiderite at 688 m.	1	30	688	00
	Mudstone, dark grey, packed with polished surfaces, rashy, plant debris		40	688	40
	Seatearth, grey, roots, plant debris, sheared from 688.60m. to 688.70m., grey-brown from 688.90m., leached appearance		60	689	00
Dip 11° @ 689m.	Mudstone, silty, grey/grey-brown, leached appearance, scattered roots, scattered sphaerosiderite? 689.50 to 689.60m.		60	689	60
	Mudstone, slightly silty, dark grey with polished bedding planes; 20 cm. ironstone from 690m., sheared in base, sheared at 690.50m.; thick ironstone band at 690.70m.; packed with plant debris, some large and coalified at 691.20m.	1	65	691	25
	Mudstone, silty and grey with scattered plant debris		10	691	35
	Seatearth, grey/brown, roots, scattered sphaerosiderite, grey/no roots from 691.50m., grey/brown with roots from 691.80m., dark grey from 692m. with occasional ironstone nodule	1	05	692	40
	Mudstone, dark grey, packed with plant debris and polished surfaces, roots, sheared at 692.60m., coalified plant debris at 692.80m.		45	692	85
	Seatearth, dark grey, muddy, roots, coalified plant debris, occasional ironstone nodules		65	693	50
	Mudstone, dark grey, packed with plant debris some coalified, packed with polished surfaces; coal streaks from 693.85m. to base		40	693	90
	COAL, inferior band		03	693	93
	Seatearth, muddy, dark grey, firm, only occasional polished surfaces, numerous polished surfaces at 694.60m.		77	694	70
	Mudstone, slightly silty, dark grey/grey, occasional roots, plant debris, thick ironstone band at 694.80m.		20	694	90
Dip 8° @ 696m.	Mudstone, very silty, grey below, light grey sandstone laminations, thick ironstone band at 695.40m., silty from 696m., scattered plant debris no sandstone laminations, thick sandstone band at 697 m. with occasional sandstone laminations below; wispy sandstone band at 697.30m.	2	55	697	45
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ection of MARGAM SURFACE B.H.NO.12(Ffrord-y-Gyraith)

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS		DEPTH	
	B/F			697	45
7° @ 697.70m.	Mudstone, slightly silty, dark grey, occasional polished surface, 5 cm. rashes sheared ground at 697.60m., plant debris in base		25	697	70
	COAL, 30 cm. broken stick Dirt 10 cm. fragments } overall COAL 45 cm. broken stick		30 6 52	698	58
	Seatearth, very silty, hard, roots, grey, locally sandy		42	699	50
	Sandstone, pale grey, wispy bedded, quartzitic		40	699	90
	Mudstone, silty, grey, roots, occasional ironstone nodules, sandstone laminations in top 10 cm., faulted base to steep sandstone band at 700.20m., solid gouge below with ironstone nodules	1	10	701	00
	Seatearth, grey, silty, roots, solid, occasional steep polished surfaces		70	701	70
25° @ 702m.	Mudstone, silty, grey, roots, 20 cm. ironstone band at 702m., sheared from 702.60m., 30° shear planes, thick ironstone band at 702.80m., locally rashy, very rooty, seatearth texture at 703m., packed with shears 703 to 703.20m., sphaerosiderite at 703.40m. in grey/brown mudstone with seatearth texture; shear planes throughout, badly sheared with steep shears and occasional rashes from 704 m. to 705.60m. in silty grey, rooty, mudstone, rashes at 704.30m., fragments of sheared seatearth below 704.30m.; coal streaks in sheared mudstone at 705.20m.; seatearth below to 705.30m.; rashes to 708.40m.; badly sheared rooty grey mudstone to base, steep fracture at base dipping at 60°	3	90	705	60
50° @ 704.00					
	Mudstone, silty, grey, sandstone laminations in top 20 cm., roots, 20 cm.				
15° @ 705.80m.	ironstone band from 705.90m. ; occasional ironstone band, solid ground, sandstone band at 706.90m. sandstone laminations below to 707.30m., 10 cm. sandstone band at 707.30m.; some cuttings packed with plant debris, irregular thin sandstone band at 707.60m., darker grey, slightly silty below; Planolites ??? like markings, scattered plant debris, polished surface	2	22	707	82
14° @ 707.60m					
at of coal 98.58	COAL 18 cms. stick Dirt 15 cms. COAL 50 cms.		30 15 50	708	77

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ection of MARGAM SURFACE BOREHOLE NO.12
(Ffordd-y-Gyraith)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			708	77
	Seatearth, grey/brown, roots, silty, firm, sandy at 709m., Stigmaria	1	23	710	00
	Sandstone, light grey, quartzitic, massive in top, becoming wispy bedded, steep vein from top to 710.30m.		60	710	60
19° @ 712m.	Mudstone, silty, grey, scattered roots backed with sandstone laminations and bands to 711m., occasional band below; ironstone nodules, 25 cm. ironstone band from 711.70m steep polished surfaces below and thick ironstone band at 712.30m., becoming slightly silty; sheared/packed with polished surfaces from 712.70 to base, many rashes	2	40	713	00
	COAL, stick		40	713	40
	Seatearth, silty, grey/brown, roots, firm; muddy with steep polished surfaces from 713.70m., firm, silty and grey from 714.20m., sandstone band at 714.40m.; ironstone band at 714.90m.	1	60	715	00
	Sandstone, light grey, quartzitic, fine grained with occasional thick ironstone band; wispy bedded with silty bands	1	40	716	40
20° @ 716.50m	Mudstone, silty, grey, packed with plant debris, occasional root. Joint from 717m. to 717.90m.; some well preserved plant debris, packed with plant debris below 718.10m., some coalified, slightly silty; rashes at 718.20m.; thin coal band at 718.55m.; sheared below	1	60	718	00
9° @ 719 m.	Mudstone, silty, grey, roots in top, strong thick ironstone band in top; 10 cm. sandstone band from 719m.; occasional ironstone nodules and no roots below; scattered plant debris, strong unbroken ground; becoming slightly silty and packed with plant debris from 721m, sheared with rashes at 721.50m.	3	50	721	50
9° @ 723.40m.	Mudstone, very silty, grey, roots in top, strong/unbroken, sandstone laminations and thin bands from 722 m.; 10 cm. at 722.50m.; becoming silty below; thick ironstone at 722.90m., packed with large plant debris at 723.10m., some coalified, sheared with rashes at 723.30m., scattered large plant debris below; ironstone nodules; some well preserved plant debris			723	60
16° @ 724.30	Mudstone, slightly silty, dark grey, scattered plant debris, some large roots. Vertical joint from 723.80 to 724.10. Occasional Ironstone bands and polished surface. Silty with sandstone bands from 724.80			725	00

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6-INCH MAP	B/H
SS 88 NE	35

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres.	THICKNESS Cms.	DEPTH Metres	DEPTH Cems.
Fast drilling 725.00 to 727.00	Sandstone light grey, quartzitic, fine-grained, mediuam grained from 725.80. Occasional silty wisps.			727	00
	Mudstone silty, grey, scattered plant debris. Occasional sandstone lamination and thick ironstone band, numerous sandstone laminations from 728.00. 20 cm. sandstone band from 728.40. 10cm thick ironstone 0729.20. Polished bedding surfaces, shuffled ground from 729.50. Becoming less silty and darker grey, rare plant debris.				
Dip 16° @ 730.00	Sheared @ 730.00, Polished surfaces closely packed below. Sheared, mainly rashed from 730.20 to 730.50.				
	Thick worms at 730.50			730	80
	Black rashes			731	00
	Carbonaceous Mudstone with some coalified plant debris, welded contact onto			731	05
Small (Repeat ((	COAL stick		39		
	Dirt - Carbonaceous mudstone, smooth (18 cms. stick recovered)		18		
Top of 5ft. Seam.	COAL stick		40	732	02
	Mudstone dark grey rashy/sheared coalified plant debris, coal streaks in top 10 cms.			732	20
	Seatearth grey/brown, steep shear planes, roots, locally rashy.			733	20
Dip 22° @ 733.50	Mudstone dark grey, packed with plant debris, some large and coalified				
Dip 16°@ 733.70	occasional coal streak. Polished surfaces throughout. Broken and sheared in base.				
	COAL 30 cms. stick			733	74
	37 cms. broken stick		67	737	41
5ft. seam	Rashes, grey brown, steep shears		10	737	51
	Rashes, dark grey, steep shears low dip onto coal		40	734	91
	COAL 1.20 stick, steep shears in basal 30 cms.	1	20	736	11
	Rashes, black with some coal fragments		5	736	16
	Seatearth, muddy, roots, packed with polished surfaces. 20 cms. core lost 736.20 to 736.40. Dark grey in base.			736	60
Floor coal	COAL stick		07	736	67
	Seatearth, grey brown, muddy, rashy to 737.20, roots. 5 cms. of sandstone to 736.80 Occasional polished surface below 737.20. Scattered Sphaerosiderite from 737.20. 20 cms. sphaerosiderite bands at 737.80			738	00
Dip 8° @ 738.10	Mudstone, silty, grey, leached (blotchy) appearance, occasional root, 20 cms. ironstone bandfrom 738.80 Steep polished partings and dips (locally vertical) from 739.30 Ironstone band in base			739	40
locally vertical @ 739.00	Seatearth, grey/brown, roots, vertical joints from the top. Occasional steep polished surface. Sheared at 741.00			741	20

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SS 88 NE	35

Section of MARGAM SURFACE BOREHOLE NO. 12
(Ffordd-y-Gyraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS Cms.	DEPTH Metres	DEPTH Cms.
Part of 5ft seam, overturned. Dip 40° in base of coal	COAL sheared, 1.03 broken stick	1	03	742	23
	Mudstone, carbonaceous, smooth, scattered plant debris, rashy, core fragments only. Core lost 742.40 to 742.90. Badly sheared from 742.90 to 743.20. Dark grey and slightly silty from 743.20. Occasional ironstone band and polished bedding plane.				
Dip 45° @ 743.40					
Dip 38° @ 744.00				743	60
	Mudstone Silty, dark grey to grey, occasional sandstone laminations and thick ironstone band. Thin sandstone bands from 744.00 with irregular steep polished partings, some slickensiding. Contorted bedding at 744.40. packed with polished surfaces. Broken, irregular and steeply dipping sandstone band (5 cms.) in base.			744	80
	COAL 50cms. fragments.		50	745	30
ip 22° @ 745.55	Mudstone, silty grey, scattered plant debris, faint sandstone laminations. (No roots or seatearth texture). Thick sandstone band at 745.70. Slumped bedding in 20 cms. sandstone band at 746.20. Vertical joint below.				
ip 30° @ 746.00					
ip 15° @ 746.70	Sandstone, light grey, wispy bedded, fine grained and quartzitic, sub vertical quartz veins.			747	00
art of Thrust one. Vertical edding.	Mudstone, very silty, grey, micaceous, scattered plant debris, polished bedding planes, long slithers of core only.			747	40
	Sandstone, light grey, quartzitic, fine - grained, very steep silty laminations, fractured and veined in base.			748	00
pparent overturned beds, sub-vertical dip throughout	Mudstone, silty, grey, packed with polished surfaces, crushed in top. Steep base.			748	50
	Sandstone, light grey, quartzitic, fine grained, silty wisps and laminations. Sub-vertical joints from the top			749	00
p 70° at base of sandstone.	Horizontal fractures in silty band at base.			749	80
	Mudstone, silty grey, faint sandstone laminations. Occasional polished bedding plane and irregular horizontal fracture. Vertical fracture at 751.00 to base.			751	30
p 65° @ 750.30 b vertical Dip at 751.30	Core lost, from			751	30
	including Thin Coal (BPB Logs & drillers timings) Core lost to		10	751	92
				752	30
	Mudstone, silty, grey micaceous occasional roots and scattered plant debris, numerous polished bedding surfaces from 753.00. Large core fragments only from 753.00 to 753.60				
p 42° @ 753.80	Broken 755.00 to 755.50. Only occasional polished surface below, Plant straps, thick ironstone				

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6-INCH MAP	B/H
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS Cms	DEPTH Metres	DEPTH Cms.
	at 756.00 with associated shearing.				
	Broken below 756.00 to 756.70 with				
	irregular polished surfaces.				
35° @ 757.30	Sheared at 757.00. Thick ironstone				
	band at 757.20, sandstone bands below				
	to base.			757	30
	Sandstone, light grey, fine grained, quartzitic				
	silty bands. fragmented and brecciated				
e of thrust	base with coal fragments			758	30
e.	Mudstone, silty, grey, massive, sub-vertical				
	bedding, broken and packed with				
	irregular polished surfaces.				
vertical Dip	Occasional thick ironstone lens.				
760.00	15 cms. ironstone at 760.00 and at				
60° @ 760.80	760.60 with sheared base			761	35
	Mudstone with seatearth texture, sheared				
	throughout.		20	761	55
	COAL 20cm. stick - fold structure in core.		20	761	75
	Rashes brown/grey			762	00
	Seatearth, mudstone, dark grey, roots			762	30
	Rashes dark grey, highly sheared with				
	apparent sub-vertical dip becoming				
	brown/grey in base			762	90
	Sandstone light grey, silty laminations,				
	carbonaceous debris in top			763	05
hout conditions	COAL sandstone lenses in top 10 cms.				
	30 cms. broken stick.		30	763	35
	Dirt brown rashes, stick		10	763	45
	COAL 15 cms. stick				
	4 cms. fragments		19	763	64
t of Seven					
t Group	Dirt brown rashes, stick		8	763	72
	COAL stick, pulverised in basal 30cms.		67	764	39
	Seatearth, silty, grey, firm with roots, steep				
	polished surfaces.			765	00
	Sandstone, grey, quartzitic with silty bands,				
	rooty in base			765	50
	Seatearth, grey silty roots, firm light grey				
	sandy bands.				
	Siltstone, course grained, scattered roots,				
	light grey. sandy bands and				
	occasional ironstone nodules			767	50
	Mudstone, silty grey/dark grey, ironstone				
	nodules, light grey sandstone				
	laminations to 768.20, still rooty.				
	Becomes slightly silty and dark				
18° @ 768.00	grey from 769.00 smeared with rashes				
	at 769.90. Sheared from 770.00 to			770	10
	base.				
	Seatearth, grey/brown, muddy, roots, occasional				
	polished surface. Ironstone nodules				
	from 771.00 becomes silty from				
	771.50 sheared at 771.70 associated				
	with ironstone band.			772	80
	Mudstone silty, grey, roots, large ironstone				
	mass at 772.20 and at 772.40.				
	leaches (blotchy) appearance.			773	50
22° @ 772.00	Mudstone, very silty, grey, very firm (no roots)				
	Thick ironstone band at 774.00.				
	Sheared at 774.30. Silty from				
	774.30. 20 cms. Ironstone band at				
	774.80.				
17° @ 775.00	Blotchy appearance again from 775.00				
	to 776.00. Planty from 776.00 with				
	occasional rootlet. 20 cms. ironstone				
	band from 776.40 and from 777.00			777	30

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SERIES 660

6-INCH MAP	B/H
SS 88 NE	35

MARGAM SURFACE BOREHOLE NO. 12

Section of ~~Ffordd-y-Gyraith~~ (Ffordd-y-Gyraith)

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS Cms.	DEPTH Metres	DEPTH Cms.
	Siltstone, grey, massive, vague sandy bands. Ironstone at 778.00			779	00
Dip 17° @ 779.00	Mudstone, very silty, grey, scattered plant debris. Occasional thick wispy light grey sandstone band. Thick ironstone at 780.70 slickensided parting at 781.00. Silty from 782.00 with few sandy bands. Thick ironstone band at 783.50, some well preserved plant debris, occasional thin ironstone band and sandstone lamination from 785.00.			786	80
	Sandstone, light grey, quartzitic, carbonaceous debris, wispy bedded, occasional silty band. Slumped bedding at 788.00			788	10
	Mudstone, silty, grey/dark grey scattered sandstone laminations to 790.00. Scattered plant debris. 10cms. sandstone band at 788.80 20cms. sandstone band at 789.60 Thick ironstone band at 789.90. Steep slickensided parting at 788.70. Thick sandstone band at 790.00. Becomes slightly silty from 791.00 with occasional polished bedding plane. Scattered pimples (small ironstone nodules). Dark grey from 792.00 to 792.30. Wormy, thin ironstone band. Mussels at 792.00 Carbonaceous from 792.10			792	46
Dip 18° @ 791.00					
Top of 5ft.seam	COAL 15 cms. stick.				
	5 cms. fragments.				
	20 cms. stick.		50	792	96
	Mudstone dark grey very planty, rashy, packed with polished surfaces. Sheared at 792.90		14	793	10
	Mudstone grey, silty, roots, vague seatearth texture, sheared in base.		60	793	70
	Mudstone grey/brown packed with polished surfaces, planty.		35	794	05
5 ft. seam.	COAL Thin pyrite lens in top 43cms stick		52	794	57
	Dirt, rashes with steep shears		31	794	88
	COAL 84 stick		84	795	72
	Dirt rashes (4 cms.)		12	795	94
	COAL 64 stick.		64	796	58
	Seatearth, muddy, rashy in top. Dark grey, occasional polished parting, becomes grey/brown from 797.30 to 797.50. Rashy below, packed with polished surfaces to 797.90			797	90
	Core solid and unbroken below				
Dip 13° @ 798.10	Siltstone, grey, occasional roots, scattered plant debris, muddy bands, light grey, sandy laminations and occasional bands. Polished surfaces at 798.80. Sandy from 799.00			801	50
	Sandstone, light grey, quartzitic wispy bedded, silty bands from 802.00 to 802.30. Sub-vertical veining and jointsfrom 802.30 to 804.00. Carbonaceous wisps from 805.00, silty laminations from 806.60 to 807.00. Ironstone bands at 807.30. Steep fracture at 808.00			808	55

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6-INCH MAP	B/H
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS Cms.	DEPTH Metres	DEPTH Cms.
	Mudstone, dark grey, planty with polished surfaces		03	810	58
Five Quarters	COAL 1.00 broken stick with steep shear planes.	1	10	809	68
	Seatearth muddy, dark grey, with steep polished surfaces, grey, brown and rashy from 810.10 to 810.30, dark grey below.			810	45
	COAL stick recovery		05	810	50
	Core lost 22 cms		22	810	72
	Mudstone silty, dark grey/grey roots and plant debris, sheared at 811.00 becoming hard, very silty and grey below with occasional sandstone lens. Thick ironstone band at 812.00. Numerous sandstone wisps and occasional thick sandstone band from 812.00 to 814.00. Occasional slumped bedding. Thick ironstone band at 813.60. Silty from 814.00 polished surfaces at 815.00. Sandstone band at 815.10.			815	55
	COAL 27 cms. recovered. 13 cms. lost in floor.		40	815	95
	Seatearth muddy, dark grey roots, occasional polished surface. Sheared at 816.50				
Dip 17 @ 817.10	and at 816.70.			817	17
	COAL stick		14	817	31
	Seatearth, silty grey, roots firm throughout.			818	00
Dip 18 @ 818.50	Mudstone slightly silty, dark grey, occasional roots, very planty, sheared at 818.70. Becoming silty below, firm strong ground with sandstone lamination to 820.30. and occasional ironstone bands. Scattered plant debris. Sheared at 820.60 associated with ironstone bands. Occasional wispy sandstone band from 821.00			821	80
	Sandstone, light grey, fine grained, wispy bedded.			822	10
	Siltstone, grey, sandy wisps, scattered plant debris, thick ironstone band at 722.80. 15 cms. sandstone at 723.50, muddy in base.			823	90
	Sandstone, light grey quartzitic silty bands and wisps throughout.			824	20
	Mudstone, silty grey/dark grey micaceous, sandstone bands in top 20 cms. Scattered plant debris, muddy bands. Sheared from 824.90, to base.				
Dip 17 @ 824.50	Mainly rashes with steep shear planes. Occasional fragment of silty mudstone from 826.00 with				
Dip 25 @ 827.00	locally high dip. Thick ironstone at 826.80, polished surfaces to base			827	30
	COAL stick		08	827	38
	Mudstone, silty, dark grey to grey, scattered plant debris, rashes from 822.45 including some coal fragments.			827	77
	COAL stick		08	827	85
	Mudstone, silty, grey, sheared in the top 15 cms. firm below, scattered plant debris. Thick Ironstone band at				
Dip 22° @ 828.30	828.10, no roots. Scattered ironstone nodules, polished surfaces from 829.00 between thick ironstone bands.				

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6-INCH MAP	B/H
SS 88 NE	35

*Section of MARGAM SURFACE BOREHOLE NO. 12 (Ffordd-y-Gyrreith)

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS		DEPTH	
	Sheared below Ironstone band at 829.20 to 829.70			829	70
Dip 19° @ 830.00	Siltstone, grey with numerous sandstone laminations and occasional band. Scattered plant debris. Several sub-vertical polished partings at 830.00			831	70
"Five Quarters" of Park Slip?	Mudstone, silty, dark grey to grey, occasional polished surface. Badly sheared from 831.90. Mainly rashes with steep shear planes. Some coal fragments in sheared ground 833.80 to 833.95			833	95
	Brown rashes			834	00
	Mudstone, silty, grey, sheared at 834.05, roots vague seatearth texture in top 10cms. Polished surfaces and packed with plant debris at 835.00, firm, unbroken ground below. Numerous sandstone bands from 835.40 with occasional sandy wisps. Steep irregular fracture from 835.40 to 836.00. Thick Ironstone band at 836.50. Steep faulted base to sandstone band at 836.80. Ironstone band below with quartz veining packed with sandstone laminations in base (strong ground)			839	30
Dip 10° @ 840.00	Siltstone, grey, with silty bands and light grey sandy laminations.			841	00
End of B.P.B. Logs @ 842.00	Mudstone, very silty, grey with sandy laminations and bands. Fairly massive, strong unbroken ground. Thick ironstone band in base.			842	10
	Sandstone, light grey, wispy bedded, becoming striped bedding from 843.00 with occasional thick silty band. Steep fracture, quarts filled at 843.40 and from 844.00 to 844.40.			845	50
Dip 10° @ 844.50	Mudstone, silty, grey to dark grey, scattered plant debris, occasional Ironstone band.			845	12
Gellideg	COAL 10 cms. fragments				
Disturbed section, higher ash content than normal.	40 cms. stick.				
	20 cms. fragments				
	20 cms. core lost (End of run at 845.86).				
	90 cms. broken stick.	1	80	846	92
	Seatearth, grey, very silty, roots, firm sandstone at 847.10.			847	30
	Sandstone, light grey, quartzitic, massive, fine grained, hard, occasional root, silty band at 848.50. Sub-vertical quartz filled fractures from 848.70 to 848.90. Thick Ironstone band at 849.00. Occasional Ironstone lens. Steep quarts filled fractures from 849.50 to 849.70. Several Ironstone lenses below.			850	00
Dip Low	Mudstone, silty, grey to dark grey, packed with plant debris, some well preserved plant debris. Slightly silty from 850.40. Occasional Ironstone nodule.			850	85

YPU.918

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372611 : BGS Reference: SS88NE35
EPSG: 27700 : 286866,185033

FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NE	35

Section of .....

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS		DEPTH	
	Mudstone, grey/brown, Coal bands and large plant debris. Polished surfaces.		15	851	00
	Mudstone, slightly silty, grey, rooty.		05	851	05
	Mudstone, dark grey, packed with plant debris and polished surfaces. Sheared in the base		10	851	15
	Seatearth, very silty, grey, hard, Ironstone nodules.		20	851	35
	Sandstone, light grey, quartzitic, wispy bedded. Silty laminations, slumped bedding.			851	80
⊃ 10° @ 852.00	Mudstone, very silty, grey, scattered roots. Occasional sandstone lamination.			852	10
	Sandstone, light grey, qurtzitic, wispy bedded slumped bedding throughout. 10 cms Ironstone band in base.			852	40
	Siltstone, grey, fairly massive.			852	90
	Mudstone, silty, grey, numerous light grey sandy laminations to 853.30. Thick Ironstone band at 853.60. Rare plant debris. Vaguely wormy locally slightly silty.			854	20
	Siltstone, grey, hard and massive with light grey sandy laminations and scattered plant debris.			854	70
	Mudstone, silty, grey, sandstone laminations. Ironstone band at 855.00. 10 cms. Sandstone band at 855.30, scattered plant debris, rare sandstone laminations from 855.50. Vague worm trails. Mussel fragment at 856.00 Planolites Sp at 856.60, Sheared below. Dark grey and micaceous onto 5 cms. Ironstone band at 856.90. Badly sheared at 857.20 onto 25 cms. Dark grey Ironstone band with sheared base. Sheared at 857.80. Band packed wit large calcified mussels at 857.85. 10 cms. Ironstone band with calcified mussels. 5 cms. dark grey Ironstone band at 858.00			858	20
1m.Thrust.	Mudstone, slightly silty, dark grey, disturbed, rashy and sheared throughout.			858	40
Hellideg (repeat)	COAL 5 cms. fragments. 2.65 cms. broken stick, steep shear in top and at 860.30.	2	70	861	10
	Seatearth, siltstone, grey, roots, quartzitic, rooty, wispy bedded with silty laminations.			862	40
	Siltstone, grey with silty bands and numerous laminations. 10 cms. sandstone band at 863.00.			863	20
⊃ 18° @ 862.60	Mudstone, silty, grey, scattered roots. Thick Ironstone band at 863.40				
⊃ 15° @ 864.00	Mudstone, silty, grey, scattered roots to 864.05, sandstone laminations from 863.40. Ironstone nodules from 864.00. Very silty from 864.10. 70° shear with slickensiding and quartz veining at 864.50. Silty from 864.50. Coalified Calamites at 864.75. Polished surface at 864.80. Communated plant debris at 864.96. Abundant plant stems and polished surfaces at 864.95, Slightly silty below. Broken ground at 865.10			865	10

P.U.818

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British Geological Survey
BGS ID: 372611 : BGS Reference: SS88NE35
EPSG: 27700 : 286866,185033

6-INCH MAP	B/H
SS88NE	35

*Delete as appropriate

Section of MARGAM SURFACE BOREHOLE NO. 12
(Ffordd-y-Gyraeith)

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS	DEPTH
	Mudstone, slightly silty, dark grey with coal bands and streaks, coalified plant debris and occasional pyrite streak numerous polished surfaces.		865 18
	Inferior Coal	02	865 20
	Mudstone, silty, medium grey, numerous iron-stone nodules in top, rashy with occasional roots from 865.30, numerous plant stems, some coalified.		865 45
	Mudstone, medium grey, silty, micaceous, numerous sandstone laminations in top 20 cms., wispy bedded. Occasional Ironstone nodule from 866.00. 20cms. pale medium grained sandstone at 866.60 with sandstone laminations		
ip 20° @ 867.00	below to 867.20. Planolites (Opthalmoides?) at 867.00 5 cms. Ironstone band with associated broken ground at 867.20. Very broken with polished surfaces, 10 cms. of rashes at 867.70. 20 cms. of sandstone, medium grey, fine grained, micaceous at 867.90. Plant stems. G. Carbonaria at 868.00, plant straps below. Broken from 868.50, 20 cms. Ironstone band at 868.80. Vaguely wormy at 869.00. 10 cms. Ironstone band at 869.30 large mussels at 869.60. Mussel at 869.90. Planolites Opthalmoides from 870.10 G. Carbonaria. at 870.20, vertical		
Dip 20° @ 870.00	joint at 870.20.		870 50
	Siltstone, dark grey, micaceous, muddy.		870 80
	Mudstone, dark grey, micaceous, silty Fish plate at 870.90. Large mussels at 871.00. Wormy at 871.10. C. Pseudorobusta Mussels (calcified) 871.15 to 871.45, slightly silty from 871.15 with associated pellets(?). Wormy below. Fish scale at 871.80 broken at 871.90. 20 cms. Ironstone with quartz and pyrite at 872.40. Large Mussel at 872.30. 20 cms. Ironstone band at 872.60. C. Pseudorobusta (calcified) from 872.20 to 872.95. Medium to dark grey below, wormy, Very broken 873.00 to 873.70. Occasional coalified plant debris. Numerous plant stems from 873.80		874 00
"Fish" Coal	COAL (pulverised core only)	10	874 10
	Seatearth, mudstone, silty, sandy patches, numerous listric surfaces, roots, large ironstone nodules in base.		874 90
	Mudstone, very silty, medium grey micaceous, numerous plant straps, some coalified, roots.		875 00
	Seatearth, mudstone, silty, medium grey, roots.		876 60
	Sandstone, medium grey, silty, sandstone laminations, plant stems. Thin Ironstone band at top. Large calamites at 876.50. 10 cms. Sandstone band at 877.00. Very silty below.		

YPU.918

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British Geological Survey

BGS ID: 372611 : BGS Reference: SS88NE35
EPSG: 27700 : 286866,185033

FORM P 71
SERIES 680

Section of .....

6-INCH MAP	B/H
3588 NE	35

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS	DEPTH
	20 cms. Ironstone band at 877.75 G. Carbonaria at 877.80. Occasional sandstone laminations from 877.80. Silty from 877.80. Wispy bedded from 879.10 sandstone lamination dominant from 880.00 to base.		881 20
ip 10° @ 879.00	Sandstone, pale grey, fine grained, carbonaceous partings.		882 00
	Mudstone, silty, medium grey, 10 cms. Ironstone band at 833.00 with associated listric surfaces. Unfossiliferous. Becomes rashy and broken from 884.40 associated with Ironstone nodules and bands. Rashes from 885.50 to 886.00. dark grey, micaceous, silty mudstone below to 886.30. Black rashes to 886.70 broken ground below in dark grey silty mudstone with numerous listric surfaces. Fish scale at 887.50. Bituminous Oil (Hatchetite) in calcite pockets at 887.75. 30 cm. Ironstone band at 888.00 with Hatchetite(?) and pyrite. Very broken from 888.00 with rashes to 888.50. 50 cms. core lost 888.50 to 889.00. Medium to dark grey from 889.00 with communated plant debris and straps.		889 20
	Seatearth, mudstone, silty, roots, Ironstone nodules.		890 00
.p 18° @ 891.00.	Mudstone, medium grey, very silty with sandstone laminations, plant straps and roots.		891 30
	Sandstone, pale grey, fine grained.		892 00
	Siltstone, medium grey, with sandstone laminations 10 cms. Ironstone band at 892.20		893 30
Dip 25°@ 893.60	Mudstone, medium grey, very silty, micaceous		
	Sandstone, medium grey, fine grained.		895 60
	Bottom of hole Borehole logged by B.P.B. on Dec. 17th 1977 to 842.00 m. Borehole sealed to within 50 metres of the surface with 36 tons of shallow oil well cement on Jan 8th. 1978. No. 3 Rhondda workings cased off at 174.00 m.		

U.918

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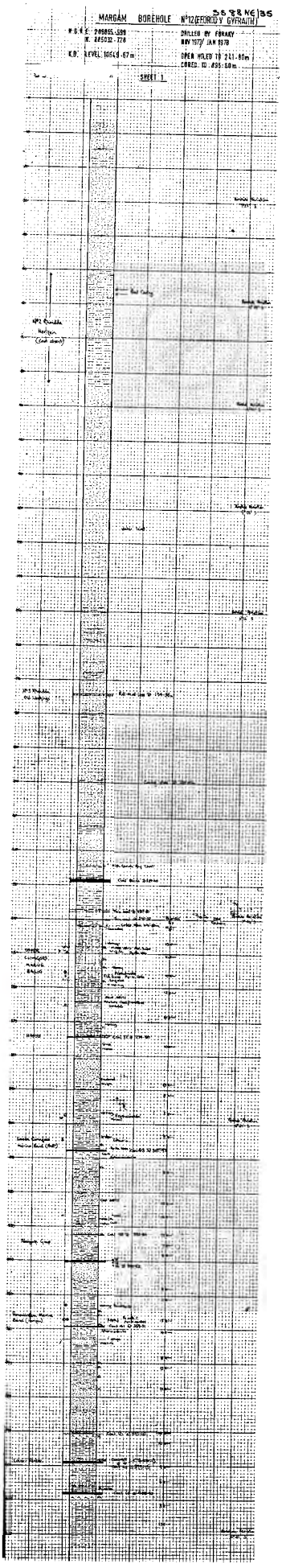
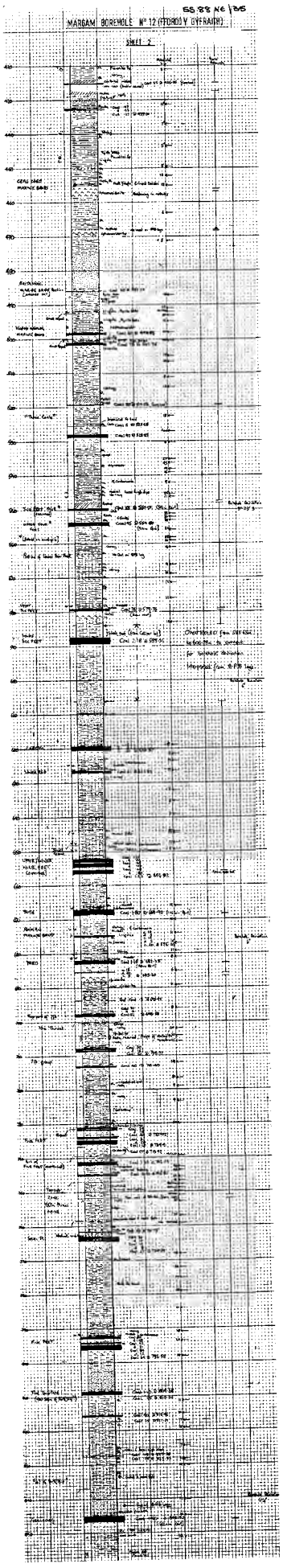
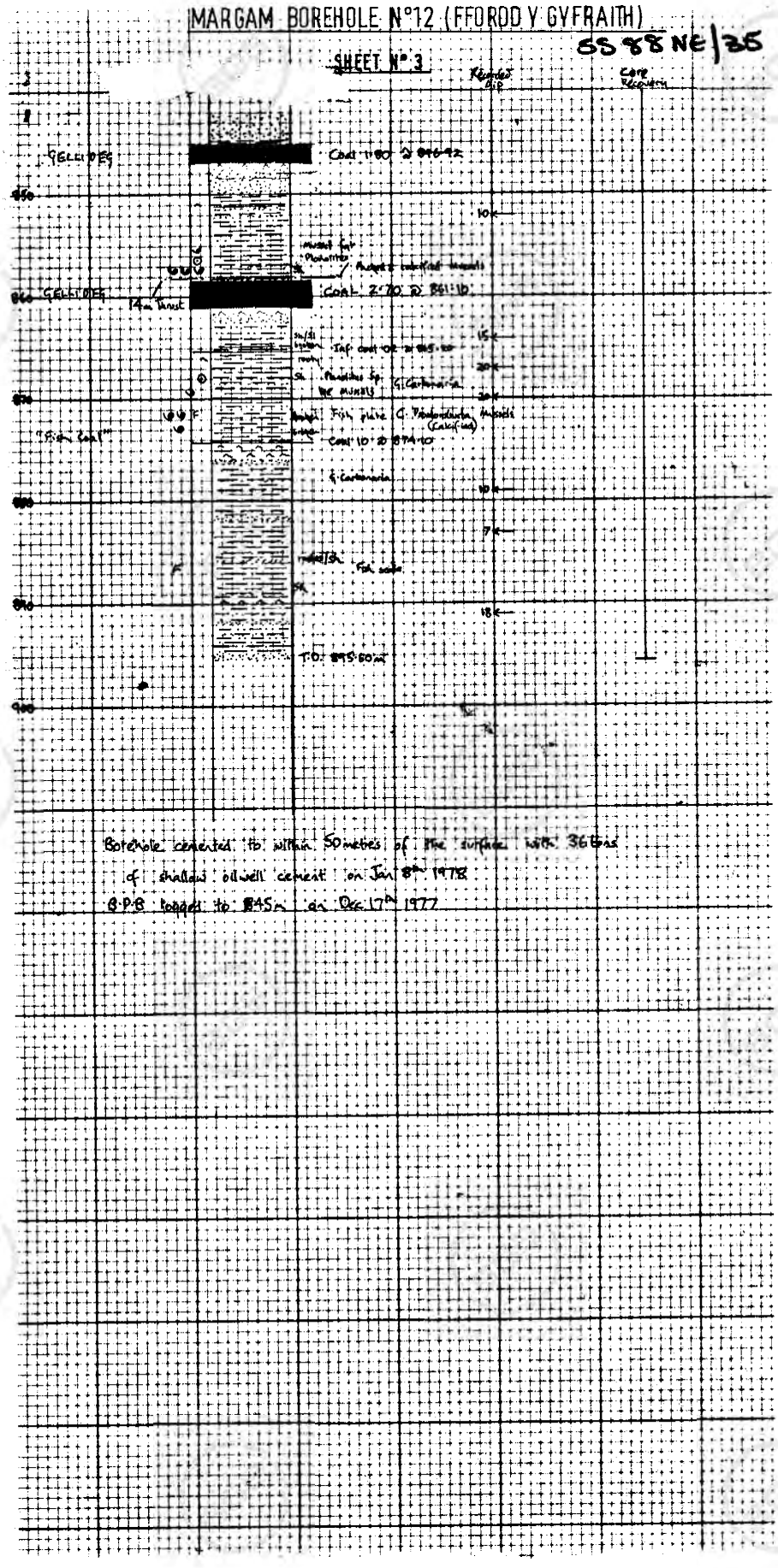

SS 88 NE 35
MARGAM BOREHOLE N°12 (GEFORD V GYFRAITH)
SHEET 1


MARGAM BOREHOLE N° 12 (TFORDD Y GYFRAITH)
SHEET 2


MARGAM BOREHOLE N°12 (FFORDD Y GYFRAITH)
SS 88 NE/35
SHEET N° 3
Core Recovery
Coal 1·80 @ 846·92
Coal 2·70 @ 861·10
14m Thrust
Coal 10' @ 874·10
T.D. 895·60m
Borehole cemented to within 50 metres of the surface with 36 Gals of shallow oilwell cement on Jan 8th 1978
B.P.B topped to 845m on Dec 17th 1977

British Geological Survey

BGS ID: 372735 : BGS Reference: SS88SE58
British National Grid (27700) : 287890,184350

(*11982) Wt.80870/0370 10,000 9/59 A.& E.W.Ltd. Gp.685

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

County SS 88 SE/58

6" Quarter Sheet 87898435

87918408

Geological Classification	Description	Thickness			Depth		
	MIDDLE SLANTS						
	DRIFT NORTH OFF No2 OR EAST SLANT						
	Taken from section drawn on scale of 20ft. to 1in. Some measurements given on section. Those interpolated by measurement prefixed by "c". [See section on scale of 60ft. to 1in.]						
	Rock yielding water	c.	1	.	(.30m)	1	.
	Cliff	c.	8	.	(2.74m)	9	.
	F'clay	c.	2	.	(3.31m)	11	.
	Rashing	c.		6	(3.51m)	11	6
	Cliff	c.	1	.	(3.81m)	12	6
	Rushing	c.	2	6	(4.57m)	15	.
	Cliff	c.	2		(5.18m)	17	.
	Weak f'clay	c.	7	.	(7.32m)	24	.
	F'clay with nodules of ist.	c.	7	.	(9.45)	31	.
	Bastard cliff	c.	1	.	(9.75)	32	.
	Dark cliff	c.	10	6	(12.95)	42	6
	Strong cliff	c.	16	.	(17.86)	58	6
	Rock	c.	5	.	(19.35)	63	6
	Bastard rock with streaks of coal	c.	1	3	(19.74)	64	9
	Rock	c.	8	.	(22.17)	72	9
	Three thin beds of coal	c.	1	.	(22.48)	73	9
	Fault (? small)						
	Cliff	c.	28	.	(31.01)	101	9
	Very weak dark cliff		4		(32.23)	105	9
	Strong cliff		3	.	(33.15)	108	9
	Rashing			4	(33.25)	109	1
	COAL		1	7	(33.73)	110	8
	Strong f'clay		2	6	(34.49)	113	2
	Rock		2	6	(35.26)	115	8
	Cliff	c.	4	6	(36.63)	120	2
	Strong f'clay	c.	4	6	(37.99)	124	8
	Strong cliff	c.	13	.	(41.96)	137	8
	Weak cliff		3	6	(43.02)	141	2
	Weak dark cliff		1	10	(43.59)	143	.
	Soft argillaceous shale			10	(43.84)	143	10
	Rashings			6	(43.99)	144	4
	COAL		1	4	(44.40)	145	8
	F'clay with lens of coal on overlap	c	12	.	(46.05)	151	8
	Cliff	c	7	.	(50.19)	164	8
	COAL pinched out 8yds. 6E.	c.	1	.	(50.50)	165	8
	F'clay	c	10	.	(53.54)	175	8
	Cliff	c	40	.	(65.74)	215	8
	F'clay & shale	c.	8	.	(68.17)	223	8
	Cliff	c	6	6	(70.15)	230	2
	Shale	c.	4	.	(71.37)	234	2
	Cliff (disturbance near base)	c	11		(74.70)	245	2
	COAL		4	.	(76.04)	249	2
	F'clay	c	11		(79.30)	260	2

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372735 : BGS Reference: SS88SE58
British National Grid (27700) : 287890,184350

(°11985) Wt.30676/6870 10,000 9/59 A.& E.W.Ltd. Gp.685

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

PARK SLIP COLL?

County SS88SE/58

6" Quarter Sheet

Geological Classification	Description	Thickness			Depth (probed)		
	Drift N. Off. No 7 Slant cont 2				(79.30)	260	2
	Bastard f clay	c	5	.	(80.82)	265	2
	Cliff	c	11	.	(84.18)	276	2
	Bastard f clay	c	1		(84.48)	277	2
	Rashings	c.		3	(84.56)	277	5
	COAL			6	(84.71)	277	11
	Shale + rashing	c.		5	(84.84)	278	4
	Strong f clay	c.	2	.	(85.45)	280	4
	Strong cliff	c.	9	.	(88.19)	289	4
	f clay with ironstone nodules	c.	3	.	(89.10)	292	4
	Strong cliff	c.	11	6	(92.61)	303	10
	Cliff	c.	1	6	(93.07)	305	4
	Strong cliff	c.	29		(101.90)	334	4
	f clay	c.	1	9	(102.44)	336	1
	Strong cliff	c.	2	.	(102.05)	338	1
	Very soft cliff	c.	4	.	(104.27)	342	1
Slip pound	Disturbed cliff of clay with finished out seam of coal	c	7	.	(106.40)	349	1
	Black cliff	c	4	.	(107.62)	353	1
	Cliff	c.	14	.	(111.89)	367	1
	Oil shale	c	11	.	(115.26)	378	1
	Cliff with nodules of ir st	c.	13	.	(119.18)	391	1
	Black shale	c	1	6	(119.96)	392	7
	f clay	c	3	.	(120.57)	395	7
	Cliff	c.	2	3	(121.26)	397	10
	Distorted strata with ranging dips	c.	8	6	(123.85)	406	4
	Soft f clay	c.	2	6	(124.61)	408	10
	Rock	c	8	.	(127.05)	416	10
	Soft cliff	c	7	.	(129.18)	423	10
	Coal + dirt	c	1	2	(129.54)	425	.
	Cliff	c.	7	.	(131.67)	432	.
	COAL		2	6	(132.44)	434	6
	Soft f clay	c	3		(133.50)	437	6
	Strong cliff	c.	13		(137.29)	450	6
Dip 250	Sheet of COAL say	c.		3	(137.38)	450	9
	Cliff	c.	17	6	(142.78)	468	3
	Strong cliff	c	4		(143.97)	472	3
	Strong cliff with ironstone	c	4	6	(145.31)	476	9
BONE	COAL		2	4	(145.99)	479	1

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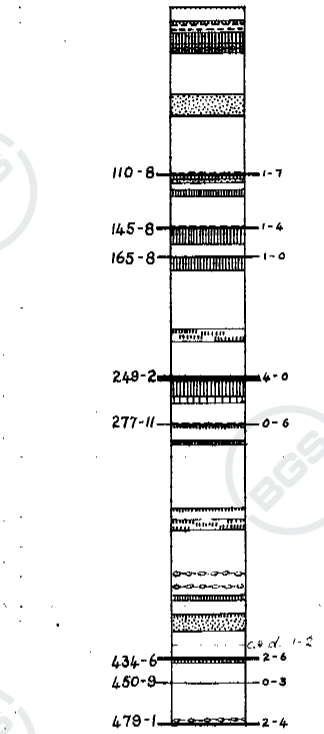
British Geological Survey

BGS ID: 372735 : BGS Reference: SS88SE58
British National Grid (27700) : 287890,184350

~~345W/2~~
SS 88 SE/58
8789843S – D
8791840S.

PARK SLIP COLLIERY

MIDDLE SLANTS. DRIFT NORTH OFF No. 2
OR EAST SLANT



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British Geological Survey

BGS ID: 372658 : BGS Reference: SS88NW24
EPSG: 27700 : 284500,185500

1063 Wt. 22438/0384 10M 7/45 (51) F.&S. SS 88 NW/24

RECORD OF SHAFT OR BORE FOR MINERALS

(For Survey use only)
1-inch Map Registered No. SS81NW/24

Name and Number of Shaft or Bore: PENTIRE COAL. STAPLE PIT. FROM 7th down.

For Messrs.

Town or Village

County ..... Six-inch quarter sheet ..... 6-inch Map Registered No.

Exact site

Attach a tracing from a map, or a sketch-map, if possible.

Purpose for which made

Level at which shaft / bore commenced relative to O.D. ..... State if shaft / bore is up, down, horizontal or inclined; in latter cases give angle of inclination and direction

Made by

Information from ..... Date of Sinking July 24th 1870.

Specimens

Additional Notes in Space Overleaf

(For Survey use only) Geological Classification	Nature of Strata	Thickness		Depth	
	7th.	17	7		
	Strong Felvy	3	2		
	Strong cliff		6		
	Mine	3	7		
	Strong cliff.				
	Cliff with mine balls.	8	11		
	Cliff	2	6		
	Cliff	1			
1870 {	Coal	2	6		
	Felvy	2	11		
	Strong cliff	4	11		
	Cliff	3	1		
	Coal	1	2		
	Felvy	4			
	Strong cliff with mine balls.	3			
	" "	2			
	Bastard rock	2			
	Cliff with mine balls	12			
	Strong cliff	3	5		
	Bastard rock	5	11		
	Rock		5		
	Bastard rock	2	3		
	Strong cliff	4			
	Bastard rock	2	6		
	Rock	1			
	Cliff	2	3		
	Rock	1	2		
	Cliff	1	0		
		Continued Overleaf			

Geological Survey and Museum, South Kensington, London, S.W.7.	Date received	Correspondence File No.	1" N.S. Map No.	1" O.S. Map No.	Site marked (use symbol) on 1" Map	on 6" Map

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British Geological Survey

BGS ID: 372658 : BGS Reference: SS88NW24
EPSG: 27700 : 284500,185500

(For Survey use only) Geological Classification	NATURE OF STRATA (*Continued*)	Thickness			Depth		
	Rock		2	7			
	Sooty chf		4	6			
	Rock		1	6			
	Cliff		1	6			
	Cliff.		5	8			
	Coal			10			
	Clod		2	6			
	Cliff		2				
	Sm clod			6			
	Coal		2	10			
	Pts			2			
	Coal			5			
5'-0.	Dark stone			6			
	Coal		2	6			
	Sm shale			12			
	Coal			6		117	6

ADDITIONAL NOTES

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey
BGS ID: 372646 : BGS Reference: SS88NW12
EPSG: 27700 : 284140,185300

6 inch Map Registered No. 248/96

SECTION OF MARGAM NO: 4 BOREHOLE (SN.2986)

Exact Site Near Pentre Colliery

Level at which shaft / bore / drift commenced relative to O.D.

Date of sinking or Boring

Sinker or Borer Craelius Company Limited

One Inch Geological Map

Six Inch Map (County and Quarter Sheet)

Attach tracing from a map or sketch map if possible

SS 88 NW / 12

84148530

Please also see records in Confidential File

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borers Journal	Feet	In.	Feet	In.
	Drilled by percussion to			110	0
	Mudstone, medium grey, slightly silty with scattered plant fragments Ironstone band 0-2" @ 110/4	16	2	126	2
	Sandstone, fine grained		5	126	7
	Mudstone, medium grey	2	11	129	6
	Sandstone, medium grey, micaceous		11	130	5
	Mudstone, silty, very micaceous		5	130	10
	Sandstone, fine grained, micaceous		7	131	5
	Mudstone, silty, medium grey, micaceous with scattered plant fragments	2	8	134	1
	Mudstone, medium grey, with a little plant debris	3	1	137	2
16° at 155/-	Mudstone, slightly darker, smooth with rare ironstone nodules. Ironstone bands ¼" @ 138/0; ¼-½" @ 151/9; ½" @ 153/2; ½"-1" @ 153/11; ½" @ 154/1; 0-1" @ 155/4; ½"-1" @ 155/7; 0-½2 @ 156/-; 0-½" @ 156/6.	22	7	159	9
	Rashings, grey mudstone		1	159	10
	COAL	3	0	162	10
	Rashings		4	163	2
	COAL		2	163	4
	Rashings		3	163	7
	Seatearth, mudstone, blocky slightly buff-grey	3	1	166	8
	Seatearth, mudstone, darker grey with patches of sphaerosiderite below 170/- passing into	7	0	173	8

Moore's Modern Methods, Ltd., London
To repeat order state No. 871493-1

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BGS ID: 372646 : BGS Reference: SS88NW12
EPSG: 27700 : 284140,185300

SS 88 NW / 12
84148530

Page 2.

248/96

6 inch Map Regd. No.

SECTION OF MARGAM NO: 4 BOREHOLE

Six Inch Map (County and Quarter Sheet)

Geologist's Notes	Borer's Journal	THICKNESS Feet	THICKNESS In.	DEPTH Feet	DEPTH In.
	Brought forward			173	8
	Seatearth, mudstone, blocky buff-grey.	1	2	174	10
	Sandstone, massive pale grey, with much white clay mineral in matrix. Joint planes containing pyrite. Massive and coarse grained from 182/- to 185/-. Very coarse grained with abundant clay mineral cement from 185/-	21	0	195	10
	Mudstone, medium to pale grey, slightly silty and micaceous, with scattered plant debris. Carbonaceous patches below 197/6.	2	11	198	9
19° at 200/-	Mudstone, medium, grey, blocky	10	11	209	8
16° at 207/-	Mudstone, medium grey with much plant debris	5	1	214	9
	Striped beds, medium grey. Silty mudstone predominant. Abundant plant debris	1	9	216	6
	Mudstone, blocky, medium grey, slightly silty		11	217	5
18° at 218/-	Striped beds, medium grey silty mudstone, predominant		9	218	2
	Mudstone, shaly, dark grey with plant remains and spores		10	219	0
	Striped beds medium grey silty mudstone, predom.	1	5	220	5
	Mudstone, silty, blocky medium grey		4	220	9
	Striped beds, mainly silty mudstone.	1	4	222	1
	Sandstone, pale grey, fine grained		4	222	5
	Mudstone, silty, medium grey with faint striping	1	4	223	9
	S ndstone, fine grained, pale grey		11	224	8
	Sandstone, fine grained, pale grey with carbonaceous partings in places	7	6	232	2
	Striped beds		3	232	5
	Sandstone, fine grained, pale grey		10	233	3
	Mudstone, slightly silty, medium grey		3	233	6
	Sandstone, fine grained, medium grey		7	234	1
	Mudstone, medium grey, with plant traces		9	234	10

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NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			234	10
17° at 237/-	Sandstone, fine grained, medium grey	9	4	244	2
	Mudstone, medium grey		1	244	3
(frequent)	Sandstone, fine grained, pale to medium grey with carbonaceous partings	2	0	246	3
16° at 257/-	Mudstone, silty, blocky medium grey, with much plant debris. Very massive with occasional quarts. veins. Passing into -	11	9	258	0
16° at 266/-	Mudstone, slightly darker, slightly silty near the top. Ironstone bands - ½" @ 271/0; ½"-½" @ 271/6; sporadic nodules between 272/6 - 275/9; 0-½" @ 277/4;				
17° at 281/-	½" @ 277/10; ½" @ 278/5; ½" @279/-; ½" @ 280/-; ½" @ 280/11.	28	9	286	9
	Shale, slightly carbonaceous dark with plant debris and a few fish scales		2	286	11
	COAL	1	4	288	3
	Seatearth, mudstone, blocky medium grey	1	0	289	3
	Seatearth, mudstone, blocky medium grey with irregular ironstone nodules	2	5	291	8
	Mudstone, dark, slightly carbonaceous with plant debris. (? carbonaceous seatearth)		10	292	6
	Shale, cannelised, black	1	0	293	6
	Ironstone, dark		2	293	8
	COAL		6	294	2
	Seatearth, medium grey mudstone. Pyrite in the joint planes	1	4	295	6
	Madstone, medium grey with roots ¾" streak of pyritised coal @ 295/10. Passing into -	3	6	299	0
	Mudstone, silty, strong medium grey with sporadic roots near the top and scattered plant debris below	3	5	302	5
17° at 303/-	Striped Beds		7	303	0
	Mudstone, silty, strong medium grey. Irregular ironstone 0-1½" @ 304/4	1	5	304	5
	Striped Beds, irregular		6	304	11
	Mudstone, blocky, medium grey		11	305	10
	Striped Beds, striping faint. Passing into -		9	306	7

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6 inch Map Regd. No.

SECTION OF MARGAM NO: 4 BOREHOLE. 248/96

Six Inch Map (County and Quarter Sheet)

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			306	7
	Sandstone, fine grained, pale grey, with fragments and wisps of mudstone in top two feet, and carbonaceous partings near the bottom	4	5	311	0
	Siltstone, medium to pale grey		5	311	5
	Sandstone, pale grey micaceous with carbonaceous partings. Carbonaceous partings dying out below 318/-. Turbulent disturbance at 322/3 - 322/7	11	7	323	0
	Mudstone, blocky, medium grey		6	323	6
	Mudstone, blocky, medium grey, faintly striped		5	323	11
	Siltstone, pale grey with mudstone partings		2	324	1
15° at 328/-	Mudstone, blocky medium grey with faint striping to 326/9. Scattered plant debris 1" ironstone band @ 334/1. Faint striping again from 338/3 to 341/2	17	1	341	2
	Mudstone, rather darker and smooth with sporadic ironstone nodules ¼" clay band along bedding plane @ 344/11, indicating movement	7	4	348	6
	Mudstone, black, carbonaceous shaly	2	0	350	6
16° at 357/-	Mudstone, blocky, medium grey. Ironstone bands 2½" @ 350/10; 1½" @ 351/6; 1" @ 353/2; ½" @ 354/6; 1" @ 355/1; 1" @ 356/8	7	5	357	11
	COAL	1	3½	359	2½
	Seatearth, blocky, medium grey, slightly silty mudstone		4½	359	6
15° at 363/-	Mudstone, blocky, medium grey with sporadic roots and plants remains. Passing into	5	3	364	9
	Mudstone, dark grey shaly		7	365	4
	COAL	1	6	366	10
	Seatearth, blocky medium grey mudstone, sheared from 366/3 - 367/-	1	3	368	1
	Mudstone, massive medium grey, silty with roots	1	3	369	4

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NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			369	4
to pale	Siltstone, massive, medium grey with roots		11	370	3
	Mudstone, massive, medium grey, micaceous and silty with roots and irregular ironstone nodules	1	5	371	8
	Mudstone, massive, medium grey, silty, with striping	2	0	373	8
	Mudstone, massive, medium grey, silty with plant traces	5	7	379	3
? Lap fault	Rashings, highly sheared black mudstone		5	379	8
	COAL trace				
	Rashings, black		1	379	9
	COAL		3	380	0
	Seatearth, medium grey mudstone. Passing into		6	380	6
	Mudstone, medium grey with plant remains	1	6	382	0
17° at 383/-	Striped beds 0-½". Ironstone band @ 384/6	5	3	387	3
	Sandstone, fine grained, massive, pale grey with carbonaceous partings, numerous in bottom 6"	1	8	388	11
	Mudstone, medium grey, silty		1	389	0
	Striped beds with pale grey siltstone predominant		8	389	8
	Striped beds with medium grey mudstone predominant	3	8	393	4
	Striped beds with pale grey siltstone predominant	1	1	394	5
	Striped beds with medium grey mudstone predominant	1	7	396	0
	Striped beds	2	0	398	0
	Ironstone		2	398	2
	Mudstone, medium grey with ironstone nodules	1	8	399	10
	Mudstone, grey, soft and highly sheared		1	399	11
	Mudstone, medium grey		1	400	0
	COAL	1	5	401	5
	Seatearth, rather sheared medium grey silty mudstone	2	11	404	4
	Mudstone, paler grey, with roots and a more or less vertical fault clay bands (giving apparently little displacement)	1	8	406	0
	Mudstone, medium grey, silty with roots. Disturbed	3	9	409	9

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Sheet 4.

6 inch Map Regd. No. 249/96

SECTION OF MARGAM NO: 4 BOREHOLE
Six Inch Map (County and Quarter Sheet)

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			409	9
	Mudstone, medium grey with roots and occasional very thin ironstone bands near the top		8	410	5
	Mudstone, dark shaly ½" pyritised coal streak 410/6		7	411	0
	Mudstone, pale grey, slightly silty with plant fragments and roots	1	3	412	3
	Sandstone, pale grey fine grained with micaceous carbonaceous partings - much broken up. (surface of joint planes coloured by a light green mineral)	10	3	422	6
	Siltstone, striped, medium to pale grey	3	6	426	0
	Ironstone		1	426	1
	Striped Beds, medium grey mudstone, predominating	1	10	427	11
	Sandstone, fine grained, massive medium pale grey		10	428	9
	Siltstone, massive, medium grey with plant debris		7	429	4
	Mudstone, silty medium grey	1	0	430	4
	Siltstone, massive pale to medium grey with stripes and layers of medium grey silty mudstone	3	0	433	4
15° at 437/-	Sandstone, fine-grained, massive, pale grey, with micaceous carbonaceous partings (shattered between 439/4 - 440/8)	9	8	443	0
16° at 461/-	Mudstone, silty, massive, medium grey with occasional faint stripes and scattered plant debris 1" ironstone band @ 451/4. Passing into (grad)	27	0	470	0
15° at 481/0	Mudstone, blocky medium grey well bedded. Ironstone bands - 2" @ 470/10; ½" @ 475/0; ½" @ 475/1; becoming gradually darker downwards. Small ironstone nodules becoming frequent below 484/0. 1½" ironstone band @ 477/0. Planolites common below 476/0. 1" ironstone band @ 478/5	18	1	488	1
	COAL Pentre Rider	1	4	489	5
	Seatearth, massive medium grey slightly silty mudstone with roots	1	7	491	0

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NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			491	0
	Seatearth, massive medium grey, slightly silty mudstone with roots & scattered ironstone nodules	1	3	492	3
	Mudstone, massive, medium grey, silty with roots	1	1	493	4
	Siltstone, massive, medium to pale grey with roots		8	494	0
	Mudstone massive medium grey, silty with roots		7	494	7
	Siltstone, massive, pale grey		9	495	4
18° at 499/0	Mudstone, massive, medium grey with occasional plant traces	7	8	503	0
	Mudstone, darker with occasional plant traces. ¾" ironstone band @ 502/10. Contorted clay band on bedding plane -½" @ 503/5	1	9	504	9
	Mudstone, medium grey; gannister-like		2	504	11
	Mudstone, darker and sheared (? Seatearth)		10	505	9
	Mudstone, medium grey, gannister like with abundant sphaerosiderite	2	7	508	4
9	Mudstone, blocky, medium grey	1	1	509	5
	Mudstone, darker shaly and sheared	1	3	510	8
	Rashings, structural black mudstone	4	8	515	4
	Seatearth, medium grey mudstone, sheared	6	10	522	2
	Rashings, structural, black mudstone with coal streaks	8	5	530	7
	Mudstone, silty, medium grey, with roots and irregular ironstone nodules. Becoming paler and more silty towards the base.		9	531	4
	Sandstone, fine grained, pale grey	1	11	533	3
	Sandstone, fine-grained, pale grey with irregular layers of silty mudstone, showing "balled-up" structures		9	534	0
	Mudstone, silty, pale to medium grey		7	534	7
	sandstone, micaceous, pale grey with sporadic carbonaceous partings. Passing into -	5	10	540	5

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6 inch Map Regd. No.

SECTION OF MARGAM NO: 4 BOREHOLE

Six Inch Map (County and Quarter Sheet)

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			540	5
13° at 541/-	Mudstone, slightly silty, medium grey with occasional pale stripe developments, with scattered plant debris. Passing into	4	3	544	8
	Mudstone, medium grey with scattered plant debris. Ironstone bands 1" @ 546/5, 2" @ 548/3	5	2	549	10
	Mudstone, dark, silty, slightly carbonaceous		1	549	11
	Rashings, structural with coal fragments		5	550	4
	COAL		4	550	8
	Seatearth, medium grey mudstone, Passing into	1	8	552	4
	Seatearth, medium grey mudstone, with irregular ironstone nodules, passing into	2	6	554	10
	Mudstone, medium grey, silty with roots and irregular ironstone nodules at the top. Passing into	2	2	557	0
16° at 558/-	Mudstone, blocky, medium grey slightly silty with plant debris. Passing into	7	10	564	10
	Mudstone, medium grey with plant remains debris 1½" ironstone band @ 558/2	6	5	571	3
	Mud. tone, medium grey with plant remains & debris. Highly sheared		5	571	8
	COAL	1	2	572	10
	Core not recovered. ? Rashings and some coal		10	573	8
	Seatearth, blocky, medium grey mudstone. Ironstone nodules at the bottom. Passing into		7	574	3
	Mudstone, medium grey, very silty with occasional roots. 1½" pale grey siltstone band @ 575/1		10	575	1
	Mudstone, medium grey, silty with plant traces. Badly sheared from 576/8 - 577/6. Frequent other shearing especially along bedding planes to 583/-. Irregular ironstone nodules 583/4 - 584/0	9	5	584	6
	Mudstone, silty, blocky, slightly paler with plant traces. Passing into		4	584	10

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NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			584	10
12° at 586/-	Siltstone, massive, pale grey with carbonaceous stripe partings	2	8	587	6
	Mudstone, medium grey. Ironstone bands 2" @ 588/3, 2" @ 590/2.	4	2	591	8
	Mudstone, medium grey, very highly sheared with occasional ironstone nodules	2	8	594	4
	COAL	1	10	596	2
	Seatearth, massive buff-grey, silty with abundant scattered sphaerosiderite	3	7	599	9
	Mudstone, massive, medium grey silty with plant traces	2	0	601	9
14° at 605/-	Mudstone, blocky medium grey, rather silty in places with scattered plant debris	5	7	607	4
	Striped Beds		2	607	6
	Siltstone, pale grey		3	607	9
	Striped Beds		3	608	0
	Mudstone, blocky medium grey silty with scattered plant traces	3	1	611	1
	Striped Beds		5	611	6
	Mudstone, blocky, medium grey, 1½" ironstone band 613/2. Highly sheared at 615/11 - 616/3	4	9	616	3
	COAL	1	3	617	6
	Seatearth, blocky medium grey, mudstone, becoming silty downwards	2	3	619	9
15° at 621/-	Sandstone, fine grained, massive, pale grey with roots	1	5	621	2
	Mudstone, medium grey with plant debris	1	10	623	0
	Mudstone, massive, medium grey, silty (slightly) with plant traces	5	2	628	2
	Ironstone		2	628	4
	Sandstone, massive pale grey	3	8	632	0
	Mudstone, medium grey, silty		2	632	2
	Siltstone, massive, pale to medium grey		7	632	9
	Sandstone, fine grained, pale grey. Ironstone 1" @ 633/7	4	4	637	1

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Sheet 6.

6 inch Map Regd. No. 248/20

SECTION OF MARGAM NO: 4 BOREHOLE

Six Inch Map (County and Quarter Sheet)

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			637	1
	Striped Beds	2	4	639	5
	Sandstone, medium to pale grey, fine grained		4	639	9
	Striped Beds		9	640	6
	Mudstone, silty, massive, medium grey with occasional plant fragments ¾" - 2" ironstone 643/6	3	1	643	7
	Mudstone, medium grey. Ironstone bands ½" @ 645/2, 0-1¼" @ 645/9, and 0-1½" nodule @ 647/11	5	1	648	8
18° at 649/6	Mudstone, silty, medium grey	2	0	650	8
	Mudstone, medium grey with sporadic ironstone nodules throughout. Ironstone bands ½"-1½" @ 654/7; ½"-¾" @ 659/8. Structural clay band ¾" @ 660/2.	9	6	660	2
	Mudstone, medium grained, highly sheared	2	8	662	10
	Shale, dark carbonaceous, very highly sheared	1	2	664	0
	Shale, cannel like, dark and highly sheared		9	664	9
	Mudstone, shaly dark, carbonaceous. Highly sheared	2	4	667	1
	Mudstone, hard, irony, carbonaceous with plant debris		2½	667	3½
	COAL	2	2	669	5½
	Seatearth, black carbonaceous mudstone, highly sheared	1	5½	670	11
	Seatearth, blocky, medium grey mudstone. Passing into	1	10	672	9
17° at 677/-	Mudstone, medium grey with roots, which die out downwards. Numerous plant remains and debris.	6	1	678	10
	Mudstone, medium grey with coaly streaks and carbonaceous partings and abundant plant debris	3	3	682	1
	Mudstone, blocky, medium grey, slightly silty, with scattered plant debris	5	1	687	2
	Sandstone, massive, pale-grey, with irregular masses of medium grey mudstone	5	8	692	10
	Mudstone, dark grey, with abundant plant debris	1	0	693	10

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NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			693	10
	Sandstone, fine grained, pale grey with medium grey silty mudstone admixture (contemporaneous)	1	2	695	0
	Seatearth, buff grey mudstone soapy and sheared with sphaerosiderite in bottom 6"	2	0	697	0
	Seatearth, mixed, pale grey sandstone and mudstone		4	697	4
	Mudstone, medium grey with roots, becoming silty onwards		10	698	2
20° in sst., at 708ft.	Sandstone, massive, fine grained, pale grey with carbonaceous partings	13	11	712	1
	Striped Beds, with medium grey silty mudstone predominating	1	1	713	2
	Sandstone, massive, fine grained, pale grey with carbonaceous partings. Coal streaks numerous in bottom 4 ft.	17	10	731	0
20° at 731/6.	Mudstone, medium to dark grey, smooth. Ironstone bands ½" @ 732/3, ½-½" @ 732/-; 1" @ 732/7; 1½" @ 734/4; 1" @ 735/1; 1½" @ 735/9.	6	7	737	7
	Mudstone, strong, medium grey, silty	1	11	739	6
	Inferior Coal		1	739	7
	Sandstone, massive, fine grained, pale grey	7	9	747	4
28° at 753 ft. (Local only)	Mudstone, medium to dark grey, slightly silty. Ironstone bands ½" @ 748/1;				
22° at 755 ft.	1½" @ 752/2; ¾" @ 753/2; ½" @ 755/7; 1½" @ 756/11; 1½" @ 750/7; 1" @ 763/1; Wormcasts @ 764/4	25	10	773	2
20° at 777 ft.	Mudstone, blocky, medium grey 3" Ironstone @ 776/-	4	10	778	0
	Contorted Clay Band		3	778	3
	Mudstone, rather darker, massive and silty. Rather sheared. Irregular ironstone nodules @ 779/8	1	11	780	2
	Mudstone, medium grey, blocky. Somewhat sheared near the top.	5	0	785	2
	Sandstone, medium grained, pale grey	1	2	786	4

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Sheet 7.

6 inch Map Regd. No. 248/96

SECTION OF MARGAM NO: 4 BOREHOLE

Six Inch Map (County and Quarter Sheet)

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	brought forward ...			786	4
16° at 795 ft.	Mudstone, medium to dark grey, slightly silty	1	11	788	3
15° at 803 ft. 14° at 812 ft.	Mudstone, medium to dark grey, slightly silty in places. Ironstone bands 0-1" @ 789/0; 0-1" @ 789/5; 1½" @ 792/2; 1" @ 795/9; 1½" @ 801/7; 1" @ 806/10. passing gradually into -	24	6	812	9
	Mudstone, medium grey smooth Ironstone bands:- ¼" @ 812/7; 2½" @ 814/5; 1" @ 816 ft. 1½" @ 816/7; ½" @ 816/10; ½" @ 817 ft. Nodular band @ 820/10; ¾" @ 821/-; ¾" @ 822/2. Passing into	10	9	823	6
	Mudstone; medium grey, slightly silty. Ironstone bands:- ½" @ 825/10 and 1" @ 826/-	3	1	826	7
	Mudstone, medium grey, highly contorted	1	3	827	10
	Mudstone, medium grey, with small vertical folds extending over the last 5 ins.		7	828	5
	Mudstone, mediumgrey, Badly sheared from 833/- downwards. Ironstone bands:- 1½" @ 830/5, 1½" @ 831/11; ½" @ 833/-; ½" @ 834/-; ½"-1½" @ 842/3; 0-1½" @ 844/5; ½"-1" @ 848/3.	23	1	851	6
	Mudstone, shaly, dark with Lingula	1	2	852	8
	Mudstone, dark blocky, with abundant pyrite and marine fossils	2	1	854	9
	Mudstone, dark grey		10	855	7
	COAL - inferior		½	855	7½
	Seatearth, massive, slightly silty mudstone. Pale grey shading to buff and green	3	6½	P	
	Seatearth-ditto-with abundant coarse sphaerosiderite	1	1	860	3
	Seatearth, blocky rather darker with carb.material and becoming rather silty downwards	2	3	862	6

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Geologist's Notes	NATURE OF STRATA — Borer's Journal	THICKNESS Feet	THICKNESS In.	DEPTH Feet	DEPTH In.
	Brought forward ...			862	6
	Mudstone, medium to dark grey with pale grey-green blotches and abundant sphaerosiderite	1	6	864	0
	Mudstone, medium grey with faint silty striping	1	4	865	4
	Mudstone, slightly greenish-grey. (? leached and near seatearth) with scattered sphaerosiderite	3	5	868	9
	Mudstone, medium grey, slightly greenish with abundant sphaerosiderite		5	869	2
	Mudstone, medium grey - rather sheared	1	5	870	7
	Mudstone, dark grey with abundant sphaerosiderite, rather sheared	3	7	874	2
	Mudstone, medium grey, highly sheared		5	874	7
	Mudstone, medium to dark grey with abundant sphaer-osiderite		5	874	0
	Mudstone, medium grey, smooth. Badly sheared	3	4	878	4
10° at 879/4.	Mudstone, blocky, medium-grey, slightly silty with scattered plant remains. 2in. ironstone band @ 880/7	2	6	880	10
	Mudstone, medium grey, rather sheared	3	8	884	6
21° at 886/-	Mudstone, blocky, medium grey, slightly silty with plant debris	3	0	887	6
	Mudstone, highly sheared	1	6	889	0
	Mudstone, medium grey, badly sheared. Ironstone bands:- 2" @ 891/3; 1-2" @ 894/2; 2" @ 895/-; 2" @ 895/7; 0-2" @ 899/-	1	5	900	5
	Mudstone, medium grey with some shearing, 6" ironstone band @ 901/8	3	7	904	0
	Mudstone, medium grey, badly sheared	11	9	915	9
	Mudstone, medium grey, some-what sheared. 5-6" ironstone band @ 918/8. Plant remains from 919/8 to 920/-	4	3	920	0
	Mudstone, medium grey, highly sheared	6	8	926	8

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6 inch Map Regd. No.

SECTION OF MARGAM NO: 4 BOREHOLE

Six Inch Map (County and Quarter Sheet

2483/96

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			926	8
	Rashings, black, mixed with highly sheared fireclay. ? some cannelly shale	1	2	927	10
	Mudstone, medium grey with roots	2	11	930	9
	Mudstone, medium grey, slightly silty with a few roots	3	1	933	10
	Mudstone, medium grey		5	934	3
2° @ 935/-	Mudstone, medium grey, slightly silty mudstone with scattered plant debris		9	935	0
	Mudstone, medium grey, very blocky, silty with abundant plant debris	4	8	939	8
	Mudstone, medium grey	2	2	941	10
	Shale, black carbonaceous		½	941	10½
	Mudstone, medium grey		7	942	5½
	Shale, dark cannelly		1½	942	7
	Seatearth, massive, slightly to medium buff grey, silty. Passing into	1	1	943	8
	Seatearth, pale grey, gannister-like with sphaerosiderite	4	1	947	9
	Mudstone, medium grey, slightly silty with roots		9	948	6
	Sandstone, massive pale-grey, fine grained	2	9	951	3
	Mudstone, medium grey, silty with plant traces		5	951	8
	Sandstone, massive, fine-grained	1	9	953	5
	Mudstone, medium grey, slightly silty		10	954	3
	Seatearth, mudstone, highly disturbed		3	954	6
	Mudstone, medium grey, highly shattered		3	954	9
	Rashings, structural		9	955	6
	Seatearth, blocky, slightly buff grey mudstone becoming paler and more soapy downwards passing into Seatearth, pale grey, gannister-like, with scattered sphaerosiderite	2	8	958	2
		2	5	960	7

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NATURE OF STRATA Geologist's Notes — Borer's Journal	THICKNESS Feet	In.	DEPTH Feet	In.
Brought forward ...			960	7
13° at 961 ft. — Mudstone, medium grey, silty		7	961	2
22° at 962 ft. in set. — Sandstone, massive, pale-grey, fine-grained	4	7	965	9
Mudstone, medium grey, silty		3	966	0
Sandstone, pale grey, fine-grained, showing false bedding at the top	1	6	967	6
Mudstone, blocky, medium grey, slightly silty	1	3	968	9
Mudstone, blocky, medium-grey, slightly silty with sporadic pale-grey striping	4	0	972	9
Mudstone, blocky, medium grey, slightly silty with abundant plant debris near the top	3	10	976	7
Mudstone, medium grey, silty with scattered plant remains	9	3	985	10
Mudstone, medium grey, slightly silty	2	1	987	11
Mudstone, very massive, rather silty	2	1	990	0
20° at 992/8 20° at 1000/4 — Mudstone, medium grey. Ironstone bands at :- ½" @ 993/9; 1" @ 996/-; ½" @ 1000/4; Planolites @ 1000/1; Lingula @ 1000/8, becoming rather darker below 1000/7. Ironstone bands:- 1½" @ 1002/4; 1½" @ 1003/6; 1½" @ 1005/4; 1" @ 1008/4; 1-2" @ 1011/4; and then several thin bands between 1011/8 and 1012/4. Planolites @ 1011/-. Below 1012/0 the mudstone is dark and shaly	24	8	1014	8
Shale, dark, slightly carbonaceous		6	1015	2
Core not recovered = 3' 5" - presumably includes thin coal and fireclay.				
Mudstone, strong medium grey silty with roots and small ironstone nodules	4	8	1019	10
Mudstone, medium grey with sporadic roots and scattered plant debris	1	8	1021	6
21° at 1022 ft. — Striped Beds - passing into	1	4	1022	10

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SS 88 NW/12 Sheet 2
8414 8530

6 inch Map Regd. No. 24896

SECTION OF
Six Inch Map (County and Quarter Sheet

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			1022	10
	Mudstone, medium grey, silty with faint striping and abundant plant fragments			1024	10
20° at 1026 ft.	Striped Beds	2	8	1027	6
	Mudstone, medium grey, becoming darker downwards. Ironstone bands:- 1-1½" @ 1029/2; 2" @ 1031/6. passing into dark grey smooth mudstone with abundant pyrite from 1037/- to 1038/-. Further ironstone bands:- 4" @ 1034/2; 1½" @ 1036/9; 1½" @ 1038/1; nodular ¾-2" @ 1040/1; nodular 0-¾" @ 1040/8, nodular 0-2" @ 1041/1, nodular ½-1" @ 1041/3; nodular 0-2" @ 1041/6, 0-1½" @ 1043/6, numerous thin bands between 1044/- and 1045/0. 1" @1045/8. Lingula between 1048/4 and 1049/8. Passing				
18° at 1048/6.	gradually into -	22	1	1049	7
	Shale, rather dark cannelly with fish fragments		5½	1050	-½
	COAL	1	5½	1051	6
	Seatearth, buff grey, mudstone	2	3	1053	9
	Seatearth, pale grey gannister-like with patches of pale grey, fine-grained sandstone	2	9	1056	6
	Mudstone, medium grey, silty with abundant plant debris		4	1056	10
	Sandstone, pale grey, fine grained	1	10	1058	8
	Sandstone, pale grey, fine-grained with irregular carbonaceous partings	2	1	1060	9
18° at 1061 ft.	Mudstone, medium grey, slightly silty, with faint striping and abundant plant debris. 1 in. ironstone band at 1061/6.		11	1061	8
	Mudstone, medium grey with plant traces. 1½" ironstone band @ 1064/4	2	10	1064	6
	Mudstone, medium grey, badly sheared. Mussel @ 1067/10	2	6	1067	0
	Mudstone, medium grey	1	0	1068	0

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Geologist's Notes	NATURE OF STRATA — Borer's Journal	THICKNESS Feet	THICKNESS In.	DEPTH Feet	DEPTH In.
	Brought forward ...			1068	0
	Mudstone, medium grey with roots and irregular ironstone nodules. Passing into	3	2	1071	2
	Mudstone, medium grey, rather silty with sporadic roots and plant remains. Passing into			1073	10
18° at 1075/-	Mudstone, medium grey with plant remains	4	0	1077	10
	Mudstone, medium grey, rather silty with irregular developments of striped beds, some showing turbulent structures	2	8	1080	6
	Siltstone, pale grey, quartzitic		1	1080	7
	Mudstone, medium grey, silty		1	1080	8
	Siltstone, pale grey, quartzitic with ½" layer of medium grey silty mudstone		5	1081	1
	Mudstone, medium grey, blocky with plant remains		5	1081	6
	Mudstone, -ditto - with some striping		4	1081	10
20° at 1087/4	Mudstone, massive medium grey, silty with scattered plant debris. 4" ironstone @ 1082/4.	6	7	1088	5
	Striped beds with medium grey mudstone predominating		11	1089	4
	Mudstone, medium grey, silty with sporadic plant debris		8	1090	0
	Siltstone, pale to medium grey		5	1090	5
	Striped beds, showing false bedding. Pale grey siltstone predominating in the top half, medium grey mudstone below	1	5	1091	10
	Mudstone, massive medium grey silty with occ. stripe developments near the top. Passing into	3	8	1095	6
25° at 1100/-	Mudstone, blocky medium grey. 2" ironstone band @ 1095/9, and 5" band @ 1096/- + 3" @ 1097/0	8	2	1103	8
	Mudstone, medium grey. Ironstone bands 2" @ 1108/3; 1" @ 1109/8; 2" @ 1111/2; 3" @ 1112/2.	10	1	1113	9
	Mudstone, medium grey highly sheared, ½" ironstone band at 1114/0	1	1	1114	10

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SS 88 NW/12 Sheet 10.
8414 8530
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SECTION OF MARIAN NO. 4 BOREHOLE 248
Six Inch Map (County and Quarter Sheet 96

NATURE OF STRATA Geologist's Notes — Borer's Journal	THICKNESS Feet	In.	DEPTH Feet	In.
Brought forward ...			1114	10
Mudstone, medium grey. Non-marine lamellibranch @ 1114/11		6	1115	4
Washings; black		2	1115	6
Shale, black carbonaceous		6	1116	0
COAL		7½	1116	7½
Stone		1½	1116	9
COAL	1	3	1118	0
Washings; black coaly		7	1118	7
Seatearth, medium-grey mudstone with abundant sphaerosiderite from 1122/3 – 1124/–	5	5	1124	0
Mudstone, medium grey, sheared. Becoming darker downwards	1	0	1125	0
Shale, black carbonaceous, slightly silty		4	1125	4
Shale, black rather coaly		10	1126	2
Shale, black carbonaceous with coaly streaks		½	1126	2½
COAL		2½	1126	5
Shale, carbonaceous		½	1126	5½
Mudstone, medium to dark grey, slightly silty with plant debris and a few roots near the top		10½	1127	4
Mudstone, medium to dark grey with scattered plant debris. Septarian ironstone 8" @ 1127/10. Irregular ironstone nodules 1128/8 – 1129/9	4	8	1132	0
Mudstone, medium grey, smooth, with scattered worm tubes. 1½" ironstone band @ 1132/4	2	10½	1134	10½
COAL	2	9½	1137	8
Seatearth; buff-grey mudstone	2	5	1140	1
Seatearth; medium to dark grey mudstone	1	11	1142	0
Seatearth, dark-grey mudstone	1	0	1143	0
Seatearth, medium to slightly buff grey, silty mudstone with irr. ironstone nodules. Very massive with patches of sphaerosiderite in bottom half	3	4	1146	4

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Geologist's Notes	NATURE OF STRATA & Borer's Journal	THICKNESS Feet	THICKNESS In.	DEPTH Feet	DEPTH In.
	Brought forward ...			1146	4
	Mudstone, dark grey, highly sheared with thin layers of pale grey quartzitic siltstone. Scattered plant debris	2	5	1148	9
	Mudstone, dark grey, slightly carbonaceous and shaly with plant remains. Ironstone bands ¾" @ 1149/10, 4" @ 1150/1; 3" @ 1151/3	4	10	1153	7
21° at 1155'	Mudstone, medium grey	1	5	1155	0
	Mudstone, medium grey, silty with sporadic faint striping	8	9	1163	9
23° at 1165 ft.	Striped Beds	1	9	1165	6
	Mudstone, medium grey, slightly silty, badly sheared at base	1	6	1168	0
	Seatearth, medium grey mudstone, badly sheared at top	5	3	1173	3
	Seatearth, slightly buff-grey silty mudstone with patches of gannister-like seatearth with sphaerosiderite at the base	5	11	1179	2
39° at 1183/-	Mudstone, medium grey slightly silty. Highly sheared in the bottom 4 in. 6" ironstone band @ 1180/6.	4	10	1184	0
	Seatearth, medium grey mudstone with patches of gannister-like seatearth with sphaerosiderite at the base	5	11	1189	11
24° at 1191/4	Mudstone, medium grey, slightly silty with scattered roots and plant traces. 7" ironstone band @ 1190/4	4	1	1194	0
	Mudstone, medium grey with plant traces. Highly sheared		9	1194	9
	Mudstone, medium grey with plant traces	1	2	1195	11
	Mudstone, medium grey with plant traces. Alternations of ironstone bands (½-2") and medium grey mudstone		10	1196	9
	Mudstone, medium grey, highly sheared		8	1197	5
	Mudstone, blocky medium grey slightly silty with sporadic faint striping	6	11	1204	4

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SS 88 NW/12 Sheet 11
8414 8530

6 inch Map Regd. No.

SECTION OF MARGAM NO: 4 BOREHOLE 2436
Six Inch Map (County and Quarter Sheet

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			1204	4
	Sandstone, pale-grey, fine-grained and quartzitic		9	1205	1
	Mudstone, medium grey, slightly silty with patches of striped beds showing false bedding and turbulence	1	5	1206	6
	Mudstone, medium grey, slightly silty with scattered plant debris	3	3	1209	9
20° at 1210 ft.	Mudstone, massive, silty with bedding planes crowded with plant debris	1	7	1211	4
16° at 1216 ft.	Mudstone, medium grey, slightly silty with plant debris	8	10	1220	2
	Mudstone, medium grey, highly sheared	4	1	1224	3
11° at 1245 ft.	Mudstone, medium grey, becoming gradually darker downwards. Ironstone bands: 2½" @ 1226/0; 1" @ 1227/2; ½" @ 1230/8; 1" @ 1232/6; 1" @ 1235/-; ½" @ 1239/10; ½" @ 1243/0; 1" @ 1243/10; ½" @ 1245/8; ½" (worm) @ 1246/3 nunsacle @ 1237/6 and 1236/6. passing into	22	1	1246	4
	Mudstone, dark grey, rather badly sheared, passing into	1	6	1247	10
	Shale, dark carbonaceous, badly sheared	1	10	1249	8
	COAL (only 1'9" recovered)	5	2	1254	10
	Seatearth, medium buff-grey mudstone, passing into	2	9	1257	7
	Seatearth, medium buff-grey mudstone with abundnant sphaerosiderite	1	8	1259	3
	Seatearth, buff-grey mudstone with scattered sphaerosiderite Passing into		9	1260	0
	Mudstone, pale to medium grey with scattered plant traces	2	2	1262	2
18° at 1265 ft.	Mudstone, medium grey with scattered plant traces	8	10	1271	0
	Ironstone		8	1271	8
	Mudstone, medium grey, slightly silty	1	9	1273	5

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NATURE OF STRATA Geologist's Notes — Borer's Journal	THICKNESS Feet	 In.	DEPTH Feet	 In.
Brought forward ...			1273	5
Ironstone		9	1274	2
Mudstone, medium grey, slightly silty		4	1274	6
Mudstone, medium-grey with plant remains. Ironstone bands: 4" @ 1275/8; 10" @ 1276/1	3	6	1278	0
Mudstone, dark-grey, slightly silty with plant debris	1	4	1279	4
Mudstone, medium grey		1	1279	5
Shale, dark carbonaceous with coal streaks		7	1280	0
8° at 1282/- Mudstone, medium to dark grey with scattered ironstone nodules	4	6	1284	6
Rashings, dark structural		5	1284	11
COAL		2	1285	1
Shale, dark carbonaceous with abundant plant debris and scattered coal streaks	1	8	1286	9
Mudstone, medium to dark grey with plant remains and numerous thin ironstone bands from 1289ft to 1294 ft.	7	3	1294	0
Siltstone, pale grey		2	1294	2
20° at 1296 ft. Mudstone, medium to dark grey slightly silty ½" ironstone band @ 1295/10	2	10	1297	0
Sandstone, pale-grey, fine-grained		2	1297	2
Mudstone, medium-grey, slightly silty	4	1	1301	3
Ironstone		4	1301	7
15° at 1303 ft. Mudstone, medium grey smooth. Irregular ironstone nodules in bottom foot	2	3	1303	10
COAL (1ft. recovered)	2	8	1306	6
Shale, black carbonaceous		1	1306	7
Rashings, black		5	1307	0
Seatearth, medium grey mudstone	1	0	1308	0
Mudstone, medium grey, slightly silty		2	1308	2
Mudstone, strong medium-grey silty with sporadic patches of striped beds	2	8	1310	10

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Sheet 12

6 inch Map Regd. No. 248/96

SECTION OF MARGAM NO: 4 BOREHOLE.

Six Inch Map (County and Quarter Sheet)

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			1310	10
	Striped Beds	1	0	1311	10
	Sandstone, pale-grey, fine-grained	1	3	1313	1
	Siltstone, strong massive passing into blocky, medium grey, slightly silty mud-stone. ?Ironstone 3" at 1321' 3". A little plant debris.	3	3	1316	4
22° at 1318'		8	4	1324	8
	Pale to medium grey quartzitic siltstone to		8	1325	4
	Medium grey, slightly silty mudstone with plant debris		5	1325	9
	Hard, medium grey siltstone		4	1326	1
	Massive, fine grained sand-stone with carbonaceous partings	3	0	1329	1
20° at 1337'	Blocky and medium grey mud-stone ?Ironstone 2" at 1330' 10"; 3" @ 1334'4", 4" @ 1337'2"; 8" @ 1342'0"	14	11	1344	0
	COAL 1'6" recovered (L.4')	4	9	1348	9
	Washings		6½	1349	3½
	Medium grey slightly silty mudstone, seatearth	1	8½	1351	0
	passing into medium grey slightly silty mudstone with roots; with frequent ironstone nodules, roots becoming fewer downwards	4	0	1355	0
18° at 1363'	passing into medium to dark grey mudstone. Ironstone 6" @ 1357'; 5" @ 1358'8"; 3" @ 1361'11"; 3" @ 1365'2"; 4" @ 1366'11"; 3" @ 1368'7"	17	1½	1372	1½
	Dark grey shale		½	1372	2
	Coal (Recovery 1½")		5	1372	7
	Blocky grey mudstone with roots	3	1	1375	8
	Blocky medium grey silty mudstone with occasional roots and plant debris. Ironstone 8" @ 1376'11"	3	6	1379	2

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Geologist's Notes	NATURE OF STRATA — Borer's Journal	THICKNESS Feet	In.	DEPTH Feet	In.
	Brought forward ...			1379	2
21° at 1379'	Passing into medium grey blocky mudstone. Ironstone 4" @ 1384'10".	6	1	1385	3
	Blocky medium grey silty mudstone	2	0	1387	3
	Pale grey striped siltstone		2	1387	5
	Ironstone		3	1387	8
	Pale grey, fine grained sandstone. Joint coated with dickite	1	6	1389	2
	Blocky medium slightly silty mudstone	1	2	1390	4
	Pale grey, quartzitic, siltstone with striped partings of medium grey mudstone. Ironstone 3" @ 1390'10".	1	2	1391	6
	Medium grey, slightly silty mudstone		4	1391	10
	Pale grey fine grained sandstone	1	5	1393	3
	Medium, grey blocky mudstone		3	1393	6
	Pale grey fine grained sandstone		2	1393	8
	Medium grey mudstone		4	1394	2
	Striped beds		1	1394	3
	Pale grey fine grained sandstone		7	1394	10
	Striped beds with abundant plant debris		5	1395	3
	Blocky medium grey silty mudstone		3	1397	6
16° @1396 ft.	Pale grey, fine grained sandstone with carbonaceous partings		3	1397	9
	Medium grey mudstone, shaley in parts. Ironstone 1" @ 1399'10"; ½" @ 1400'; 1½" @ 1403'1"; 1½" @ 1404'6"	14	8	1412	5
20° at 1411 ft.	Passing into medium grey, Blocky rather silty mudstone with plant debris	3	7	1416	0
	Medium grey mudstone	1	1	1417	1
	Pale grey, fine grained sandstone		2	1417	3
	Blocky, medium grey mudstone. Ironstone 3" @ 1418'11"; 4" @ 1419'10"; 2" @ 1424'3"; ¼" @ 1425'6"; 5" @ 1428'7"	2	9	1430	0

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Sheet 13

6 inch Map Regd. No. 248/96

SECTION OF
Six Inch Map (County and Quarter Sheet)

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			1430	0
	Medium and dark grey shaly mudstone	3	9	1433	9
	Core broken up showing both medium grey shaly mudstone and dark carbonaceous irony shale (shaley)	1	1	1434	10
	COAL	2	0	1436	10
	COAL cores	1	6	1438	4
	Mudstone, rashes, grey slicken sides	1	0	1439	4
	Mixture of coal and rashes	1	8	1441	0
	Coal fragments		8	1441	8
	Clay		3	1441	11
18' 6"	COAL and rashes	1	7	1443	6
	Clay		5	1443	11
	COAL (Including 1" band of clay in approx. mid seam).	7	8	1451	7
	Rashes - grey, brown, slicken sides, mudstone	1	0	1452	7
	COAL and mudstone		9	1453	4
	Rashings with thin coal	1	1½	1454	5½
	Black carbonaceous shaly seatearth with coal streaks	1	6½	1456	0
	Blocky pale to medium grey Mudstone - seatearth	2	8	1458	8
	Striped beds with irregular bedding	1	4	1460	0
	Medium grey, slightly silty mudstone with occ. pale stripes; ironstone 4" @ 1462'9"; scattered plant debris.	6	7	1466	7
	Striped beds, mudstone predominating		10	1407	6
	Striped beds, siltstone predominating		8	1468	1
	Striped beds, mudstone predominating	1	6	1469	7
	Striped beds, siltstone predominating	6	5	1475	0
	Pale grey fine ~~grey~~ grained sandstone with striped bedding	1	8	1476	8
	Striped beds	1	6	1478	2
	Pale grey fine grained sandstone		5	1478	7
	Striped beds, mudstone predominating. Ironstone 1" @ 1480'10"	2	11	1481	6

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NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward			1481	6
	Pale grey, fine grained sandstone		8	1482	2
	Striped beds		7	1482	9
	Pale grey, fine grained sandstone with striped bedding	5	10	1488	7
	Ironstone		2	1488	9
20° at 1497 ft.	Blocky medium grey mudstone. Ironstone 5" @ 1495'6"; to 1½" @ 1497'5"; 4" @ 1502'3" @ 1504'8".	18	3	1507	0
	Pale grey fine grained sandstone with coal streaks	1	4	1508	4
	COAL	1	11	1510	0
	Medium grey mudstone, seatearth		11	1510	11
	Carbonaceous shale		½	1510	11½
	Medium grey mudstone seatearth with ironstone nodules	4	6½	1515	6
	Medium to dark grey mudstone with plant remains, scattered ironstone nodules	4	8	1520	2
	COAL	4	5¾	1524	7¾
	Rashings		1	1524	8¾
	COAL		¼	1524	9
	Rashings		4	1524	1
	Carbonaceous shale seatearth		2	1524	3
	Medium grey mudstone with sporadic roots	2	9	1527	0
	Blocky medium grey mudstone with occ. plant traces, ironstone 7" @ 1527'7"	4	10	1531	10
	Pale grey fine grained sandstone	2	0	1533	10
20° @ 1530 ft.	Striped beds		10	1534	8
	Blocky medium grey mudstone ironstone 3" @ 1538'3"; 1¾" @ 1541'6"; 3" @ 1541'8"	1	7	1546	3
	Dark shaly mudstone	1	3	1547	6
	Medium grey mudstone	2	1	1549	7

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Sheet 14.

6 inch Map Regd. No. 248/96

SECTION OF MARGAM NO: 4 BOREHOLE
Six Inch Map (County and Quarter Sheet)

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ..			1549	7
	Medium to dark grey mudstone becoming dark and more carbonaceous downwards. Ironstone with worm casts 4" @ 1549'8". Ironstone with worm casts at 1550' 2". Ironstone with worm casts at 1550' 6".	1	5	1551	0
	COAL		4	1551	4
	Clay		1	1551	5
	COAL	2	7	1554	0
	Clod		5	1554	5
	COAL		6	1554	11
	Bashings		6	1555	5
	Medium grey seatearth with scattered nodules	2	7	1558	0
	Passing into medium grey mudstone with occ.root markings in to p part, ironstone 1½" @ 1559' 0".	5	1	1563	1
	Dark grey shaly mudstone, ironstone ½" At 1563'10".	2	5	1565	6
	Medium grey blocky mudstone with scattered plant remains scattered nodules. Ironstone ½" @ 1566' 9", 4" @ 1566'11"; 2½" @ 1569'5"; ½" @ 1569'11"; 3" @ 1574'11", 2½" @ 1579'4"	16	9	1582	3
	Medium to dark grey shaly mudstone, cannelly in part	2	4	1584	7
	Passing into medium grey mudstone, ironstone 1½" @ 1586'0"	2	9	1587	4
	Pale grey fine grained sandstone.	1	7	1588	11
20° at 1590'0"	Blocky medium grey silty mudstone		9	1589	8
	Passing into medium grey mudstone, ~~ironstone~~ ironstone 2" @ 1590' 8"	2	1	1591	9
	Highly sheared medium grained mudstone	1	6	1592	3
	COAL	6	6	1598	9
	Shale	1	1	1599	10
	COAL		2	1600	0

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Geologist's Notes	NATURE OF STRATA Borer's Journal	THICKNESS Feet	 In.	DEPTH Feet	 In.
	Brought forward ...			1600	0
	COAL and rashings		7	1600	7
	Inferior coal		10	1601	5
	COAL		8	1602	1
	Highly sheared shaly mudstone seatearth.	1	10	1603	11
	Medium to dark grey seat-earth shaly and carbonaceous in parts.	2	1	1606	0
	Medium grey mudstone, iron-stone 2" @ 1606'2"; 7" @ 1606' 5"; rather broken and sheared from 1609' to 1612'	7	9	1613	9
	Pale grey fine grained sandstone		5	1614	2
	Ironstone		5	1614	7
	Medium grey mudstone, occ. plants, somewhat sheared from 1620 ft. to 1622 ft.	11	3	1625	10
18° at 1620 ft.	Pale grey fine grained sand-stone		4	1626	2
	Blocky medium grey mudstone with sporadic faint striping and occ. plant remains	5	10	1632	0
	Medium to dark grey mudstone with plant debris, rather sheared.		9	1632	9
	COAL	4	0	1636	9
	Medium grey mudstone-seat-earth	1	4	1638	1
	COAL		8	1638	9
	Medium grey mudstone seatearth		2	1638	11
	Strong medium grey mudstone with root markings; scattered ironstone nodules	4	3	1643	2
	Pale grey fine grained sandstone	1	1	1644	3
	Medium grey silty mudstone	1	5	1645	8
	Blocky medium grey mudstone, becoming slightly darker towards the base. Ironstone 5" @ 1649'9"; 2" @ 1653'6"; 1½" @ 1655'9"; 3" @ 1661'6"	19	7	1665	3

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6 inch Map Regd. No.

SECTION OF MARGAM NO: 4 BOREHOLE

Six Inch Map (County and Quarter Sheet)

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NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward			1665	3
	Dark carbonaceous shaly mudstone		9	1666	0
	COAL	4	0	1670	0
	Medium grey mudstone-seatearth	6	0	1676	0
	Passing into strong medium grey mudstone with roots	5	0	1681	0
	Medium grey mudstone with plant traces. Ironstone 4" @ 1685'2"; 10" @ 1685'11"; 7" @ 1689'9"	9	0	1690	0
	Highly sheared soft grey mudstone (Fault plane)	1	5	1691	5
	Medium grey silty mudstone with faint striping	3	1	1694	6
Fault	Mixed medium grey silty grey mudstone and pale grey sandstone. (Fault)	1	0	1695	6
	Medium grey mudstone; slightly sheared in places. Ghostlike non-marine mussels from 1698'9" to base	4	9	1700	3
	Blocky medium grey silty mudstone with Lingula	1	1	1701	4
	Highly contorted and sheared medium grey mudstone	1	0	1702	4
	COAL		3	1702	7
	Highly sheared structural rashings	1	9	1704	4
	Blocky medium grey silty mudstone with plant traces and occ. roots	2	5	1706	9
	Highly sheared medium grey mudstone		3	1710	0
7° at 1714'	Blocky medium grey mudstone with occ. plant traces. Ironstone 1" @ 1711' 2"; 2" @ 1711' 6"; ½" @ 1712'9"; ½" @ 1713'3"; 1" @ 1714'2"	5	6	1715	6
	Dark grey shaly mudstone, bedded firmly onto		8	1716	2
	Buff grey gannister-like seatearth	1	2	1717	4
	Medium grey mudstone-seatearth with ironstone nodules	2	0	1719	4

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NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			1719	4
	Medium grey mudstone with roots. Ironstone 2" @ 1721' 3"	2	11	1722	3
	Pale grey fine grained sandstone with carbonaceous partings	1	6	1723	9
	Blocky medium grey mudstone with occ. nodules and a few plant traces. Ironstone 5" @ 1732'3"; 3" @ 1734'3"; 5" @ 1736'9"	21	1	1744	10
	Ironstone	2	4	1747	2
Dip 8° at 1741 ft.	Medium grey, rather silty mudstone with plant traces		3	1747	5
	Strong striped medium grey silty mudstone		10	1748	3
	Pale grey sandstone		4	1748	7
	Blocky medium grey slightly silty mudstone with sporadic pale grey striped developments	3	5	1752	0
	Pale grey fine grained sandstone		10	1752	10
	Massive medium grey silty mudstone with poorly developed striping	2	7	1755	5
	Strong medium grey, rather silty mudstone	2	1	1757	6
	Pale grey fine grained sandstone with coal streaks	1	3	1758	9
	Strong medium grey mudstone with plant traces	1	11	1760	8
	Medium grey shaly mudstone. Ironstone 2½" @ 1762'2"; ½" @ 1763'10"	3	8	1764	4
	COAL	3	9	1768	1
	Light medium grey mudstone seatearth with scattered ironstone nodules	5	7	1773	8
	Massive medium grey slightly silty mudstone with occ. plant traces, sporadic roots in top two feet.	6	8	1779	4
	Striped beds		8	1780	0
	Strong medium grey silty mudstone with plant debris	2	10	1782	10

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Sheet 16.

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SECTION OF MARGAM NO: 4 BOREHOLE
Six Inch Map (County and Quarter Sheet)

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			1782	10
	Highly sheared mudstone		5	1783	3
	COAL		3	1783	6
	Carbonaceous shale with plant remains, rather sheared		10	1784	4
	COAL		2½	1784	6½
	Seatearth		3½	1784	10
	Carbonaceous shale		5	1785	3
	COAL		11	1786	2
	Black rashings	1	2	1787	4
	Seatearth		10	1788	2
	COAL		2½	1788	4½
	Dark carbonaceous shaly seatearth with coal streaks	4	1½	1792	6
	Strong medium grey silty mudstone with roots	2	0	1794	6
	Medium grey mudstone with occ. roots and plant traces	3	4	1797	10
	Medium grey shaly mudstone with occ. plant traces. Ironstone ½" @ 1798'4"; ¼" @ 1799'⅛ ¼" @ 1799'6"; 2" @ 1799'8"; 1" @ 1803'0"; 4" @ 1806'8"	10	2	1808	0
	Blocky medium grey mudstone rather silty in parts with sporadic faint striping. Ironstone 5" @ 1811'0"	7	10	1815	10
Dip 7° at 1817 ft.	Medium grey blocky mudstone rather sheared from 1816'1" to 1817' 4". Sheared from 1828' to 1832' 6"	16	8	1832	6
	Completely crushed medium grey mudstone (fault plane)		9	1833	3
	Medium grey blocky mudstone rather silty in parts. Ironstone 3" @ 1835'9"	3	9	1837	0
	Passing into strong medium grey silty mudstone	4	0	1841	0
	Pale grey striped siltstone	2	2	1843	2
34° at 1843 ft.	Strong medium to pale grey silty mudstone with striped bedding	1	0	1844	2

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NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward			1844	2
	Pale grey fine grained sandstone with striped false bedding	1	8	1845	10
	Strong medium grey mudstone rather silty in parts with scattered plant debris, somewhat sheared from 1850'6" to 1853' 6"	9	3	1855	1
	Dark carbonaceous mudstone with plant debris		2	1855	3
	COAL	1	3	1856	6
	Blocky medium grey mudstone seatearth	3	6	1860	0
	Strong medium grey, rather silty mudstone with abundant roots and scattered ironstone nodules	5	0	1865	0
	Passing into medium grey mudstone with sporadic roots. Ironstone 1-2" at 1866'9"; 3" @ 1867'1"; 2" @ 1869'6"; 14" @ 1869'10"	7	0	1872	0
	Medium grey mudstone with sporadic plants. Ironstone 2" @ 1874'. Rather sheared from 1873'6" to 1879'0"	7	0	1879	0
	Highly sheared medium grey mudstone passing into soft mixture of ? fireclay with some Coal	2	9	1881	9
	Strong medium grey mudstone seatearth	4	3	1886	0
	Passing into strong medium grey mudstone with roots	3	3	1889	3
12° at 1899 ft.	Strong medium grey mudstone silty in parts, with sporadic feint striping, scattered plant remains. Ironstone 2" @ 1890'7"; 4" @ 1889'4"; 1" @ 1900'4"; 1½" @ 1903'; 3" @ 1915'3"	42	3	1931	6
14° at 1920 ft.	Pale grey fine grained sandstone		8	1932	2
	Strong medium grey silty mudstone, slightly sheared with abundant plant debris	3	3	1935	5
	Pale grey fine grained sandstone		7	1936	0

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SECTION OF MARGAM BO: 4 BOREHOLE 6 inch Map Regd. No. 248/96

Six Inch Map (County and Quarter Sheet)

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward			1936	0
	Blocky medium grey mudstone with a little pale striping and scattered plant debris. Ironstone 5" @ 1936'11". Rather silty in parts.	10	0	1946	0
	Passing into strong medium grey silty mudstone with scattered plant debris	7	2	1953	2
	Striped beds with irregular bedding.		9	1953	11
	Medium grey silty mudstone with scattered plant debris	1	8	1955	7
	Sandstone, pale grey fine grained with false bedding and pellets of ironstone		9	1956	4
	Striped beds with irregular bedding		3	1957	7
	Medium grey fine grained sandstone	1	5	1959	0
	Striped beds		11	1959	11
19° at 1960 ft.	Pale grey fine grained sandstone	2	4	1962	3
	Striped beds		3	1962	6
	Pale grey sandstone		1	1962	7
	Medium to dark grey silty mudstone		2	1962	9
	Pale grey fine grained sandstone		4	1963	1
	Medium to dark grey silty mudstone with bedding planes, sheared		6	1963	7
	COAL (8'10" not measured)	11	1	1974	8
	Medium to dark grey mudstone seatearth	3	10	1978	6
	COAL		8	1979	2
	Buff grey mudstone, seatearth, becoming grey downwards	1	6	1980	8
	Medium grey blocky mudstone with roots	2	8	1983	4

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Geologist's Notes	NATURE OF STRATA Borer's Journal	THICKNESS Feet	 In.	DEPTH Feet	 In.
	Brought forward			1983	4
	Medium grey fine grained sandstone		4	1983	8
	Medium slightly silty mudstone with striping	2	7	1986	3
	Massive medium grey fine grained sandstone	3	10	1990	1
	Medium grey blocky mudstone		9	1990	10
	Massive medium grey fine grained sandstone	1	2	1992	0
21° at 1993 ft.	Medium grey slightly silty mudstone faintly striped with scattered plant debris	1	10	1993	10
	Pale grey fine grained sandstone		3	1994	1
	Medium grey mudstone		7	1994	8
	Striped beds		7	1995	3
17° at 2000 ft.	Medium grey silty mudstone with pale striping and scattered plant debris. Ironstone 2" @ 1998'4"; 3" @ 1999'7".	5	/	2000	4
	COAL	2	8	2003	0
	Medium to dark grey mudstone seatearth becoming paler downwards	2	4	2005	4
	Pale grey silty mudstone with roots	1	8	2007	0
16° at 2023 ft.	Striped beds with occ. bands of poorly striped mudstone. Ironstone 1'0" @ 2009'	18	0	2025	0
20° at 2030 ft.	Medium grey micaceous slightly silty mudstone with faint striping. Quartz pyrite veinlets	18	0	2043	0
	Medium grey micaceous mudstone with sporadic striping. Ironstone 1" @ 2044' 3"	1	3	2044	4
	Striped beds. Ironstone 3" @ 2048'1". Pale bands becoming predominant from 2054'0"	16	8	2061	0
	Pale grey fine grained silty sandstone	2	0	2063	0
	Pale grey striped siltstone much crushed		8	2064	4
	Pale grey fine grained sandstone, well bedded		10	2065	2

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SECTION OF MARGAM NO: 4 BOREHOLE

Six Inch Map (County and Quarter Sheet)

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NATURE OF STRATA		THICKNESS			DEPTH	
Geologist's Notes	Borer's Journal		Feet	In.	Feet	In.
	Brought forward ...				2065	2
	Much crushed and sheared medium to pale grey silty mudstone (disturbance)		3	10	2069	0
	Medium grey blocky mudstone badly sheared		1	6	2070	6
26° at 2113 ft.	Blocky medium grey mudstone with sporadic plants, rather sheared from 2099' to 2106'. Ironstone 5" @ 2109'6". Siltstone band 4" at 2116'3" to 2116'7".		48	10	2119	4
	Medium grey smooth mudstone. Ironstone 2½" @ 2120'; 1" @ 2121'; 1½" @ 2125'		7	2.	2126	6
	Blocky canneloid shaly mudstone		2	0.	2128	6
	COAL Recovered 1'11" Clay 7" Recovered Coal 4' 1" Recovered	Overall	11	8	2136	6
	Blocky medium to dark grey mudstone-seatearth		1	3	2137	9
	Passing into blocky medium grey mudstone with roots, rather sheared from 2138'6" to 2140' 0"		2	3	2140	0
	Medium slightly buff grey mudstone seatearth with scattered ironstone nodules		1	9	2141	9
18° at 2145 ft.	Blocky medium grey mudstone with roots, roots dying out downwards		4	3.	2146	0
	Passing into striped beds with pale grey siltstone predominating, with scattered plant debris		3	9	2149	9
	Blocky medium grey slightly silty mudstone		2	9	2152	6
	Pale grey fine grained sandstone			7	2156	1
	Finely striped beds		1	4	2157	5
	Medium grey fine grained sandstone with striped bands.		2	3	2158	8
	Blocky medium grey mudstone with faint striping. Ironstone 3" @ 2159'3"		3	4	2162	0

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NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			2162	0
	Striped beds	1	1	2163	1
	Blocky medium grey mudstone with sporadic faint striping.				
18° at 2164 ft.	Ironstone 3" at 2167'8"	4	10	2167	11
	COAL	3	7	2171	6
	Blocky medium grey mudstone seatearth.	3	2	2174	9
	Blocky medium to pale grey garnister-like seatearth	1	3	2176	0
	Passing into massive medium grey slightly silty mudstone with a little plant debris	1	0	2177	0
19° at 2178 ft.	Massive pale to medium grey silty mudstone	3	8	2180	8
	Striped beds, medium grey mudstone predominating	12	11	2193	7
	Massive medium grey, rather silty mudstone with scattered plant debris.				
22° at 2200 ft.	Ironstone ½" @ 2198'2".	19	5	2213	0
19° at 2205 ft.	Striped beds, medium grey mudstone predominating Ironstone 1" @ 2232'6"; 2" @ 2241'6"; 1½" @ 2248'0"; 1" @ 2248'3"; 1" @ 2249';				
29° at 2229 ft. 24° at 2237 ft.	1" @ 2251'6".	3	9	2252	0
19° at 2247 ft.	Striped beds medium grey mudstone very subordinate, generally reduced to mere partings.	11	6	2263	6
12° at 2256 ft.	Massive pale grey fine grained sandstone	3	9	2267	3
	Blocky massive medium grey slightly silty mudstone	2	5	2269	8
	Massive pale grey fine grained sandstone with a few thin layers of silty mudstone	1	3	2271	11
	Blocky massive medium grey mudstone with occasional bands showing striped bedding	4	8	2276	7
	Massive pale grey fine grained sandstone with round pellets of ironstone	2	1	2278	8
	Medium grey slightly silty mudstone		2	2278	10
	Dark blue grey shaly mudstone somewhat sheared		7	2279	5
	COAL (Gellideg)	6	10	2286	3
	Blocky medium grey (Massive) mudstone-seatearth		9	2287	0

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Sheet 19.

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SECTION OF MARGAM BOR: 4 BOREHOLE 248/96

Six Inch Map (County and Quarter Sheet)

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			2287	0
12° at 2290 ft.	Passing into medium grey silty mudstone with roots	4	0	2291	0
	Passing into blocky medium grey mudstone with roots Ironstone 1½" @ 2295 ft.	2	6	2293	6
	Passing into medium grey shaly mudstone with poor plant remains	1	6	2295	0
	Blocky medium grey mudstone with plant remains	1	1	2296	1
	Ironstone		4	2296	5
	Striped beds pale grey siltstone predominating. Ironstone 4" @ 2297'6". Striped beds - mudstone beds predominating. Medium grey mudstone. Ironstone 1½" @ 2304'2". with shell fragments. Ironstone 1" at 2306'1"	5 4	1 9	2301 2306	6 3
	Blocky medium grey silty mudstone sheared from 2306'3" to 2307'0". Ironstone 1" at 2308'2", more shearing at 2308'7" to 2308'9"	2	6	2308	9
	Hard slightly silty mudstone seatearth, slightly sheared	2	9	2311	6
	Passing into medium grey mudstone with root and plant traces.	1	10	2313	4
	Blocky medium grey silty mudstone with occ. roots and plant traces, with occ. pale grey bands of siltstone	3	11	2317	3
	Massive pale grey fine grained sandstone	9	9	2327	0
17° at 2330 ft.	Medium grey blocky mudstone with layers of striped silty mudstone. Planolites at 2328'6" to 2330'. Ironstone 1" at 2331 ft.	4	9	2331	9
	Pale grey fine grained quartzitic sandstone	2	0	2333	9
	Medium grey slightly silty micaceous mudstone.	1	0	2334	9

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Geologist's Notes, &c.	NATURE OF STRATA Borer's Journal	THICKNESS Feet	THICKNESS In.	DEPTH Feet	DEPTH In.
	Brought forward ...			2334	9
	Striped beds. Ironstone 1" @ 2334'10" showing turbulent bedding 2336'6" to 2338'0", and to 2340' layers of pale grey fine grained sandstone 2339'6" to 2339'9" and 2340'1" to 2340' 5"	6	4	2341	1
	Blocky medium grey slightly silty mudstone	1	6	2342	7
	Pale grey fine grained sandstone	2	6	2345	1
	Medium grey slightly silty mudstone with faint striping. Ironstone 3" at 2345'1".				
2346'1" to 2346'5" → I.S. 2½" @ 2347'8"	Pale grey siltstone at ~~2347'8~~. Ironstone 4" @ 2349'3", 2" @ 2352'; 1" @ 2353'10" somewhat sheared in bottom 12"	11	5	2356	6
	Washings (from drillers log)		1	2356	7
	COAL (from drillers log)	1	0	2357	7
	Washings 1'9" (from drillers log)	1	9	2359	4
(N.B. about 4' to 5' of ~~weak~~ CORE missing).	Blocky medium grey mudstone seatearth	7	4	2365	0
	Passing into strong medium grey slightly silty mudstone with roots, passing into striped beds, pale grey siltstone tending to predominate. Striping showing false bedding and a little turbulence, apparent dip varying from about 20° at top to nearly vertical at 2380' to about 20° at 2391'. Roots at top	37	0	2392	0
	Passing into striped beds medium grey mudstone tending to predominate	8	8	2400	8
	Passing into striped beds pale grey siltstone predominating	7	10	2408	6
	Striped beds	4	6	2413	0
27° at 2392 ft.	Passing into striped beds, medium grey mudstone predominating	23	0	2436	0
19° at 2410 ft. 20° at 2428 ft.	Passing into medium grey slightly silty mudstone with faint striping	3	1	2439	1
	Passing into striped beds	1	11	2441	0
	Passing into striped beds pale grey siltstone predominating	2	2	2443	2

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SECTION OF Sheet 20. MARGAM NO: 4 Borehole
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NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward			2443	2
	Ironstone	1	0	2444	2
	Medium grey slightly silty mudstone with faint striping	1	11	2446	1
	Passing into striped beds	1	11	2448	0
29° – 2451 ft.	Passing into medium grey silty mudstone with sporadic striping. Apparent dip 29° at 2451 ft. steepening to vertical with contortion at about 2455 ft. (? slumping) with apparent dip 29° at 2456'.	12	5	2460	5
19° at 2469 ft.	Passing into striped beds pale grey mudstone predominant but with bands up to 4" thick with pale grey siltstone predominant.	12	1	2472	6
	Passing into striped beds showing slumped structures. ? Fault at base	10	10	2483	4
	Medium grey mudstone with poorly developed striping. Dip 53° at 2484'; 73° at 2485'6". Vertical at 2487'6"	4	6	2488	0
12° at 2491 ft. with occasional plant fossils Ironstone 1" at 2489' 6".	Blocky medium grey mudstone shear planes at 2489' and 2490' with curved bedding nearly vertical between	4	0	2492	0
	Darker carbonaceous mudstone with plant debris		2	2492	2
	COAL	3	2	2495	4
	Medium slightly buff grey blocky seatearth	2	8	2498	0
	Passing into medium grey silty mudstone with roots and irregular nodules in the top 18".	1	10	2499	10
	Passing into strong pale to medium grey silty mudstone (nearly siltstone). Ironstone 6" @ 2504' 3"	7	2	2507	0
	Medium grey mudstone with plant remains	1	4	2508	4
	Strong medium grey silty mudstone with plant debris. Striped beds, striping not well developed. Beds mainly silty mudstone	15	8	2514	0
		3	10	2517	10

PTO

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(39)

218/96

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Brought forward ...			2517	10
	Massive pale grey siltstone with striped partings	4	10	2521	0
18° at 2521 ft.	Medium grey silty mudstone with poorly developed striping in patches	5	7	2526	7
	Striped beds		7	2527	2
	Pale grey silty sandstone with striped partings	1	0	2528	2
	Strong medium grey silty mudstone with faint striping.			2530	2
	FINIS.				

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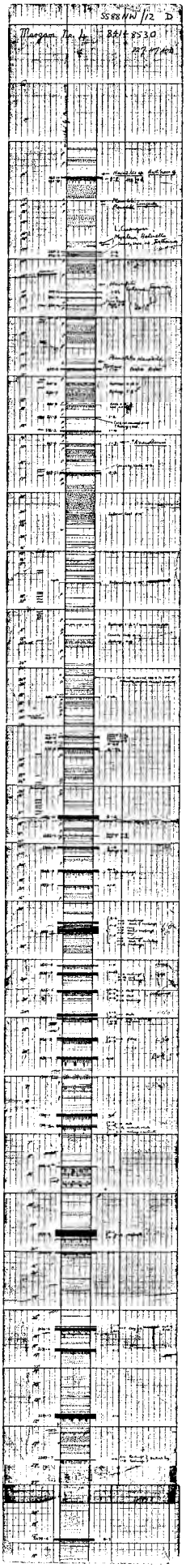

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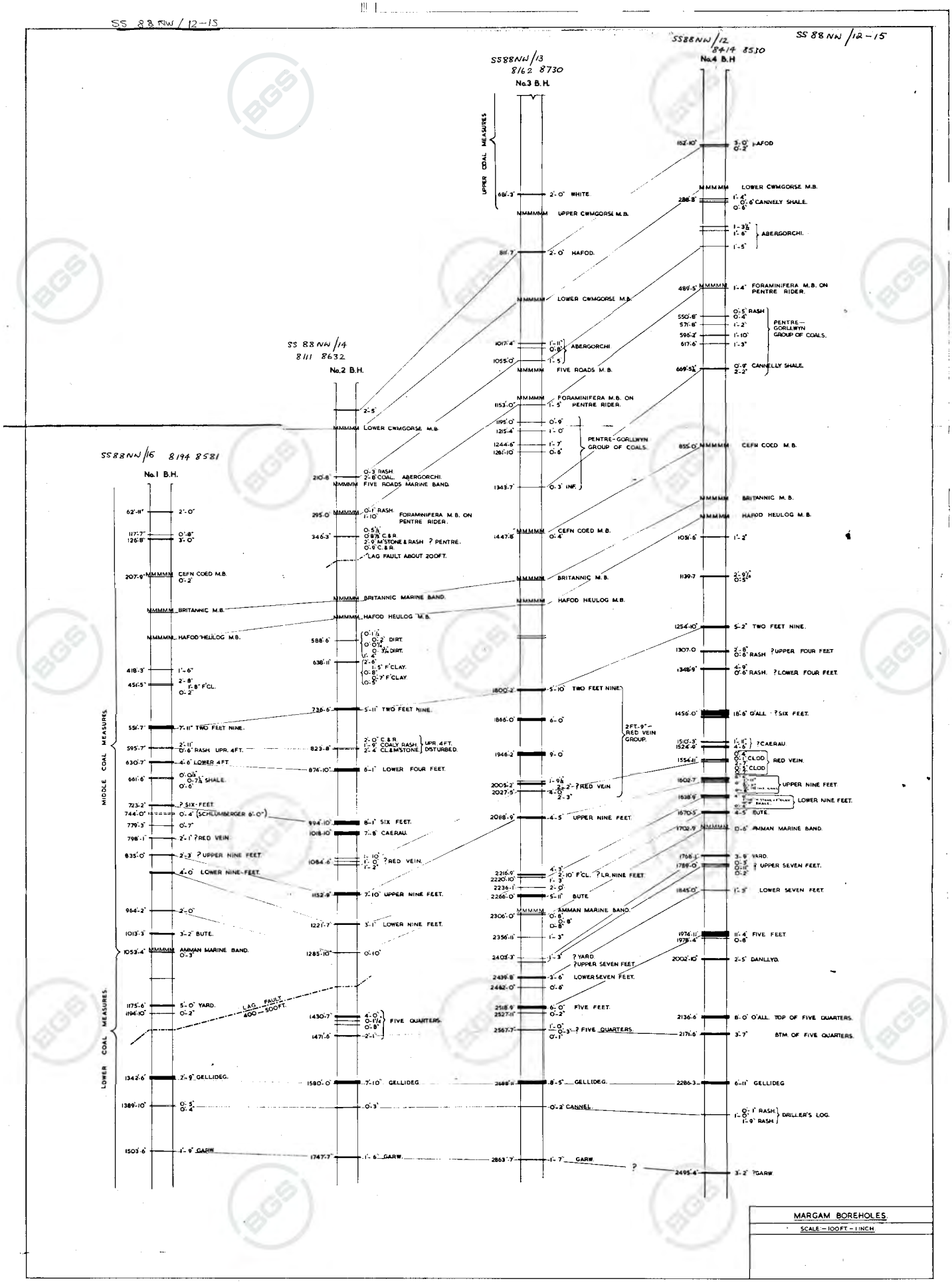

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GEOLOGICAL SURVEY OF GREAT BRITAIN

RECORD OF SHAFT OR BORE FOR MINERALS

(For Survey use only)
1-in. Map Registered No. ~~SS88NW1/12~~ 248/96 34 SW

Name of Shaft or Bore given by Geological Survey: MARGAM No. 4. BORE (SN2786)

Name and Number given by owner: SS8414 8530

Nat. Grid Reference SS8087

1"N.S. Map No.	1"O.S. Map No.	Confidential or not
	SS88	10

For whom made

Town or Village ..... County .....

Exact site 150 yds south of Pentre 8414 8530 Colliery (Attach a tracing from a map, or a sketch-map, if possible.)

Purpose for which made

Ground Level at shaft bore relative to O.D. ..... If not ground level give O.D. of beginning of shaft bore .....

Made by ..... Date of sinking .....

Information from ..... Date received .....

Examined by .....

SPECIMEN NUMBERS AND ADDITIONAL NOTES

(For Survey use only) Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Drilled by percussion to			110	–
	Mudstone, medium grey, slightly silty with scattered plant fragments.				
	Ironstone band 0-2" @ 110/4	16	2	126	2
	Sandstone, fine grained.		5	126	7
	Mudstone, medium grey.	2	11	129	6
	Sandstone, medium grey, micaceous.		11	130	5
	Mudstone, silty, very micaceous.		5	130	10
	Sandstone, fine-grained micaceous.		7	131	5
	Mudstone, silty, medium grey, micaceous, with scattered plant fragments.	2	8	134	1
	Mudstone, medium grey, with a little plant debris.	3	1	137	2
16° @ 155/-	Mudstone, slightly darker, smooth, with rare ironstone nodules. Ironstone bands :- ¼" @ 138/-, ¼"-½" @ 151/9, ½" @ 153/2 ½"-1" @ 153/11, ¼" @ 154/1, 0-1" @ 155/4, ½"-1" @ 155/7, 0-½" @ 156/-, 0-½" @ 156/6	22	7	159	9
	Rashings, grey mudstone		1	159	10
	COAL	3	–	162	10
	Rashings		4	163	2
	COAL		2	163	4
	Rashings		3	163	7
	Seatearth, mudstone, blocky, slightly buff-grey	3	1	166	8
					–

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EPSG: 27700 : 284140,185300

Name of Shaft or Bore given by Geological Survey: MARGAM BORE No. 4.

6-inch Map Registered No. 248/96

2

Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
				SS88	10
	Seatearth, mudstone, darker grey, with patches of sphaerosiderite below 170/- passing into :-	7	-	173	8
	Seatearth, mudstone, blocky buff-grey.	1	2	174	10
	Sandstone, massive pale grey, with much white clay mineral in matrix. Joint planes containing pyrite. Massive and coarse grained from 182/- to 185/- Very coarse grained with abundant clay mineral cement from 185/-	21	-	195	10
	Mudstone, medium to pale grey, slightly silty and micaceous, with scattered plant debris. Carbonaceous patches below 197/6	2	11	198	9
19° @ 200/-	Mudstone, medium grey, blocky.	10	11	209	8
16° @ 207/-	Mudstone, medium grey with much plant debris	5	1	214	9
	Striped Beds, medium grey. Silty mudstone predominant. Abundant plant debris	1	9	216	6
	Mudstone, blocky, medium grey, slightly silty.	-	11	217	5
18° @ 218/-	Striped Beds, medium grey silty mudstone predom.		9	218	2
	Mudstone, shaly, dark grey with plant remains and spores		10	219	-
	Striped Beds, medium grey silty mudstone predom.	1	5	220	5
	Mudstone, silty, blocky medium grey		4	220	9
	Striped Beds, mainly silty mudstone.	1	4	222	1
	Sandstone, pale grey, fine grained.		4	222	5
	Mudstone, silty, medium grey, with faint striping	1	4	223	9
	Sandstone, fine grained, pale grey.		11	224	8
	Sandstone, fine grained, pale grey, with carbonaceous partings in places.	7	6	232	2
	Striped Beds		3	232	5
	Sandstone, fine grained, pale grey.		10	233	3
	Mudstone, slightly silty, medium grey.		3	233	6
	Sandstone, fine grained, medium grey.		7	234	1
√ 17° @ 237/-	Mudstone, medium grey, with plant traces.		9	234	10
	Sandstone, fine grained, medium grey.	9	4	244	2
	Mudstone, medium grey.		1	244	3
	Sandstone, fine grained, pale to medium grey, with frequent carbonaceous partings.	2	-	246	3
	Mudstone, silty, blocky, medium grey, with much plant debris. Very massive with				
16° @ 257/-	occasional quartz veins. Passing into :-	11	9	258	-
	Mudstone, slightly darker, slightly silty near				
16° @ 266/-	the top. Ironstone bands :- ¼" @ 271/- ¼"-½" @ 271/6, sporadic nodules between				
17° @ 281/-	272/6 - 275/9, 0-½" @ 277/4, ½" @ 277/10, ½" @ 278/5, ¼" @ 279/-, ¾" @ 280/-, ½" @ 281/11	28	9	286	9
	Shale, slightly carbonaceous, dark with plant debris and a few fish scales.		2	286	11
	COAL	1	4	288	3
	Seatearth, mudstone, blocky medium grey.	1	-	289	3
	Seatearth, mudstone, blocky medium grey, with irregular ironstone nodules.	2	5	291	8

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Name of Shaft or Bore given by Geological Survey: MARGAM BORE No. 4.

6-inch Map Registered No. 248/96

3

Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Mudstone, dark, slightly carbonaceous, with plant debris (? Carbonaceous seatearth)			SS88/10	
			10	292	6
	Shale, cannelised, black	1	–	293	6
	Ironstone, dark		2	293	8
	COAL		6	294	2
	Seatearth, medium grey mudstone. Pyrite in the joint planes	1	4	295	6
	Mudstone, medium grey, with roots. ¾" streak of pyritised coal @ 295/10. Passing into	3	6	299	–
	Mudstone, silty, strong medium grey with sporadic roots near the top, and scattered plant debris below.	3	5	302	5
17° @ 303/-	Striped Beds		7	303	–
	Mudstone, silty, strong medium grey. Irregular Ironstone 0-1¼" @ 304/4	1	5	304	5
	Striped Beds, irregular.		6	304	11
	Mudstone, blocky, medium grey.		11	305	10
	Striped Beds, striping faint. Passing into:-		9	306	7
	Sandstone, fine grained, pale grey, with fragments + wisps of mudstone in top two feet, and carbonaceous partings near the bottom	4	5	311	–
	Siltstone, medium to pale grey		5	311	5
	Sandstone, pale grey micaceous, with carbonaceous partings. Carbonaceous partings dying out below 318/- Turbulent disturbance at 322/3 - 322/7	11	7	323	–
	Mudstone, blocky, medium grey		6	323	6
	Mudstone, blocky, medium grey, faintly striped		5	323	11
	Siltstone, pale grey with mudstone partings.		2	324	1
	Mudstone, blocky medium grey with faint striping to 326/9. Scattered plant debris.				
15° @ 328/-	½" Ironstone band @ 334/1. Faint striping again from 338/3 to 341/2.	17	1	341	2
	Mudstone, rather darker and smooth with sporadic ironstone nodules. ¼" clay band along bedding plane @ 344/11, indicating movement.	7	4	348	6
	Mudstone, black, carbonaceous, shaly.	2	–	350	6
	Mudstone, blocky, medium grey. Ironstone bands 2½" @ 350/10, 1½" @ 351/6, 1" @ 353/2, ½" @ 354/6, 1" @ 355/1, 1" @ 356/8	7	5	357	11
16° @ 357/-	COAL	1	3½	359	2½
	Seatearth, blocky medium grey, slightly silty mudstone.		4½	359	6
	Mudstone, blocky medium grey with sporadic roots and plant remains. Passing into:-	5	3	364	9
15° @ 363/-	Mudstone, dark grey shaly.		7	365	4
	COAL	1	6	366	10
	Seatearth, blocky medium grey mudstone. Cleared from 366/3 367/-	1	3	368	1
	Mudstone, massive medium grey, silty, with roots	1	3	369	4

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Name of Shaft or Bore given by Geological Survey: MARGAM BORE No. 4.

6-inch Map Registered No. 248/96

SS88/10

Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Siltstone, massive, medium to pale grey, with roots		11	370	3
	Mudstone, massive, medium grey, micaceous and silty with roots and irregular ironstone nodules.	1	5	371	8
	Mudstone, massive, medium grey, silty, with striping.	2	-	373	8
	Mudstone, massive, medium grey, silty, with plant traces.	5	7	379	3
?Lop Fault	Rashings, highly sheared black mudstone COAL traces		6	379	8
	Rashings, black COAL		1	379	9
			3	380	-
	Seatearth, medium grey mudstone passing into		6	380	6
	Mudstone, medium grey with plant remains	1	6	382	-
17° @ 383/-	Striped beds 0-½" Ironstone band @ 384/6	5	3	387	3
	Sandstone, fine grained, massive, pale grey, with carbonaceous partings, numerous in bottom 6"	1	8	388	11
	Mudstone, medium grey, silty.		1	389	-
	Striped beds, with pale grey siltstone predominant		8	389	8
	Striped beds, with medium grey mudstone predominant	3	8	393	4
	Striped beds, with pale grey siltstone predominant	1	1	394	5
	Striped beds, with medium grey mudstone predominant	1	7	396	-
	Striped beds	2	-	398	-
	Ironstone		2	398	2
	Mudstone, medium grey with ironstone nodules.	1	8	399	10
	Mudstone, grey, soft and highly sheared.		1	399	11
	Mudstone, medium grey		1	400	-
	COAL	1	5	401	5
	Seatearth, rather sheared medium grey silty mudstone	2	11	404	4
	Mudstone, pale grey, with roots and a more or less vertical fault clay band, (giving apparently little displacement).	1	8	406	-
	Mudstone, medium grey silty with roots Disturbed	3	9	409	9
	Mudstone, medium grey with roots & occasional very thin ironstone bands near the top.		8	410	5
	Mudstone, dark, shaly, ½" bright coal streak 410/6		7	411	-
	Mudstone, pale grey, slightly silty, with plant fragments and roots	1	3	412	3
	Sandstone, pale grey fine grained with micaceous carbonaceous partings - much broken up (surface of joint planes coloured by a light green mineral)	10	3	422	6
	Siltstone, striped, medium to pale grey	3	6	426	-
	Ironstone		1	426	1
	Striped beds, medium grey mudstone predominating	1	10	427	11
	Sandstone, fine grained, massive, medium-pale grey.		10	428	9
	Siltstone, massive, medium grey with plant debris.		7	429	4
	Mudstone, silty, medium grey.	1	-	430	4
	Siltstone, massive, pale to medium grey with stripes and layers of medium grey silty mudstone	3	-	433	4

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Name of Shaft or Bore given by Geological Survey: MARGAM BORE No. 4

6-inch Map Registered No. 248/96

5

Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Sandstone, fine-grained, massive, pale grey, with micaceous carbonaceous partings. (Shattered between 439/4 - 440/8.)	9	8	443	-
16° @ 461/-	Mudstone, silty, massive, medium grey, with occasional faint stripes & scattered plant debris. 1" Ironstone band @ 451/3. Passing into (grey)	27	-	470	-
15° @ 481'	Mudstone, blocky, medium grey, well bedded Ironstone bands:- 2" @ 476/10, ¼" @ 475/-, ¼" @ 475/1; becoming gradually darker downwards. Small ironstone nodules becoming frequent below 484/-. 1½" Ironstone band @ 477/- Planolites common below 476/- 1" Ironstone band @ 478/5	18	1	488	1
	COAL Pentre Rider.	1	4	489	5
	Seatearth, massive medium grey, slightly silty mudstone, with roots	1	7	491	-
	Seatearth, massive medium grey, slightly silty mudstone, with roots & scattered ironstone nodules	1	3	492	3
	Mudstone, massive, medium grey, silty, with roots	1	1	493	4
	Siltstone, massive, medium to pale grey with roots.		8	494	-
	Mudstone, massive, medium grey, silty with roots		7	494	7
	Siltstone, massive, pale grey		9	495	4
18° @ 499'	Mudstone, massive, medium grey with occasional plant traces	7	8	503	-
	Mudstone darker, with occasional plant traces ¾" Ironstone band @ 502/10. Contorted clay band, on bedding plane - ½" @ 503/5	1	9	504	9
	Mudstone, medium grey; gannister-like.		2	504	11
	Mudstone, darker and sheared. (? Seatearth).		10	505	9
	Mudstone, medium grey; gannister like, with abundant sphaerosiderite.	2	7	508	4
	Mudstone, blocky, medium grey.	1	1	509	5
	Mudstone, darker, shaly and sheared.	1	3	510	8
	Rashings, structural, black mudstone.	4	8	515	4
	Seatearth, medium grey, mudstone; sheared.	6	10	522	2
	Rashings, structural, black mudstone with coal streaks.	8	5	530	7
	Mudstone, silty, medium grey, with roots and irregular ironstone nodules. Becoming paler and more silty towards the base.		9	531	4
	Sandstone, fine-grained, pale grey.	1	11	533	3
	Sandstone, fine-grained, pale grey, with irregular layers of silty mudstone, showing "balled-up" structure.		9	534	-
	Mudstone, silty, pale to medium grey.		7	534	7
	Sandstone, micaceous, pale grey, with sporadic carbonaceous partings. Passing into :-	5	10	540	5
13° @ 541'	Mudstone, slightly silty, medium grey, with occasional pale stripe developments, with scattered plant debris. Passing into:-	4	3	544	8
	Mudstone, medium grey, with scattered plant debris. Ironstone bands: 1" @ 546/5, 2" @ 548/7	5	2	549	10
	Mudstone, dark, silty, slightly carbonaceous		1	549	11

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Name of Shaft or Bore given by Geological Survey:

MARGAM BORE No. 4.

6-inch Map Registered No. 248/96

SS88/10

Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Rastinga, structural, with coal fragments		5	550	4
	COAL		<4	550	8
	Seatearth, medium grey mudstone. Passing into	1	8	552	4
	Seatearth, medium grey mudstone, with irregular ironstone nodules. Passing into:-	2	6	554	10
	Mudstone, medium grey, silty, with roots and irregular ironstone nodules at the top. Passing	2	2	557	–
16°@ 558'	Mudstone, blocky, medium grey, slightly silty with plant debris. Passing into:-	7	10	564	10
	Mudstone, medium grey with plant remains & debris 1½" Ironstone Band @ 558/2.	6	5	571	3
	Mudstone, medium grey with plant remains & debris highly sheared		5	571	8
	COAL	1	2	572	10
	Core not recovered ? Rastinga to some coal.		10	573	8
	Seatearth, blocky, medium grey mudstone. Ironstone nodules at the bottom. Passing into:-		7	574	3
	Mudstone, medium grey, very silty, with occasional roots 1½" Pale grey siltstone band @ 575/1.		10	575	1
	Mudstone, medium grey, silty, with plant traces. Badly sheared from 576/8 – 577/6. Intermittent other shearing especially along bedding planes to 583/-. Irregular ironstone nodules 583¼ – 584/-	9	5	584	6
	Mudstone, silty; blocky, slightly paler with plant traces. Passing into:-		4	584	10
12°@ 586'	Siltstone, massive, pale grey, with carbonaceous stripe partings.	2	8	587	6
	Mudstone, medium grey Ironstone bands: 2" @ 588/3, 2" @ 590/2.	4	2	591	8
	Mudstone, medium grey, very highly sheared, with occasional ironstone nodules.	2	8	594	4
	COAL	1	10	596	2
	Seatearth, massive buff grey, silty with abundant scattered sphaerosiderite	3	7	599	9
	Mudstone, massive, medium grey silty with plant traces	2	–	601	9
14°@ 605'	Mudstone, blocky medium grey, rather silty in places with scattered plant debris	5	7	607	4
	Striped Beds		2	607	6
	Siltstone, pale grey		3	607	9
	Striped Beds		3	608	–
	Mudstone, blocky medium grey, silty, with scattered plant traces	3	1	611	1
	Striped Beds		5	611	6
	Mudstone, blocky, medium grey. 1½" Ironstone band 613/2, highly sheared at 615/11 – 616/3	4	9	616	3
	COAL	1	3	617	6
	Seatearth, blocky medium grey mudstone, becoming silty downwards.	2	3	619	9
15°@ 621'	Sandstone, fine grained, massive, pale grey with roots.	1	5	621	2
	Mudstone, medium grey, with plant debris.	1	10	623	–
	Mudstone, massive, medium grey, silty (slightly), with plant traces.	5	2	628	2

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Name of Shaft or Bore given by Geological Survey: MARGAM BORE No. 4

6-inch Map Registered No. 248/96 SS88/10

7

Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Ironstone		2	628	4
	Sandstone; massive pale grey	3	8	632	–
	Mudstone; medium grey, silty		2	632	2
	Siltstone; massive, pale to medium grey		7	632	9
	Sandstone; fine grained, pale grey. Ironstone 1 @ 633/7	4	4	637	1
	Striped Beds	2	4	639	5
	Sandstone; medium to pale grey, fine grained		4	639	9
	Striped Beds		9	640	6
	Mudstone, silty, massive, medium grey, with occasional plant fragments 3" - 2" Ironstone 643/6	3	1	643	7
	Mudstone; medium grey. Ironstone bands: - ½" @ 645/2, 0-1½" @ 645/9, and 0-1½" nodule @ 647/11	5	1	648	8
18° @ 649/6	Mudstone; silty, medium grey	2	–	650	8
	Mudstone; medium grey, with sporadic ironstone nodules throughout Ironstone bands: ½"-1½" @ 654/7 ½"-¾" @ 659/8 Structural clay band ¾" @ 660/2	9	6	660	2
	Mudstone; medium grained, highly sheared	2	8	662	10
	Shale; dark carbonaceous, very highly sheared	1	2	664	–
	Shale; cannel like, dark and highly sheared		9	664	9
	Mudstone; shaly, dark, carbonaceous. Highly sheared	2	4	667	1
	Mudstone; hard, irony, carbonaceous with plant debris		2½	667	3½
	COAL	2	2	669	5½
	Seatearth, black carbonaceous mudstone, highly sheared	1	5½	670	11
	Seatearth; blocky, medium grey mudstone. Passing into:	1	10	672	9
17° @ 677'	Mudstone; medium grey with roots, which die out downwards. Numerous plant remains & debris	6	1	678	10
	Mudstone; medium grey, with coaly streaks and carbonaceous partings and abundant plant debris	3	3	682	1
	Mudstone; blocky, medium grey, slightly silty, with scattered plant debris	5	1	687	2
	Sandstone; massive, pale grey, with irregular masses of medium grey mudstone	5	8	692	10
	Mudstone; dark grey, with abundant plant debris	1	–	693	10
	Sandstone; fine grained, pale grey, with medium grey silty mudstone admixture (contemporaneous)	1	2	695	–
	Seatearth; buff grey mudstone, sooty and sheared, with sphaerosiderite in bottom 6"	2	–	697	–
	Seatearth; mixed, pale grey sandstone & mudstone		4	697	4
	Mudstone; medium grey, with roots, becoming silty onwards		10	698	2
20° in SSt @ 708'	Sandstone; massive, fine grained, pale grey, with carbonaceous partings	13	11	712	1
	Striped Beds; with medium grey silty mudstone predominating	1	1	713	2
	Sandstone; massive, fine grained, pale grey, with carbonaceous partings. Coal streaks numerous in bottom 4ft	17	10	731	–
20° @ 731/6	Mudstone; medium to dark grey, smooth. Ironstone bands: ¼" @ 732/3, ¼-½" @ 732/-, 1" @ 732/7, 1½" @ 734/4, 1" @ 735/1, 1½" @ 735/9	6	7	737	7
	Mudstone, strong, medium grey, silty	1	11	739	6
	Inferior Coal		1	739	7

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Name of Shaft or Bore given by Geological Survey: MARGAM BORE No.4.

6-inch Map Registered No. 248/96 8

3588/10

Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Sandstone; massive, fine grained, pale grey	7	9	747	4
(Local only) 28°@ 753'	Mudstone; medium to dark grey, slightly silty				
22°@ 755'	Ironstone bands: ½" @ 748/1, 1½" @ 752/2,				
	¾" @ 753/2, ½" @ 755/7, 1½" @ 756/11, 1½" @ 759/7				
	1" @ 763/1. Wormcasts @ 764/4.	25	10	773	2
20° @ 777'	Mudstone; blocky, medium grey. 3" Ironstone @ 776/-	4	10	778	–
	Contorted Clay Band.		3	778	3
	Mudstone; rather darker, massive and silty. Rather				
	sheared. Irregular ironstone nodules @ 779/8.	1	11	780	2
	Mudstone; medium grey, blocky. Somewhat sheared				
	near the top.	5	–	785	2
	Sandstone; medium grained, pale grey.	1	2	786	4
	Mudstone; medium to dark grey, slightly silty.	1	11	788	3
16° @ 795'	Mudstone; medium to dark grey, slightly silty in				
15°@ 803'	places. Ironstone bands: 0-1" @ 788/-, 0-1 @ 789/5				
14°@ 812'	1½" @ 792/2, 1" @ 795/9, 1½" @ 801/7, 1" @ 806/10	24	6	812	9
	Passing gradually into:-				
	Mudstone; medium grey, smooth. Ironstone bands:				
	¼" @ 812/7, 2½" @ 814/5, 1" @ 816', 1½" @ 816/7,				
7°@ 820/-	¾" @ 816/10, ½" @ 817, nodular band @ 820/10,				
	¾" @ 821/-, ¾" @ 822/2. Passing into:-	10	9	823	6
	Mudstone; medium grey, slightly silty.				
	Ironstone bands:- ½" @ 825/10 & 1" @ 826/-	3	1	826	7
	Mudstone, medium grey, highly contorted	1	3	827	10
	Mudstone, medium grey, with small vertical				
	folds extending over the last 5-ins.		7	828	6
	Mudstone; medium grey. Badly sheared from 833/-				
	downwards. Ironstone bands:- 1½" @ 830/5,				
	1½" @ 831/11, ½" @ 833/-, ¾" @ 834/-, ¼-1½" @ 842/3,				
	0-1½" @ 844/5, ½-1" @ 848/3	23	1	851	6
	Mudstone; shaly, dark, with Lingula.	1	2	852	8
	Mudstone; dark blocky, with abundant pyrite				
	and marine fossils.	2	1	854	9
	Mudstone; dark grey.		10	855	7
	COAL - inferior		½	855	7½
	Seatearth; massive; slightly silty mudstone.				
	Pale grey, shading to buff and green.	3	6½	859	2
	Seatearth ditto - with abundant coarse sphaerosiderite	1	1	860	3
	Seatearth; blocky rather darker, with carbonaceous				
	material and becoming rather silty downwards.	2	3	862	6
	Mudstone; medium to dark grey with pale grey-green				
	blotches and abundant sphaerosiderite.	1	6	864	–
	Mudstone; medium grey with faint silty striping.	1	4	865	4
	Mudstone; slightly greenish-grey (? leached				
	and near seatearth) with scattered				
	sphaerosiderite.	3	5	868	9
	Mudstone; medium grey, slightly greenish,				
	with abundant sphaerosiderite.		5	869	2
	Mudstone; medium grey - rather sheared	1	5	870	7
	Mudstone, dark grey, with abundant sphaerosiderite				
	rather sheared.	3	7	874	2
	Mudstone; medium grey, highly sheared.		5	874	7

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BGS ID: 372646 : BGS Reference: SS88NW12
EPSG: 27700 : 284140,185300

Name of Shaft or Bore given by Geological Survey: MARGAM BORE No. 4.

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Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Mudstone; medium to dark grey, with abundant sphaerosiderite		5	875	-
	Mudstone; medium-grey, smooth. Badly sheared	3	4	878	4
	Mudstone; blocky, medium-grey, slightly silty with scattered plant remains 2-in Ironstone band @ 880/7	2	6	880	10
10°@ 879/4.	Mudstone; medium-grey, rather sheared	3	8	884	6
	Mudstone; blocky, medium-grey, slightly silty,				
21°@ 886/-	with plant debris	3	-	887	6
	Mudstone; highly sheared	1	6	889	-
	Mudstone; medium-grey, badly sheared. Ironstone bands:- 2-in @ 891/3, 1·2-in @ 894/2, 2-ins @ 895/-, 2-in @ 895/7, 0·2-in 897/-	1	5	900	5
	Mudstone; medium grey with some sheering 6-in Ironstone band @ 901/8.	3	7	904	-
	Mudstone; medium-grey, badly sheered	11	9	915	9
	Mudstone; medium-grey, somewhat sheered 5-6-in Ironstone band @ 918/8. Plant remains from 919/8 to 920/-	4	3	920	-
	Mudstone; medium-grey, highly sheered	6	8	926	8
	Rashings; black; mixed with highly sheered fireclay. ? some cannelly shale.	1	2	927	10
	Mudstone; medium-grey with roots	2	11	930	9
	Mudstone; medium-grey, slightly silty with a few roots	3	1	933	10
	Mudstone; medium-grey		5	934	3
	Mudstone; medium-grey, slightly silty mudstone,				
2°@ 935/-	with scattered plant debris		9	935	-
	Mudstone, medium-grey, very blocky, silty, with abundant plant debris	4	8	939	8
	Mudstone; medium-grey	2	2	941	10
	Shale; black carbonaceous		½	941	10½
	Mudstone; medium-grey		7	942	5½
	Shale; dark cannelly		1½	942	7
	Seatearth; massive, slightly to medium buff grey, silty. Passing into:-	1	1	943	8
	Seatearth; pale-grey, gannister-like, with sphaerosiderite	4	1	947	9
	Mudstone; medium-grey, slightly silty with roots		9	948	6
	Sandstone; massive, pale-grey, fine-grained.	2	9	951	3
	Mudstone; medium-grey, silty with plant traces		5	951	8
	Sandstone; massive, fine-grained.	1	9	953	5
	Mudstone; medium-grey, slightly silty		10	954	3
	Seatearth; mudstone; highly disturbed		3	954	6
	Mudstone; medium-grey, highly slattered		3	954	9
	Rashings; structural		9	955	6
	Seatearth; blocky, slightly buff grey mudstone,				
	becoming paler and more sandy downwards Passing into:-	2	8	958	2
	Seatearth; pale-grey, gannister-like, with scattered sphaerosiderite	2	5	960	7
13°@ 961/-	Mudstone; medium-grey, silty.		7	961	2
22°@ 962/- in sst.	Sandstone, massive, pale-grey, fine-grained.	4	7	965	9

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Name of Shaft or Bore given by Geological Survey: MARGAM BORE No. 4

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Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Mudstone; medium-grey, silty.		3	966	–
	Sandstone; pale-grey, fine-grained, showing false bedding at the top.	1	6	967	6
	Mudstone; blocky, medium-grey, slightly silty.	1	3	968	9
	Mudstone; blocky, medium-grey, slightly silty, with sporadic pale-grey striping	4	–	972	9
	Mudstone; blocky, medium-grey, slightly silty, with abundant plant debris near the top	3	10	976	7
	Mudstone; medium-grey, silty with scattered plant remains.	9	3	985	10
	Mudstone; medium-grey, slightly silty.	2	1	987	11
	Mudstone; very massive, rather silty.	2	1	990	–
20° @ 992/8	Mudstone; medium-grey. Ironstone bands at:- ½-in @ 993/8, 1-in @ 996/-, ½" @ 1000/4. Planolites @ 1000/1. Lingula @ 1000/8. Becoming rather darker below 1000/7				
20° @ 1000/4	Ironstone bands at:- 1½-in @ 1002/4, 1½-in @ 1003/6, 1½-in @ 1005/4, 1-in @ 1008/4 1-2-in @ 1011/4 and then several thin bands between 1011/8 and 1012/4. Planolites @ 1011/-. Below 1012/- the mudstone is dark and shaly.	24	8	1014	8
	Shale; dark, slightly carbonaceous.		6	1015	2
	CORE NOT RECOVERED = 3ft 5-in., presumably includes thin coal & fireclay.				
	Mudstone; strong, medium-grey, silty with roots and small ironstone nodules.	4	8	1019	10
	Mudstone; medium-grey, with sporadic roots and scattered plant debris.	1	8	1021	6
21° @ 1022/-	Striped Beds. Passing into:-	1	4	1022	10
	Mudstone; medium-grey, silty with faint striping and abundant plant fragments.			1024	10
20° @ 1026/-	Striped Beds.	2	8	1027	6
	Mudstone; medium-grey, becoming darker downwards. Ironstone bands:- 1-1½-in @ 1029/2, 2-in @ 1031/6. Passing into dark grey smooth mudstone, with abundant pyrite from 1037/- to 1038/-. Further ironstone bands:- 4-in @ 1034/2, 1½-in @ 1036/7, 1½-in @ 1038/1 nodular ¾-2-in @ 1040/1, nodular 0-¾-in @ 1040/8, nodular 0-2-in @ 1041/1, nodular ½-1-in @ 1041/3, nodular 0-2-in @ 1041/6, 0-1½-in @ 1043/-, ½-in @ 1043/6, numerous thin bands between 1044/- and 1045/-, 1-in @ 1045/3. Lingula between 1048/4 and 1049/8. Passing gradually into:-				
18° @ 1048/6	Shale, rather dark carbonaceous, with fish fragments	22	1	1049	7
	COAL		5½	1050	– ½
	Seatearth; buff-grey mudstone.	1	5½	1051	6
	Seatearth; pale-grey, gannister-like with patches of pale-grey, fine-grained sandstone.	2	3	1053	9
	Mudstone, medium-grey, silty, with abundant plant debris.	2	9	1056	6
			4	1056	10

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Name of Shaft or Bore given by Geological Survey: MARGAM BORE No. 4.

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Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Sandstone; pale-grey, fine-grained	1	10	1058	8
	Sandstone; pale grey, fine-grained, with irregular carbonaceous partings	2	1	1060	9
	Mudstone; medium-grey, slightly silty, with faint striping and abundant plant debris				
18° @ 1061/-	1-in Ironstone band @ 1061/6		11	1061	8
	Mudstone; medium-grey, with plant traces 1½-in Ironstone band 1064/4.	2	10	1064	6
	Mudstone; medium-grey, badly sheared. Mussel @ 1067/-	2	6	1067	-
	Mudstone; medium-grey	1	-	1068	-
	Mudstone; medium-grey, with roots and irregular ironstone nodules. Passing into:-	3	2	1071	2
	Mudstone; medium-grey, rather silty, with sporadic roots and plant remains. Passing into:-			1073	10
18° @ 1075/-	Mudstone; medium-grey, with plant remains.	4	-	1077	10
	Mudstone; medium-grey, rather silty, with irregular developments of striped beds, some showing turbulent structures.	2	8	1080	6
	Siltstone; pale grey, quartzitic		1	1080	7
	Mudstone; medium-grey, silty		1	1080	8
	Siltstone; pale-grey, quartzitic, with ½-in layer of medium-grey silty mudstone.		5	1081	1
	Mudstone; medium-grey, blocky, with plant remains		5	1081	6
	Mudstone; -ditto- with some striping		4	1081	10
	Mudstone; massive medium-grey, silty, with				
20° @ 1087/4	scattered plant debris 4-in Ironstone @ 1082/4	6	7	1088	5
	Striped Beds; with medium-grey mudstone predominating		11	1089	4
	Mudstone; medium-grey, silty with sporadic plant debris		8	1090	-
	Siltstone; pale to medium-grey		5	1090	5
	Striped Beds; showing false bedding. Pale grey siltstone predominating in the top half, medium-grey mudstone below.	1	5	1091	10
	Mudstone; massive medium-grey, silty, with occasional striped development near the top. Passing into:-	3	8	1095	6
25° @ 1100/-	Mudstone; blocky, medium-grey. 2-in Ironstone band @ 1095/9 and 5-in band @ 1096/- + 3-in @ 1097/-	8	2	1103	8
	Mudstone; medium-grey. Ironstone bands:- 2-in @ 1108/3, 1-in @ 1108/8, 2-in @ 1111/2, 3-in @ 1112/2	10	1	1113	9
	Mudstone; medium-grey, lightly sheared. ½-in Ironstone band @ 1114/-	1	1	1114	10
	Mudstone; medium-grey. Non-marine lamellibranch @ 1114/11		6	1115	4
	Rashings; black		2	1115	6
	Shale; black, carbonaceous		6	1116	-
	COAL		7½	1116	7½
	Stone		1½	1116	9
	COAL	1	3	1118	-
	Rashings; black coaly		7	1118	7
	Seatearth; medium-grey mudstone, with abundant sphaerosiderite from 1122/3 - 1124/-	5	5	1124	-
	Mudstone; medium-grey, sheared. Becoming darker downwards	1	-	1125	-

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Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Shale; black carbonaceous, slightly silty		4	1125	4
	Shale; black, rather cannelly		10	1126	2
	Shale; black, carbonaceous with coaly streaks		½	1126	2½
	COAL		2½	1126	5
	Shale; carbonaceous		½	1126	5½
	Mudstone; medium to dark grey, slightly silty with plant debris and a few roots near the top		10½	1127	4
	Mudstone; medium to dark grey, with scattered plant debris. Septarian ironstone 8-in @ 1127/9				
	Irregular ironstone nodules 1128/8–1129/7	4	8	1132	–
	Mudstone, medium-grey, smooth, with scattered worm tubes. 1½-in Ironstone band @ 1132/4	2	10½	1134	10½
	COAL	2	9½	1137	8
	Seatearth; buff-grey mudstone	2	5	1140	1
	Seatearth; medium to dark grey mudstone	1	11	1142	–
	Seatearth; dark-grey, mudstone	1	–	1143	–
	Seatearth; medium to slightly buff grey, silty mudstone, with irregular ironstone nodules. Very massive, with patches of sphaerosiderite in the bottom half	3	4	1146	4
	Mudstone; dark-grey, lightly sheared with thin layers of pale-grey quartzitic siltstone. Scattered plant debris	2	5	1148	9
	Mudstone, dark-grey, slightly carbonaceous and shaly, with plant remains. Ironstone bands: ¾-in @ 1149/10, 4-in @ 1150/1, 3-in 1151/3	4	10	1153	7
21° @ 1155	Mudstone; medium-grey	1	5	1155	–
	Mudstone; medium-grey, silty, with sporadic faint striping	8	9	1163	9
23° @ 1165	Striped beds	1	9	1165	6
	Mudstone; medium-grey, slightly silty, badly sheared at base	1	6	1168	–
	Seatearth; medium-grey mudstone, badly sheared at the top	5	3	1173	3
	Seatearth; slightly buff-grey silty mudstone, with patches of gannister-like seatearth, with sphaerosiderite at the base	5	11	1179	2
39° @ 1183/	Mudstone; medium-grey, slightly silty. Highly sheared in the bottom 4-in. 6-in Ironstone band @ 1180/6	4	10	1184	–
	Seatearth; medium-grey mudstone, with patches of gannister-like seatearth with sphaerosiderite at the base	5	11	1189	11
24° @ 1191/4	Mudstone; medium-grey, slightly silty, with scattered roots and plant traces. 7-in Ironstone band @ 1190/4	4	1	1194	–
	Mudstone; medium-grey, with plant traces. Highly sheared		9	1194	9
	Mudstone; medium-grey with plant traces	1	2	1195	11
	Mudstone; medium-grey with plant traces. Alternations of ironstone bands (½-2-in) + medium-grey mudstone		10	1196	9

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Name of Shaft or Bore given by Geological Survey: MARGAM BORE No. 4.

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Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Mudstone; medium-grey, highly sheared		8	1197	5
	Mudstone; blocky, medium-grey, slightly silty, with sporadic faint striping	6	11	1204	4
	Sandstone; pale-grey, fine-grained and quartzitic		9	1205	1
	Mudstone; medium-grey, slightly silty, with patches of striped beds showing false bedding and turbulence	1	5	1206	6
	Mudstone; medium-grey, slightly silty, with scattered plant debris	3	3	1209	9
20°@1210/-	Mudstone; massive, silty with bedding planes crowded with plant debris.	1	7	1211	4
16°@1216/-	Mudstone; medium-grey, slightly silty, with plant debris	8	10	1220	2
	Mudstone; medium-grey, highly sheared	4	1	1224	3
	Mudstone; medium-grey, becoming gradually darker downwards. Ironstone bands:- 2½-in @ 1226/-, 1-in @ 1227/2, ½-in @ 1230/8, 1-in @ 1232/6, 1-in @ 1235/-, ½-in @ 1237/10, ½-in @ 1243/-, 1-in @ 1243/10, ½-in @ 1245/8, ¼-in (wrinkly) @ 1246/3 Mussels @ 1237/6 and 1236/6 Passing into:-	22	1	1246	4
	Mudstone; dark-grey, rather badly sheared Passing into:-	1	6	1247	10
	Shale; dark carbonaceous, badly sheared	1	10	1249	8
	COAL (only 1ft 9in recovered)	5	2	1254	10
	Seatearth; medium-buff-grey mudstone Passing into	2	9	1257	7
	Seatearth; medium-buff-grey mudstone with abundant sphaerosiderite	1	8	1259	3
	Seatearth; buff-grey mudstone with scattered sphaerosiderite. Passing into:-		9	1260	-
	Mudstone; pale to medium-grey with scattered plant traces.	2	2	1262	2
18°@1265/-	Mudstone; medium-grey with scattered plant traces.	8	10	1271	-
	Ironstone		8	1271	8
	Mudstone; medium-grey, slightly silty	1	9	1273	5
	Ironstone		9	1274	2
	Mudstone; medium-grey, slightly silty.		4	1274	6
	Mudstone; medium-grey with plant remains. Ironstone bands:- 4-in @ 1275/8, 10-in @ 1276/1	3	6	1278	-
	Mudstone; dark-grey, slightly silty, with plant debris	1	4	1279	4
	Mudstone; medium-grey.		1	1279	5
	Shale; dark carbonaceous with coal streaks.		7	1280	-
8°@1282/-	Mudstone; medium to dark-grey, with scattered ironstone nodules.	4	6	1284	6
	Rashings; dark structural		5	1284	11
	COAL		2	1285	1
	Shale; dark carbonaceous with abundant plant debris and scattered coal streaks	1	8	1286	9
	Mudstone; medium to dark grey, with plant remains and numerous thin ironstone bands from 1289/- to 1294/-	7	3	1294	-
	Siltstone, pale-grey		2	1294	2

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Name of Shaft or Bore given by Geological Survey: MARGAM BORE No. 4.

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Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
20° @ 1296/-	Mudstone; medium to dark grey, slightly silty. ½-in Ironstone band @ 1295/10	2	10	1297	-
	Sandstone; pale grey, fine-grained		2	1297	2
	Mudstone; medium-grey, slightly silty.	4	1	1301	3
	Ironstone.		4	1301	7
15° @ 1303/-	Mudstone; medium grey smooth Irregular ironstone nodules in bottom foot	2	3	1303	10
	COAL (1ft recovered)	2	8	1306	6
	Shale; black carbonaceous.		1	1306	7
	Rashings; black.		5	1307	-
	Seatearth; medium-grey mudstone.	1	-	1308	-
	Mudstone; medium-grey, slightly ~~grey~~ silty.		2	1308	2
	Mudstone; strong, medium-grey, silty with sporadic patches of striped beds.	2	8	1310	10
	Striped Beds.	1	-	1311	10
	Sandstone; pale-grey, fine-grained.	1	3	1313	1
	Siltstone, strong, massive.				
	Examined to 1315/6				

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(2781) *Dd0586/Wt64575 5,000 4/55 JC&S Gp669

Name and Number of Shaft or Bore given by Geological Survey: (1)

County 248/96

6" Quarter Sheet SS88/10

Geological Classification	Description	Thickness		Depth	
				1313	1
	Subbles sharp massive (1315/6)	3'	3"	1316	4
	passing into blocky medium grey slightly silty mudstone ? Ironstone				
22° to 1345'	3" at 1321-3"				
	a little plant debris	8	4	1324	8
	Pale to medium grey quartzitic				
	silt stone to		8	1325	4
	medium grey slightly silty				
	silty mudstone with plant				
	debris		5"	1325	9
	Hard medium grey siltstone		4	1326	1
	massive fine grained sandstone				
	with carbonaceous partings	3	0	1329	1
	Blocky to medium grey				
	mudstone. Ironstone 2"				
	at 1330'10", 3" to 1334'4",	14	11		
20° to 1337'	4" to 1337'2", 9" to 1342'			1344	
	Coal. 1'6" Recovered (LB 4')	4'	9"	1348	9"
	Roofings		6½	1349	3½
	medium grey slightly silty				
	mudstone see fourth	1	8½	1351	0
	passing into medium grey				
	slightly silty mudstone				
	with roots, with frequent				
	ironstone nodules, with				
	roots becoming fewer				
	down wards to dark	4	0	1355	0
	passing into medium grey				
	mudstone Ironstone 6" to 1357				
	5" to 1358'8", 3" to 1361'11				
18° to 1363	3" to 1365'2", 4" to 1366'11				
	3" to 1368'7"	17	1½	1372	1½
	Dark grey shale		½"	1372	2
	Coal (Recovered 13")		5"	1372	7"
	Blocky grey mudstone with				
	roots	3	1	1375	8
	Blocky medium grey silty				
	mudstone with occasional				
	roots ? plant debris				
	Ironstone 8" to 1376'11"	3	6	1379	2
	passing into medium grey				
21° to 1379	blocky mudstone.				
	Ironstone 4" to 1384'10"	6	1	1385	3
	Blocky medium grey silty mudstone	2	0	1387	3
	Pale grey thinly bedded siltstone	–	2	1387	5
	Ironstone	–	3	1387	8
	Pale grey fine grained				
	sandstone Joints coated	1	6		
	with dickite			1389	2
	Blocky medium grey	1	2		
	silty mudstone			1390	4

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

County 248/96 (16)

6" Quarter Sheet SS88/10

Geological Classification	Description	Thickness			Depth	
					1390	4
	Pale grey quartzitic silt stone with striated partings of medium grey mudstone	1	2			
	Ironstone 3" @ 1390'10"				1391	6
	Medium grey slightly silty mudstone		4		1391	10
	Pale grey fine grained sandstone	1	5		1393	3
	medium grey blocky mudstone	–	3		1393	6
	Pale grey fine grained sandstone	–	2		1393	8
	medium grey mudstone	–	4		1394	2
	Striated beds	–	1		1394	3
	Pale grey fine grained sandstone	–	7		1394	10
	Striated beds with abundant plant debris	–	5		1395	3
	Blocky medium grey silty mudstone	–	3		1397	6
	Pale grey fine grained sandstone with R carbonaceous partings	–	3		1397	9
16° @ 1396	Medium grey mudstone shaley in parts. Ironstone 1" @ 1399'10"; 2" @ 1400; 1" @ 1403'1"; 1½" @ 1404'6".	14	8		1412	5
	passing into medium grey Blocky rather silty mudstone					
20° @ 1411	with plant debris	3	7		1416	0
	Medium grey mudstone	1	1		1418	1"
	Pale grey fine grained sandstone	–	2		1417	3"
	Blocky medium grey mudstone Ironstone 3" @ 1418'11, 4" @ 1419'10", 2" @ 1424'2", 4" @ 1425'6" 5" @ 1428'7	2	9		1430	0
	Medium & dark grey shaly mudstone	3	9		1433	9
	Core broken up showing both medium grey shaly mudstone and dark carbonaceous coal Lower shale (Kelly)	1	1		1434	10
	Very crushed Coal & Rashes	1	6		1436	4
	Coal partly crushed. Rashes.	2	0		1438	4"
	Rashes & Coal crushed	1	8		1439	4"
	Coal	–	8		1441	0
	Coal & Rashes, Rather crushed Clay	1	10		1441	8
			5		1443	6
					1443	11

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

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6" Quarter Sheet SS88/10

Geological Classification	Description	Thickness		Depth	
				1443	11
	Coal	7	8	1451	7
	Rashes	1	0	1452	7
	Dirty coal (18" preserved from 19'4")	—	9	1453	4
	Rashes.			1454	5
	Coal			1454	5½
				1434	10
	Coal	2	0	1436	10
	Coal seams	1	6	1438	4
	mud stone rashes. - grey.	-			
	slicken sides	1	0	1439	4
	mixture of coal & Rashes.	1	8	1441	0
	Coal fragments.	—	8	1441	8
18'6"	clay	—	3	1441	11
	Coal & Rashes.	1	7	1443	6
	clay	—	5	1443	11
	Coal	7	8	1451	7
	(including 1" band of clay in approx mid seam)				
	Rashes - grey, fissile	7			
	slicken sides mudstone	1	0	1452	7
	Coal & mudstone	—	9	1453	4
	Rashings with thin coal	1	1½	1454	5½
	Black carbonaceous shale				
	seatearth with coal streaks	1	6½	1456	0
	Blocky pale & dk olive grey				
	fine - sst earth	2	8	1458	8
	stroped beds with irregular lighting	1	4	1460	0
	Mudstone grey, slightly silty, medium				
	with occasional pale stripes; iron stone				
	4" at 1462' 9, Scattered plant debris	6	7	1466	7
	striped beds, mudstone predominating		10	1467	6
	striped beds, silt stone predominating		8	1468	1
	striped beds, mudstone predominating	1	6	1469	7
	striped beds, siltstone predominating	6	5	1475	0
	Pale grey fine grained sandstone				
	with striped bedding	1	8	1476	8
	striped beds	1	6	1478	2
	Pale grey fine grained sand-				
	stone beds		5	1478	7
	striped beds, mudstone predominating				
	1" at 1480' 10"	2	11	1481	6
	Pale grey fine grained sandstone		8	1482	2
	striped beds		7	1482	9
	Pale grey fine grained sandstone				
	with striped bedding	5	10	1488	7
	Seam base		2	1488	9

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

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6" Quarter Sheet SS88/10

Geological Classification	Description	Thickness		Depth	
				1488	9
20° at 1497.	Blocky medium grey mudstone; ironstone 5" at 1495·6", 1½" at 1497·5, 4" at 1502, 3 at 1504·8	18	3	1507	
	Pale grey fine grained sandstone with coal streaks	1	4	1508	4
	Coal / COAL	1	11	1510	
	Medium grey mudstone / seatearth		11	1510	11
	Carbonaceous shale &		½	1510	11½
	Medium grey mudstone seatearth with ironstone nodules.	4	6½	1515	6
	Medium to dark grey mudstone with plant remains, scattered ironstone nodules	4	8	1520	2
	Coal.	4	5¾	1524	7¾
	Partings /		1"	1524	8¾
	Coal		¼	1524	9
	Partings		¼	1524	1
	Carbonaceous shale seatearth		2	1524	3
	Medium grey mudstone with sporadick roots	2	9	1527	
	Blocky medium grey mudstone with occasional plant traces, ironstone 7" at 1527·7,	4	10	1531	10
	Pale grey fine grained sandstone	2	0	1533	10
20° at 1530	Striped bed		10	1534	8
	Blocky medium grey mudstone, ironstone 3" at 1538·3; ironstone 1¾" at 1541·6				
	3" at 1541·8.	1	7	1546	3
	Dark shaly mudstone	1	3	1547	6
	Medium grey mudstone	2	1	1549	7
	Medium to dark grey mudstone becoming dark and more carbonaceous downwards				
	Iron stone with worm coals 4" at 1549·8				
	Iron stone with worm coals at 1550·2				
	Iron stone with worm coals at 1550·6.	1	5	1551	
	Coal.		4	1551	4
	Clay		1	1551	5
	Coal	8	7	1554	0
	Clod		5	1554	5
	Coal		6	1554	11
	Partings		6	1555	6
	Medium grey seatearth with scattered nodules.	2	7	1558	
	Passing into medium grey mudstone with occasional root markings in top part, ironstone 12" at 1559·0	5	1	1563	1
	Dark grey shaly mudstone ironstone 6" at 1563·10.	2	5	1566	6
	with scattered plant remains; Medium grey blocky mudstone / seatearth nodules; ironstone 6" at 1566·9				

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Name of Shaft or Bore given by Geological Survey: 5

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Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	4" at 1566·11, 2½" at 1569·3,				
	½" 1569·11,				
	3" at 1574·11, 2½" at 1579·4.	16	9	1580	3
	Medium to dark grey shaly mudstone				
CANNELLY	cannelly in part	2	4	1584	7
	passing into medium grey				
	mudstone; ironstone 16in at 1586·0	2	9	1587	4
	Pale grey fine grained sandstone	1	7	1588	11
20° at 1590	Blocky medium grey silty mudstone		9	1589	8
	passing medium grey mudstone.				
	Stone 2" 1590·8	2	1	1591	9
	Highly sheared medium grained mud-				
	stone	1	6	1592	3
	Coal	6	6	1598	9
	shale	1	1	1599	10
	Coal		2	1600	0
	Coal and rashings		7	1600	7
	Inferior coal		10	1601	5
	Coal		8	1602	1
	highly sheared shaly mudstone seatearth	1	10	1603	11
	medium to dark grey seatearth shaly				
	coal carbon in parts	2	1	1606	0
	Medium grey mudstone;				
	2" at 1606·2; 7" at 1606·5;				
	rather broken and sheared from 1609				
	to 1618.	7	9	1613	9
	Pale grey fine grey sandstone		5	1614	2
	Iron stone 5"		5"	1614	7
	Medium grey mudstone occasional				
	plants; sandstone sheared from				
	1620 – 1622	11	3	1625	10
18° at 1620	Medium grey mudstone with layers				
	striations almost vertical				
	Iron stone 2" at 1622·10				
	Pale grey fine grained sandstone				
	Medium grey mudstone slight				
	shearing from				
	Medium				
	Pale grey fine grained sandstone		4	1626	2
	Blocky medium grey mudstone				
	with sporadic faint striations				
	occasional plant remains	5	10	1632	0
	Medium to dark grey mudstone with				
	plant debris; rather sheared		9	1632	9.
	coal COAL	4	0	1636	9
	Medium grey mudstone; seatearth.	1	4	1638	1
	COAL		8	1638	9
	Medium grey seatearth (mudstone)		2	1639	11
	Strong medium grey mudstone with				
	root markings; scattered ironstone nodules	4	3	1643	2

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Name of Shaft or Bore given by Geological Survey: b

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Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	pale grey fine grained sandstone	1	1	1644	3
	medium grey silty mudstone	1	5	1645	8
	blocky medium grey mudstone with ironstone				
	5" at 1649·9. 2" at 1653·6				
	1½" at 1655·9. 3" @ 1661'6"				
	becoming slightly darker towards the base.	19	7	1665	3
	dark carbonaceous blocky shaly mudstone		9	1666	0
	Coal	4	0	1670	0
	Medium grey mudstone				
	seatearth	6	0	1676	0
	passing into strong medium grey mudstone with roots	5	0	1681	0
	Medium grey mudstone with plant fragments				
	Ironstone 4" @ 1685'2"				
	10" @ 1685'11", 9" @ 1689'9"	9	0	1690	0
	Highly sheared soft grey mudstone (fault plane)	1	5	1691	5
	Medium grey silty mudstone with faint striping	3	1	1694	6
	Mixed medium grained silty grey mudstone and pale grey sandstone (fault)	1	0	1695	6
	medium grey mudstone, slightly sheared in places. Shoots are more marked from 1698'9" to			1698	6
	base.	4	9	1700	3
	Blocky medium grey silty mudstone with ironstone	1	1	1701	4"
	Highly contorted & sheared medium grey mudstone	1	0	1702	4
	Coal.	0	3	1702	7
	Highly sheared structureless mudstone	1	9	1704	4
	Blocky medium grey silty mudstone with fine plant fragments & occasional roots	2	5	1706	9
	Highly sheared medium grey mudstone		3	1710	0
	Blocky medium grey mudstone with occasional plant fragments. Ironstone 1" @ 1711'2"				
	2" @ 1711'6", ½" @ 1712' 9"				
	½" @ 1713'3", 1" @ 1714'2"	5	6	1715	6"
	Dark grey shaly mudstone with fine laminations			1716	2
	coals		8½	1716	2

Fault

7° @ 1714'

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Name of Shaft or Bore given by Geological Survey: 1

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Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
				1716	2
	Buff grey pisolitic like				
	sandstone	1	2	1717	4
	Medium grey mudstone—				
	dark grey with more than				
	nodules.	2	0	1719	4
	Medium grey mudstone				
	with nodules. Stone 3" @ 1721'3"	2	11	1722	3
	Pale grey fine grained				
	sandstone with				
	carbonaceous partings	1	6	1723	9
	Blocky medium grey				
	mudstone with occasional				
	nodules, with one a few				
	plant traces. Stone 2" @				
	1732'3", 3" @ 1734'3", 3" @				
	1736'9"	2	1	1744	10
	Iron stone	2	4	1747	2
	Medium grey mottled silty				
	mudstone with plant				
	traces	0	3	1747	5
	Strong striped medium grey				
	silty mudstone	0	10	1748	3
	Pale grey sandstone	0	4	1748	7"
	Blocky medium grey slightly				
	silty mudstone with				
	abundant pale grey stripes				
	fine laminae	3	5	1752	0
	Pale grey fine grained				
	sandstone	0	10	1752	10
	Massive medium grey				
	silty mudstone with				
	pale grey clay ironstone stripes	2	7	1755	5
	Strong medium grey mottled				
	silty mudstone	2	1	1757	6
	Pale grey fine grained				
	sandstone with coal				
	streaks	1	3	1758	9
	Strong medium grey mud-				
	stone with plant traces	1	11	1760	8
	Medium grey blocky				
	mudstone. Stone 2½"				
	@ 1762'3", ½" @ 1763'10"	3	8	1764	4
	Coal	3	9	1768	1
	Light medium grey mud-				
	stone with lacustrine				
	ironstone nodules	5	7	1773	8
	Massive medium grey slightly				
	silty mudstone with				
	occasional plant traces				
	Ferruginous nodule in Top 2 ft	5	8	1779	4

slip 8" @ 1741'

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Name of Shaft or Bore given by Geological Survey: 8

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Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
				1779	4
	Striped beds	0	8	1780	0
	Strong medium grey silty mudstone with				
	pockets. carbonaceous	2	10	1782	10
	Highly sheared mudstone	0	5"	1783	3
	Coal.	0	3	1783	6
	Carbonaceous shale with				
	plant remains, Rotten				
	Sheared.	0	10	1784	4
	Coal.	0	2½	1784	6½
	Seatearth	0	3½	1784	10
	Carbonaceous shale	0	5	1785	3
	Coal	0	11	1786	2
	Rock Roshings	1	2	1787	4
	Seatearth	0	10	1788	2
	Coal.	0	2½	1788	4½
	Dark carbonaceous shelly				
	seatearth with coal				
	Streaks.	4	12	1792	6
	Strong medium grey silty				
	mudstone with pockets	2	0	1794	6
	medium grey mudstone				
	with ore. Laminae, roots &				
	plant traces	3	4	1797	10
	Medium grey shelly muds-				
	tone with occasional				
	plant traces Drum stone				
	at 1795'4", 1" @ 1799				
	1/2" @ 1799'6"; 2" @ 1799'8"				
	1" @ 1803, 4" @ 1806'8"	10	2	1808	0
	Blocky medium grey mud-				
	stone with rather silty in				
	parts with abundant plant				
	stems Limestone 3. stone 1" @ 1811',	7	10	1815	10
Bib.	Weakened grey blocky mudstone				
7° @ 1817	with sheared from 1816'1"				
	to 1817'4"				
	Sheared from 1828' to 1832'6"	16	8	1832	6
	Comparatively competent medium				
	grey mudstone (Gannister plane)	0	9	1833	3
	Medium grey blocky mud-				
	stone rather silty in parts				
	Limestone 3" @ 1837'9"	3	9	1837	0
	Passing into strong medium				
	grey silty mudstone	4	0	1841	0
	Dark grey striped silty	2	2	1843	2
	Strong medium to pale grey				
	silty mudstone with				
34° @ 1843.	Striped bedding	1	0	1844	2

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Name of Shaft or Bore given by Geological Survey: 9

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Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
				18'44	2
	Pale grey fine grained sandy stone with flaked false bedding.	1	8	18 45	10
	Strong medium grey sandstone rather silty in parts with scattered plant debris Some- what sheared from				
	1850'6 To 1853'6	9	3	1855	8
	Dark carbonaceous mudstone with pyrite nodules		.2"	1853	3
	Coal	1	3	1856	6
	Blocky medium grey sand- stone seatearth	3	6	1860	0
	Strong medium grey rather silty mudstone with abundant roots and scattered iron stone nodules	5	0	1865	6
	passing into medium grey mudstone with sporadic roots, Ironstone 1 to 2" at 1866'9", 3" @ 1867'1", 2" @ 1869'6", 14" @ 1869'10"	7	0	1872	0
	Medium grey mudstone with sporadic plants Ironstone 2" @ 1874' Rather sheared from 1873'6 to 1879'	7	0	1879	0
	Hard sheared mudstone grey mudstone passing into soft mixture of fine clay with coarse coal	2	9	1881	9
	Strong medium grey sand- stone seatearth	4	3	1886	0
	passing into strong medium grey mudstone with roots	3	3	1889	3
	Strong medium grey mudstone silty in parts with sporadic faint striping, scattered plant remains Ironstone				
12° @ 1899	2" @ 1890'7, 4" @ 1889'4" 1" @ 1900'4", 12" @ 1903'				
14° @ 1920	3" @ 1915'3"	42	3	1931	6
	Pale Grey fine grained Sandstone	—	8	1932	2
	Strong Medium Grey Silty Mudstone Slightly Sheared with abundant plant debris	2	3	1935	5
	Pale Grey fine grained Sandstone	—	7	1936	—

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Name of Shaft or Bore given by Geological Survey: Morgan Hole 30/6/56

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6-inch Map Registered No. 248/96

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SS88/10 1936

Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Blocky med. grey mudstone with a little pale stripping, & scattered plant debris.				
	Ironstone 5" at 1936-11				
	Rather silty in parts passing into strong med. grey silty mudstone with scattered plant debris.	10	-	1946	
		7	2	1953	2
	Striped beds with irregular bedding		9"	1953	11
	Med. grey silty mudstone with scattered plant debris	1	8	1955	7
	Striped Sandstone - Pale grey fine grained with false bedding and pellets of mudstone.	-	9	1956	4
	Striped beds with irregular bedding		3	1957	7
	Medium grey fine grained Sandstone	1	5	1959	
	Striped beds		11	1959	11
19° at 1960	Pale grey fine grained Sandstone	2	4	1962	3
	Striped Beds		3	1962	6
	Pale Grey Sandstone		1	1962	7
	Medium to dark grey silty mudstone		2	1962	9
	Pale grey fine grained sandstone		4	1963	1
	Medium to dark grey silty mudstone with bedding planes sheared	-	6	1963	7
Coal	Coal (8-10" not recovered)	11	1	1974	8
	Medium to dark grey mudstone				
	Seat earth	3	10	1978	6
	Coal		8	1979	2
	Soft grey mudstone seat earth			1979	2
	Receding grey downwards	1	6	1980	8
	Medium grey blocky mudstone with roots	2	8	1983	4
	Medium grey fine grained Sandstone		4	1983	8
	Medium slightly silty mudstone with stripping	2	7	1986	3
	Massive medium grey fine grained sandstone	3	10	1990	1
2000 14	Medium grey blocky mudstone	-	9	1990	10
	Massive medium grey fine grained sandstone	1	2	1992	-
	Medium grey slightly silty mudstone faintly striped with scattered plant debris	1	10	1993	10
21° @ 1993	Pale grey fine grained sandstone		3	1994	1
	Medium grey mudstone		7	1994	8
	Striped beds		7	1995	3
	Medium grey silty mudstone with pale striping & scattered plant debris				

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Name and Number of Shaft or Bore given by Geological Survey: Margam North 30/12/56

248/9625
County
SS88/10
6" Quarter Sheet

Geological Classification	Description	Thickness		Depth	
		ft	in	ft	in
	Upline 7" 1998/4 - 3" @ 1999/7	5	1	2000	4
	COAL	2	8	2003	—
	Medium to Dark Grey Mudstone Seatearth becoming paler downwards	2	4	2005	4
	Pale Grey Silty Mudstone with roots Stigmaria Bed with occ. fossils of poorly striped Mudstone T.S. @ 1-0" @ 2009'	1	5	2007	9
	Mid Grey Micaceous slightly silty mudstone with faint striping	18	—	2025	9
	Quartzite Sandstone Mid Grey Micaceous Mudstone with Sporadic Striping	18	—	2043	—
	T.S. Limit 1" @ 2044'3" Limit Band	1	3	2044	4
	I.S. 3" at 2045'-1"				
	Pale Band				
	Dark Grey Mudstone with plant fossils 2047'-0"	1	8	2046	0
	Pale Grey fine Grained Sandstone	2	—	2048	0
	Pale Grey Striped Siltstone much Crushed	—	8	2048	8
	Pale Grey fine grained Sandstone Hard Bedded	—	10	2049	6
	Dark Crushed Mudstone Pale Grey Silty Mudstone				
	(Resistivity Anomaly) Blocky Medium Grey Mudstone Badly Slickensided	3	10	2053	4
	Blocky medium grey mudstone with Sporadic plants in bands observed from 2054' to 2056'	1	6	2055	10
	T.S. 5" at 2057'-6"				
	Siltstone Band at 2058'-3" to 2058'-7"	4	8	2059	4
	Medium Grey Smooth Mudstone T.S. 3½" at 2060'. I.S. 1" @ 2061'				
	T.S. 1½" @ 2062'	7	2	2066	6
	Blocky Dunnelford Shale Mudstone	2	0	2068	6
	COAL - Recovered 1'-11"	Overall	8	2070	6
	Clay 7" Recovered				
	Coal 6'-4" Recovered				
	Lower Pendleton Limestone		6	2071	

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Name and Number of Shaft or Bore given by Geological Survey: Llangain No 4

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6" Quarter Sheet

Geological Classification	Description	Thickness			Depth		
					2136	6	
	Blocky Red mgn to Dark Grey Mudstone Seatearth		1	3	2137	9	
	Passing into Blocky medium Grey Conglomerate with Rounded to rather Sheared form 2138-6" to 2140-0"		2	3	2140	—	
	medium slightly Buff grey mudstone Seatearth with Scattered Stone Nodules		1	9	2141	9	
18@214	Blocky medium grey mudstone with Plant remains Coaly streaks		4	3	2146	—	
	Passing into Stinted Beds				2146	9	
	Stinted Beds		3	9	2150	6	
	Blocky medium grey slightly Silty Mudstone		2	9	2152	6	
	Thick Pebbly Conglomerate			7	2153	1	
	Stinted Beds		1	4	2154	5	
	Massive grey fine Grained Sandstone with Stinted beds		2	3	2158	8	
	Blocky medium grey mudstone with faint Striations		3	4	2162	0	
	IS 3" @ 2159' 3"						
	Stinted Beds		1	1	2163	1	
18° @ 2164	Blocky medium grey Mudstone with Siderite Faint Striations						
	IS 3" @ 2167' 8"		4	10	2167	11	
	COAL		3	7	2171	6	
	Blocky medium grey mudstone seatearth		3	2	2174	8	
	Blocky medium to Pale Grey Gannister like Seatearth		1	3	2176	0	
	Passing into massive medium grey slightly silty mudstone with Wisps Plant debris		1	0	2177		
19° @ 2178	Massive Blocky medium grey Silty mudstone		3	8	2180	8	
	Stinted Beds medium grey mudstone medium dip a massive medium grey rather silty mudstone with Scattered Plant debris		11	11	2192	7	
21° @ 2200	IS 2" @ 2198'-2"		1	5	2213	-	
21° @ 2205	Stinted Beds medium Grey mudstone Laminating Interbeds						

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British Geological Survey
BGS ID: 372646 : BGS Reference: SS88NW12
EPSG: 27700 : 284140,185300

(2781) *Dd0586/Wt64575 5,000 4/55 JC&S Gp669

Name and Number of Shaft or Bore given by Geological Survey: Margam No 4

248/96 County
SS88/10 6" Quarter Sheet

Geological Classification	Description	Thickness			Depth		
	(Continued)				223	—	
	IS 1" at 2232'6"						
	IS 2" at 2234'6"						
	IS 1½" at 2248'0"						
	IS 1" at 2248'3"						
	IS 1" at 2249'9"						
	IS (?) at 2251'6"		3	9	2252	—	
	Banded beds medium grey siltystone/fine sandy mudstone						
	with plant remains, generally indurated						
	& flaggy where bedding up		11	6	263	6	
	Massive dark grey fine grained sandstone		3	9	267	3	
	Blocky massive medium grey slightly silty mudstone.		2	5	269	8	
	Massive pale grey fine grained sandstone with a few thin layers of silty mudstone		1	3	271	11	
	Blocky massive medium grey sandstone with occasional bands showing striped bedding		4	8	276	7	
	Massive pale grey fine grained sandstone with scattered pellets of ironstone		2	1	278	8	
	Medium grey slightly silty mudstone		—	2	278	10	
	Dark blue grey shaley mudstone fragmentary						
	sheared		6	7	279	5	
	Coal (2 Seams)		6	10	286	3	
	Blocky medium grey (massive) mudstone seatearth		—	9	287	0	
	Passing into medium grey silty mudstone with beds		4	—	291	0	
	Passing into blocky medium grey fossiliferous limestone with traces		2	6	293	6	
	mudstone 1½" at 2295.		2	6	295	6	
	Passing into medium grey shelly mudstone with						
	poor plant remains		1	6	297	0	
	Blocky med. grey mudstone with plant remains		1	1	298	1	
	fossiliferous limestone		—	4	298	5	
	Striped beds pale grey siltstone & sedimentary limestone 1" at 2299'6"						
	Striped beds-mudstone beds predominating		5	1	330	6	
	Medium grey mudstone						
	IS 1½" at 2304'2".						

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EPSG: 27700 : 284140,185300

2781) *Dd0586/Wt64575 5,000 4/55 JC&S Gp669

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248 | 96 28

County

SS88/10

6" Quarter Sheet

and Number of Shaft or Bore given by Geological Survey:

Llangan No 4

7/10/1958

Geological Classification	Description	Thickness		Depth		
				2301	6	
	(Jointed) with shell fragments					
	I.S. 1" at 2306'-1"	4	9	2306	3	
	Blocky medium grey silty mudstone sheared from 2306'-3" to 2307'-0"					
	Joints 1" at 2308'-2"					
	mine shearing at 2309'-9"					
	2306'-3"	2	6	2308	9	
	Hard slightly silty mudstone, sandy					
	slightly sheared	2	9	2311	6	
	passing into medium grey mudstone with					
	root and plant traces.	1	10	2313	4	
	Blocky medium grey silty mudstone with occ. roots & plant traces with occ.			2317		
	pale grey bands of silty fine	3	11	2317	3	
	Massive pale grey fine grained sandstone	9	9	2327	0	
	Medium grey blocky mudstone with layers of					
	striped silty mudstone.					
	I.S. 1" at 2328'-6" & 2330' I.S. 1" at 2331	4	9	2331	9	
	Pale grey fine grained sandstone,	2	0	2333	9	
	Medium grey slightly silty mudstone	1	0	2334	9	
	Striped Beds					
	I.S. 1" at 2336'-10" showing turbulent bedding 2336'-6" & 2338'-0" & K 2340'					
	Layers of pale grey fine grained sandstone 2339'-6" to 2339'-9" & 2340'-1" to 2340'-5"	6	4	2341	1	
	Blocky medium grey slightly silty mudstone	1	6	2342	7	
	Pale grey fine grained Sandstone	2	6	2345	1	
	Medium grey slightly silty mudstone with faint striping I.S. 3" at 2345'-1"					
	Pale grey siltstone at 2346'-1" to 2346'-5". I.S. 2½" at 2347'-8" I.S. 4" at 2349'-3" I.S. 2" at 2352'-5" I.S. ½" at 2353'-10" somewhat sheared in Borgia 12"	11	5	2356	6	
	Rushmoor (from drillers log)	—	1	2356	7	
	Coal (" " ")	1	—	2357	7	

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'2781) *Dd0586/Wt64575 5,000 4/55 JC&S Gp669

and Number of Shaft or Bore given by Geological Survey:
Margam No 4

248/96 29
County
SS 88 /10
6" Quarter Sheet

Geological Classification	Description	Thickness		Depth	
				2359	7
	Rasings 1'9 (from driller's log)	1	9	2359	4
C.N.B. about 4'6.5" of Core Missing)	Blocky medium grey mudstone seatearth.	7	4	2366	0
27°-2366	passing into strong mottled medium grey slightly silty mudstone with ~~a~~				
	bearing into striped beds, pale grey siltstone tending to				
	be dom. at ~~silty~~ Apparent				
	dip varying from about 20° at				
	2390' to about 20° at				
	2391'. Roots at Top.	31	0	2397	0
	Passing into striped beds				
	mudstone grey mudstone				
	tending predominance	8	8	2406	8
	Passing into striped beds				
	pale grey siltstone predominating	7	10	2418	6
	striped beds	4	6	2423	—
27° at 2392	Passing into striped beds medium				
	grey mudstone predominating	23	0	2436	—
9°-2410	Passing into striped medium				
20°-2428'	grey slightly silty mudstone				
	with faint striping	3	1	2439	1
	Passing into striped beds	1	11	2441	
	Passing into striped beds				
	pale grey siltstone predominating	2	2	2443	2
	I Stone	1	0	2444	2
	Med Grey slightly silty				
	mudstone with faint striping	1	11	2446	1
	Passing into striped beds	1	11	2448	0
	Passing into medium grey				
29°-2451	silty mudstone with stronger				
	striping. Apparent dip 29°				
apt	at 2451' Steepening to				
	vertical with contortion at about				
	2455 (? Slumping), with				
	apparent dip 29° at 2456'	12	5	2460	5
	Passing into striped beds				
	pale grey mudstone predominant				
	but with bands up to 1ft"				
19° at 2469	thick with pale grey siltstone				
	predominant	12	1	2472	6
	passing into striped beds showing				
	slumped structures. ? Fault at Base	10	10	2483	4
	Medium grey mudstone				
	with poorly developed				
	striping.				

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(2781) *Dd0586/Wt64575 5,000 4/55 JC&S Gp669

Name and Number of Shaft or Bore given by Geological Survey: Margam No 4

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County

SS88/10

6" Quarter Sheet

Geological Classification	Description	Thickness			Depth		
					2483	4	
	Dip 53° at 2484'; 73° at 2485'6"						
	Vertical at 2487'6"		4	6	2488	0	
12° at 2491	Blocky medium grey mudstone						
9m fine 1" at 2489'6"	with occasional plant traces						
	Shear Planes at 2489'& 2490'						
	with curved bedding seams						
	Vertical between		4	0	2492	0	
	Darker carbonaceous mudstone						
	with plant debris		–	2	2492	2	
	Coal		3	2	2495	4	
	medium slightly buff grey						
	blocky seatearth		2	8	2498	0	
	Passing into med. grey						
	slightly silty mudstone						
	with rare to ¼ inch. nodules						
	in the Top 18"		1	10	2499	10	
	passing into strong pale to med.						
	grey silty mudstone (nearly						
	siltstone) I.S. 6" at 2501'3"		2	2	2501	0	
	med grey mudstone with plant						
	remains		1	4	2502	4	
Strong	medium grey silty mudstone with						
	scant detritus						
	Stumped Bed. Stumping not well		15	8	2518	–	
	developed. Bed mainly silty						
	mudstone		3	10	2517	10	
	Massive pale grey siltstone						
	with striped partings		4	10	2521	–	
18° –	Medium grey silty mudstone						
2521'	with poorly developed stumping						
	in patches		5	9	2526	7	
	Striped Beds		–	7	2527	7	
	Pale grey silty sandstone with						
	striped partings		1	0	2528	7	
	Strong medium grey silty						
	mudstone with faint striping		2		2530	7	
	FINIS						

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BGS ID: 372657 : BGS Reference: SS88NW23
EPSG: 27700 : 284149,185053

FORM P 70
SERIES 680

CONFIDENTIAL

Section of MARGAM BOREHOLE No. 13.

Purpose Shaft Investigation

Exact Site NGR E 284149.108
N 185053.316

Level at which ~~strata~~ bore ~~struck~~ commenced relative to O.D. Kelly Base Level 10278.14 ~~metres~~ ft*
(Ground level -10268.3

Date of sinking or boring May - August 1978.

Sinker or borer Foraky (Thyssens -site engineers)

6-INCH MAP	B/H REGD. No.
SS 88 NW (County, Sheet and Qtr.)	23
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 m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
	Open hole to 9.92m., coal returns reported.			9	92
	Recovery to 35.15 metres poor; casing set at 30.09m.				
	Run 1				
	Core lost 2.53m. 9.92m. to 12.85m.				
	Rolled fragments of silty mudstone, grey rootlets ferruginous		10		
	Fragments of sandstone fine grained, light grey, sub vertical jointing.		30		
				12	85
	Run 2				
	Core lost 3.00. 12.85 to 16.85 including 40 cms. fast drilling @ 16.35. (no coal on electric logs).				
	Sandstone fragments		40		
	Mudstone silty fragments		30		
	Sandstone broken core		30	16	85
	Run 3				
	Core lost. 21 cms. 16.85 to 17.47. Sandstone, light grey laminations; two subvertical joints at right angles.			17	47
	Run 4				
	Core lost 1.65, 17.47 to 19.27.				
	Mudstone/sandstone fragments recorded.		15	19	27
	Run 5				
	Core lost. 2.90, 19.27 to 23.05				
Dip 17°	Mudstone, silty grey with faint sandstone laminations. Vertical and 60° joint at right angles - broken core fragments		75		
			13	23	05
	Run 6				
	Core lost .56. 23.05 to 23.86.				
	Mudstone, silty. 2 sets of jointing vertical and 60°				

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EPSG: 27700 : 284149,185053

6-INCH MAP	B/H
SS88NW	23

Section of .....

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
	Run 6				
	Core lost .56. 23.05 to 23.86.				
	Mudstone silty 2 sets of jointing vertical and 60°.		30	23	86
	Run 7				
	Core lost 7.32. 23.86 to 30.09.				
	Mudstone, slightly silty, dark grey, faintly wormy.		45	30	09
	Run 8				
	Core lost 1.14. 30.09 to 32.07.				
	Mudstone, slightly silty, grey/dark grey roots. Sandstone band in top. Small ironstone nodules. 35° partings.	84		32	07
	Run 9				
	Core lost 2.70. 32.07 to 34.97.				
	Rolled redrilled fragments. COAL fragments 20 pyrite on slip		60	32	50 ?
	Small core fragments/small ironstone nodule with clay.			34	97
	Run 10 and 11				
	Core lost 50cms. 34.97 to 36.39.				
Dip 23° @ 35.45	Mudstone, silty, grey roots. vague bedding. core fragments 35.60 to 35.70. small ironstone masses.			35	75
End of run 36.39	Sandstone, fine grained, grey dark carbonaceous wisps. Irregular base.			36	70
Dip 23° @ 37.00	Mudstone, very silty, grey, sandy laminations throughout, scattered small plant debris.			37	15
Sample 1. 38.65 to 39.17	Sandstone, fine to medium grained pale grey, numerous carbonaceous wisps, 60° joint at 37.25. Irregular vertical joint from 37.35 to 37.50. Steep quarts filled joint 38.00 to 38.50. Mudstone laminations from 39.20. 8 cms. mudstone band at 39.80. Ripple drift from 40.15.			40	80

YPLI 918

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British Geological Survey
BGS ID: 372657 : BGS Reference: SS88NW23
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6-INCH MAP	B/H
SS88NW	23

Section of MARGAM BOREHOLE No. 13.

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
End of run 41.07					
	"Striped" beds, rapidaly alternating light grey sandstone and silty mudstone, ripple bedding.			41	45
Dip 22° @ 41.50	Mudstone, silty gray, occasional sandstone laminations, core fragments from 41.77 to 42.00.			41	90
	COAL core lost		60	42	50
End of run 42.82	LOST CORE. 95cms. from			42	00
	to			43	12
	Seatearth - mudstone, silty grey brown roots and stigmaria. Occasional listric surface				
				43	60
	Sandstone, fine grained grey massive scattered roots.			43	90
Dip 19° @ 44.20	Mudstone, silty/slightly silty grey/dark grey scattered roots. 10cms. core fragments @ 44.33 70° joint @ 44.80 to base. with irregular vertical fractures.			45	30
	Sandstone fine grained, light grey, silty laminations throughout.			45	58
	Mudstone, very silty, grey, occasional sandstone laminations, numerous ironstone nodules, occasional root.			45	72
Sample 2. A 45.72 to 46.24	Sandstone, fine to medium grained, light grey, occasional carbonaceous wisp to 46.60, massive below, jointing 47.40 to 48.30.				
B 46.24 to 46.78 End of run 47.46.					
Sedimentary Dip 20° @ 49.00	Numerous laminations 48.80 to 49.00. Muddy bands from 49.85.				
Dip 22° @ 51.50	Carbonaceous wisps from 50.40. massive from 51.00 to 51.45. 10cms. mudstone band @ 51.55 Bands of darker sandstone to 52.33. Massive light grey, fine/ medium grained sandstone below, carbonaceous laminations from 52.70, muddy bands from 53.10.				
Sample 3 49.43 to 49.75.					
	10cms. siltstone, micaceous, packed with plant debris at 53.50. Slumped bedding at 53.65.			53	85
	Siltstone, grey, scattered plant debris, occasional sandstone laminations.			54	00
Dip 17 at 54.30	Mudstone, silty, grey, sandstone laminations in top, some partings packed with plant debris.			54	60

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FORM P #1
SERIES 680

Section of .....

6-INCH MAP	B/H
SS88 NW	23

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
				54	60
End of run 54.72	Siltstone, grey, massive with scattered plant debris, sandy patches, sub-vertical filled joint @ 56.30.				
Sample 4 A 54.72 to 55.21	20 cms. sandstone at 56.20.			57	00
B 55.21 to 55.71	Mudstone, very silty, grey, scattered plant debris, bedding poorly developed. Sandstone laminations from 57.30 to 58.20. Several sub-vertical filled joints from 57.00 to 59.00. Occasional thin ironstone bands.				
Dip 19° @ 61.50	Silty from 63.00 becoming well-bedded with occasional polished bedding planes. Planolites s.p. at 64.50.				
Sample 5 A: 63.06 to 63.53 B: 63.53 to 63.92 End of run 64.34 Dip 15° @ 64.70.	Sub-vertical joint at 65.30.				
Sample 6 A: 66.28 to 66.71 B: 67.01 to 67.30	P. Ophthalmoides at 67.00. polished surfaces at 67.30 and 67.42.				
Horizon of Foraminifera Marine Band	Coalified plant debris at 67.50, bedding plane shear @ 67.63. Darker grey from 68.00. Pyritised worm trails at 68.30 numerous Planolites s.p. below becoming slightly silty/dark grey from 69.00. Blebs.				
	Sheared with rashes in basal 3cms.			69	31
PENTRE RIDER	COAL 65 cms. stick. 7 cms. fragments. [Ten Yards]		90	70	21
	Seatearth, mudstone, silty, grey. Ironstone nodules, roots, faint sandstone laminations. Sub-vertical pyritised joint to 70.70.			70	90
	Sandstone, light grey medium grained silty laminations and ironstone lenses. lods structures in base.			71	15
Dip 15° @ 71.60	Mudstone, silty, grey, scattered roots to 73.30. Stigmaria. Ironstone nodules, sandstone laminations to 72.40, polished partings at 72.82.				
Sample 7 A:72.44 to 72.82 B:72.82 to 73.19 End of run 73.32	Numerous ironstone band in base.			73	54
	Gouge with mudstone fragments.		10	73	64
Dip 22° @ 73.40	Mudstone, silty, dark grey, micaceous. Coalified plant debris in base.			73	83
Dip 21° @ 73.70	Seatearth, mudstone, grey/brown, dark grey patches, numerous listric surfaces.				

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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NW	23

Section of MARGAM BOREHOLE No. 13.

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
	Sheared/broken at 74.30			73	83
Sample 8					
	patches of sphaerosiderite			74	60
A: 74.60 - 75.07	Mudstone, very silty, dark grey, scattered roots, poorly bedded, sphaerosiderite throughout.				
B: 75.20 - 75.58					
	Sub-vertical jointing in top. Silty from				
Dip 22° @ 76.20	75.50, occasional polished surfaces.			76	40
	Mudstone, slightly silty, dark grey, packed with plant debris (some coalified) and Ironstone bands. Sub-vertical joint with pyrite at 76.30.				
	Coal streaks in basal 8 oms.			76	68
Dip 17° at 76.68					
	COAL 5 oms. core.				
	5 oms. fragments.				
	5 oms. core. [on timing;]		20	76	88
	Seatearth, mudstone, brown with roots packed with polished surfaces, friable				
	with occasional steep shear plane.			77	80
	Mudstone, grey/dark grey, packed with plant debris, friable, sheared and broken 77.80 to 78.20.				
	1 oms. coal band at 78.24				
	2 oms. coal band at 78.28				
	Contorted, polished bedding below;			78	45
	Rashes, dark grey with coaly streaks, contorted/friable.			78	90
	Rashes, dark grey, inoluding fragments of coal.			79	10
Sample 9	Seatearth, mudstone, silty, grey, roots, polished surfaces throughout.				
79.39 to 79.58					
	23oms. vertical ironstone band from 80.00.				
	Slickensiding at 80.80.				
	Occasional ironstone lenses, rashy in places.			81	77
End of run 82.83					
	1.00m. core lost.			82	77
	Mudstone, silty, grey, vague seatearth texture, packed with plant debris, scattered roots, very silty in base.			83	26
	Sandstone, fine to medium grained, light grey, quartzitic, rooty in top, silty laminations to 83.75, carbonaceous wisps below.			85	85

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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS88NW	23

Section of .....

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
Dip 24 @ 87.00	Mudstone, silty/Very silty micaceous, grey, occasional sandstone laminations becoming numerous from 87.00 with occasional polished bedding plane.				
Dip 26° @ 87.50	Very steep dip flattens onto sheared/broken ground @ 87.80 to 88.05 with rashes and contorted bedding.				
Dip 40° @ 88.45	Sheared at 88.05. Vertical dip at 88.60 with broken polished surfaces, some rashes to 89.10.				
Vertical bedding at 88.60. End of run 88.92.					
Dip 26° @ 89.20	Becoming silty, grey/dark grey from 89.10. Sheared with rashes at 89.55.				
Dip <5° @ 91.00	Core broken with polished surfaces and rashes from 90.05 to 91.00.				
	Core fragments 91.15 to 91.25.				
	Sheared with rashes at 91.63; polished bedding planes below.				
Dip 10° @ 91.80	Steep polished joint in base.			92	07
	Core lost 15 cms. to			92	22
	COAL fragments		40	92	62
	Mudstone, silty, grey, no roots, bedding visible, pplished surfaces, sheared with rashes in basal 20cms.		37	92	99
	COAL 11 cms. fragments. [on timings]		80	93	79
End of run 94.52	Core lost 73cms. to			94	52
Sample 11 A: 94.69 to 95.21 B: 95.21 to 95.82	Seatearth, mudstone, very silty, grey roots, fairly firm, large ironstone masses in top.				
	Sphaerosiderite at 95.20				
Dip 14°@ 96.70	Mudstone, very silty, grey leached, steep polished surface at 98.20. Thick ironstone band at 96.30.				
	Sandstone laminations from 96.90.				

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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NW	23

Section of MARGAM BOREHOLE No. 13.

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
				96	90
Dip 27° at 97.20.	Sandstone band 98.60 to 98.75			98	75
Dip 20° at 98.80	Siltstone, grey, micaceous with sandstone laminations and bands.				
Dip 16° at 99.10	"Striped" in planes to 100.00.			102	00
	Mudstone, silty/slightly silty, grey/dark grey, scattered plant debris, irregular polished surfaces, rashes				
Sample A: 101.00 to101.30	at 102.20.			102	50
B: 101.34 to 102.00	Core lost 59 cms. to			103	09
	Plant debris (annularia)				
Dip 13° @ 102.30	Core fragments in base, 2 cms.gouge to			103	29
Lower Pentre	COAL 49 stick		49		
	dirt (Tonstain) 4 stick		4		
	COAL 10 fragments		10	103	92
	Seatearth, mudstone, silty, grey, roots, polished surfaces to 103.50. Ironstone masses.			104	60
	Mudstone, silty, grey, roots.			105	15
Dip 11° @ 104.80	Sandstone, light grey, silty laminations, carbonaceous debris			105	40
Sample 105.62 to 106.01	Mudstone, silty, grey, sandstone laminations in top, rashes at 106.01, and at 106.55, disturbed/broken ground below in solid core.			106	90
Dip 14° @ 106.20	Mudstone, very silty/silty, grey, poorly bedded, sheared and rashes at 107.62, and at 108.20; sheared at				
Dip 16° @ 109.20	108.90, 109.00, 109.88. Sheared with rashes 110.05 to 110.10 becoming slightly silty with G.carbonaria, sheared/rashy 110.35 - 110.50.			110	64
	COAL 34cms. fragments.		60	111	24
	~~core lost 112cms. to~~			~~112~~	~~10~~
	~~Clay with mudstone fragments. Broken fragments of silty seatearth.~~			~~112~~	~~40~~
	~~Siltstone, grey, roots, faint sandstone laminations.~~			~~112~~	~~70~~
	~~Sandstone, light grey, fine/medium grained.~~			~~112~~	~~90~~
	~~Mudstone, silty, grey/dark grey.~~				
	~~Thick ironstone band in base~~			~~113~~	~~23~~

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SERIES 680

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
Dip 4° @ 113.10	Sandstone, light grey, medium grained, massive to 113.45, carbonaceous and silty wisps below.			113	88
Dip 13° @ 114.20	Mudstone, very silty, grey, scattered plant debris. Irregular polished surfaces throughout, some slicken-siding.			114	50
	Sheared from 114.50 with rashes.				
	core fragments only.			114	77
	COAL 13 cms. fragments (some dirt fragments). 17 cms. stick.		50	115	27
Sample 14 116.46 to 116.10	Seatearth, mudstone, very silty roots, some steep polished slickensided surfaces.			115	45
	Sandstone, light grey, fine/medium grained carbonaceous laminations in base.			116	30
Dip 11° @ 116.70	Mudstone, very silty, rooty, numerous sandstone laminations from 116.80.			117	35
	Sandstone, light grey, fine grained laminations.			117	80
Dip 10° @ 117.90	Mudstone, very silty, grey, sandstone laminations, comminuted plant debris.			119	35
	Siltstone, medium grey, fine grained sandstone lenses, sedimentary structures throughout.			120	60
	Mudstone, silty, grey, scattered plant dberis, occasional sandstone laminations. Sub-vertical infilled joint 123.35 to 124.00.				
Sample 124.04 to 124.51 Dip 10° @ 124.50	Sheared/rashes, some slickensiding core fragments 126.55 to 127.05			128	20
	Structural rashes, grey/brown			128	40
Dip 10° @ 127.90	Seatearth, mudstone, grey/brown, roots sheared throughout, mainly rashes from 128.50 with ironstone lenses. Coal fragments in base.			129	83
	Core lost 30 cms. to			130	03
	COAL 90cms. stick.	1	00	131	03
GORLLWYN [dictated]	Steep shear planes throughout				
	Seatearth, mudstone, silty grey with roots, broken throughout.		35	131	38
	COAL 90 cms. sheared/broken	1	00	132	38

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
	Seatearth, mudstone, silty grey, roots fairly firm, sheared at 132.90, thick ironstone @ 133.40			133	70
Dip 19° at 133.80	Mudstone, very silty, grey, scattered roots, poorly bedded. Carbonaceous streaks from 134.20.				
Sample 16 135.43 to 135.75	Steep and sub-vertical polished surfaces at 134.60. Numerous polished surfaces from 137.50 to 138.90, becoming darker grey, packed with leaf impressions				
Dip 25° @ 139.50	from 139.15 to			139	12
	Core lost 22cms.				
	Coal streaks at 139.15				
	Sandy wisps in base.			139	80
	Mudstone, rashy, disturbed, sheared.			139	85
	Seatearth, mudstone, grey/brown, large ironstone masses.			140	30
Dip 24° @ 141.00	Mudstone, silty/very silty, grey, rooty, sandstone wisps, numerous sandstone laminations from 142.70 with occasional band. Fracture at				
Dip 19 @ 143.00	143.20.			143	30
	Alternating bands of sandstone/silty mudstone, some low angle fractures.			144	12
Sample 145.86 to 146.40	Sandstone, light grey, fine/medium grained, quartzitic, wispy bedded, occasional fracture; erosive base @ 146.13 onto greyer medium grained sandstone with carbonaceous laminations;				
	pyrite infilled fracture at 146.40			147	10
Dip 20° @ 147.12	Siltstone, grey, light grey, sandstone laminations.			147	35
End of run 148.57	Sandstone, light grey, medium grained, carbonaceous laminations, broken core from 147.85 in fractured sandstone to 149.24.				
	4 cms. of ironstone nodules at 148.60. Sub-vertical fracture with pyrite patches 149.88 to 150.77.				
	Several fractures in base.			151	65
Dip 33° @ 151.90	Mudstone, very silty, grey, scattered small plant fragments.			152	60
	Sandstone, light grey, very quartzitic, numerous carbonaceous wisps. "striped" sandstone 154.00 to 154.27. Pale white/sugary texture from 154.27. Band of ironstone nodules at 154.50.				

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	Packed with coaly bands from 154.72 to 155.00, erosive base			155	27
Dip 23 @ 155.88	Mudstone, silty grey, unbroken.			155	88
	Sandstone, very pale grey, medium grained, very quartzitic, carbonaceous laminations, some steep joints, coarser grained from 156.50 with tiny ironstone pellets. Mudstone pellets 156.75 to 156.84. Medium/coarse grained from 157.00, dirty grey colour with carbonaceous flakes, coarse grained 158.00 to 158.36; lighter grey in parts. Broken core/jointing from 159.00 to 159.40 with some slickensiding; ironstone pellets in base.			160	55
	Mudstone, sheared throughout, rashy.			160	97
Dip 25° @ 160.97	Sandstone, dark grey, quartzitic, irregular carbonaceous laminations, faint vertical wisps.			161	09
	Mudstone, silty grey packed with polished surfaces, broken/poorly bedded.			161	49
End of run 161.82	Sandstone, fine/medium grey, light grey, quartzitic, wisps, some fragments 161.49 to 161.82.				
	Quartz filled vein 162.30 to 162.70, cross bedded, medium grained from 162.90. Steep foreset bedding from 168.70 to 165.30. Lenses of mudstone at 164.95.				
Sample 163.90 to 164.35					
	Sub-vertical fracture 165.90 to 166.23. Core broken with jointing 166.70 to 167.46; massive from 167.90.				
End of run 167.46					
	Packed with laminations @ 168.30, steep foreset bedding at 168.95 to 169.25. Fine/medium grained with colour banding, carbonaceous specks from 171.10; fractured in base			172	52
Sample 172.96 to 173.62					
	Mudstone, silty grey, large plant debris, polished surfaces, ironstone lenses in base.			172	75
	Sandstone, light grey fine/medium grey quarzitic, packed with coaly streaks/ bands to 174.10. Irregular sub - vertical filled fractures. Pyritic ironstone nodule at 173.90. Clayey partings below to base. Ironstone in base.			174	10

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
	Sandstone, medium grained, quartzitic, "dirty" grey colour, massive with specks of carbonaceous debris throughout. Partially pyrite filled vein 175.00 to 175.50. Steep jointing 176.80 to 177.60, staining on joints to base.				
Sample 175.66 to 176.13.					
End of run 176.80	Pyritised ironstone nodules in base.			179	45
	Mudstone, silty, dark grey, micaceous. Occasional ironstone and steep polished joint @ 181.50 and 181.70; blotchy colouring grey/dark grey.				
Dip 16° @ 180.80					
Sample 182.09 to 182.61	Ferruginous 185.20 to 185.80. Mussel at 186.20; becoming slightly silty/grey from 186.20.				
Dip 17° @ 183.80					
End of run 180.11	Shuffled/polished bedding from 186.80 with occasional shear to base of unit.				
	Broken/sheared 187.80 to 188.33, vaguely wormy, sheared and broken @ 189.60. Closely polished/rashy from 189.00.				
Dip 26° @ 188.50					
	Dip steepens below thick ironstone band at 189.50				
Dip 58° @ 189.95	Rashy mudstone from 189.80 ; fold in core @ 190.60, rashy below to 191.00; irregular veining from 191.40. Irregular bedding from 192.15.				
Dip 50° @ 191.00					
Cefn Coed Marine Band (Horizon)	Solid rashes in basal 15cms. Solid contact.			192	55
Dip 5° @ 192.58	Seatearth, mudstone, brown, few roots and pyritic nodules, polished surfaces throughout. Core fragments only from 193.00, some with sphaerosiderite and disseminated pyrite.			193	70
End of run 195.57	Core lost 1.87m. to			195	57
	Mudstone, silty, grey/dark grey, finely micaceous. Finely disseminated pyrite. Fractured ironstone @ 196.50. Fractured core from 198.00 to base of unit, with some slickenside. Steep shear at 198.10. Core fragments from 198.35, becoming slightly silty and darker grey.			199	07
Dip 33° @ 195.90					
Dip 26° @ 197.20					
Dip 18° @ 198.85					
	Coal (core lost)		10	199	17
	Rashes, dark grey with coal streaks to end of run.			199	37
End of run 199.37					
	Seatearth, mudstone, silty grey, packed with roots.			199	50
	Mudstone, very silty, grey, sandstone laminations, roots.			200	25

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				200	25
Dip 22° @ 199.90	Siltstone, grey, scattered roots, poorly bedded, sandy from 200.40; sedimentary structures.			201	00
Dip 20° @ 201.40	Mudstone, silty/very silty, grey, scattered roots - highly slumped bedding with sandstone laminations 201.40 to 202.10.			292	10
	Siltstone, grey, scattered roots, sandstone laminations, partings packed with plant debris.			202	90
	Mudstone, silty, grey, comminuted plant debris, sheared and broken @ 203.70 and 203.90.			204	04
Dip 21° @ 203.80	COAL stick, 11cms. with ankerite veining and dirt lenses. Pyrite film in base.		11	204	15
	Seatearth, silty, grey/brown with carbonaceous roots and plant debris, sandstone lenses in top, sphaerosiderite patches 204.40 to 205.40.			205	40
Sample 205.80 to 206.30	"Striped" beds interlaminated silty mudstone and sandstone, "blotchy" colouring to mudstone. Occasional thick sandstone band from 206.45
End of run 208.71	Partings packed with plant debris
Dip 18° @ 207.10					
				209	50
Dip 17° @ 209.00	Mudstone, very silty, grey, massive, broken core with sub-vertical joints to 209.90. Steep joint with slickensiding at 210.20.				
Dip 22° @ 213.00	Silty from 213.00 with thin dark muddy bands.				
Dip 24° @ 214.00	Occasional thick ironstone band. Shear @ 216.10.				
	Shear/rashes to 216.50 to 216.80. Shear at 217.30, becoming less				
Dip 23° @ 217.60	silty, vaguely wormy. Slightly silty from 220.00. Planolites s.p. at 220.50 with pyritised tubes, becoming dark grey. Worm trails at 220.85. Shear/ rashes @ 220.90.				
Britannic Marine Band	Pyrite lenses in base.			221	23
Dip 25° @ 221.00	Gannel bands with Lingula in top and pyrites.		10	221	33
	COAL fragments 30 cms. pulverise in base.		30	221	63
	Seatearth, siltstone, roots, light grey, sandy patches and bands.			222	10
Sample 223.48 to 223.97	Mudstone, very silty, grey, scattered roots and sandstone laminations.				
Dip 20° @ 223.50					

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				222	10
End of run 226.02	Sandstone stripes 225.00 to 225.30 and 226.60 to 226.90; becoming silty. Shear @ 227.70				
Dip 21° @ 227.90	Thick ironstone @ 229.17, becoming darker grey/micaceous, sheared with rashes @ 229.60.				
Sample 230.76 - 231.21	Pyrite blebs @ 231.30 to 232.00. Shear @ 232.10, steep shear @ 232.25, shear @ 233.25, with polished surfaces to 233.40.				
Dip 19° @ 232.30	Fish fragments @ 235.50.				
HAFOD HEULOG	Core lost 20cms. to			235	75
MARINE BAND	Mudstone, slightly silty, dark grey, sheared, rashy to 236.33.				
Dip 24° @ 236.50	Lingula @ 236.90			237	15
	COAL 15cms. fragments.		15	237	30
	Seatearth, mudstone, light brown roots and Stigmaria, Pyritic joints and listric partings, sandy bands from 237.60. Grey and silty with sphaerosiderite in base.			238	20
Dip 17° @ 238.90	Mudstone, silty, medium/dark grey, sandstone bands, rooty. Ironstone mass 239.30 to 239.70. Steep shear at 240.10.				
Dip 31° @ 240.50	Shear at 240.65; becoming slightly silty. Sheared mudstone @ 241.05.			241	20
Sample 241.20 to 241.63	Sandstone, fine grained, light grey, silty laminations and wisps. Oily (Hatchetite) in fractured ironstone 241.70 to 241.90.			241	90
Dip 19° @ 243.35	Mudstone, silty, grey, occasional roots, sandstone wisps, packed steep polished partings from 242.20, with veining and ironstone bands to 243.10.				
	Sandstone laminations 243.10 to 243.25; polished surface below with ironstone lenses to 244.50. Still rooty.			245	15
End of run 245.01					

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				245	15
	Interbanded, silty mudstone and sandstone.			245	75
Dip 21° @ 246.50	Mudstone, silty, grey, scattered plant debris, small ironstone nodules.			246	60
Sample 246.69 to 247.26.	Sandstone, light grey, fine/medium grained, wispy bedded, vertical jointing with pyrite, irregular veining from 248. to 249.25. Cross bedding. Grey and massive in base.			250	00
	Siltstone, grey, scattered plant debris.			251	10
Dip 23° @ 250.15.	Mudstone, silty, grey, sandstone laminations Broken with steep shears 251.85 to 252.85, rashy in parts. Very silty from 252.85. Sub-vertical jointing 253.00 to 254.00.			254.	20
	Siltstone, fairly massive, steep veining with pyrite.			254	50
End of run 254.50 Dip 15° @ 254.95	Mudstone, silty, grey. Sheared/broken with steep polished joints 254.55 to 254.75, polished bedding below; faint sandstone wisps from 256.00. Steep fault plane @ 256.76, with 5 cms. of gouge dipping at 50°. Vertical bedding below.				
Dip 19° @ 256.55 Dip 90° @ 256.80	Core fragments only 256.81 to 258.30. Thick ironstone band at 258.80.				
Dip 37° @ 258.30	Sheared ground below to 259.20				
Dip 80° @ 259.20 to 259.80.	Sheared/rashy to 262.10; friable. Carbonaceous with polished partings to base.			262	20
Dip 22° @ 262.20	COAL 8 cms. fragments.		8	262	28
	COAL/Ironstone mixture. 9 cm. stick.		9	262	37
	COAL 10 cms. stick. 4 cms. fragments.		14	262	51
	Sphaerosiderite. 3 cms.		3	262	54
	COAL 6 cms. (on timings)		11	262	65
	Seatearth, mudstone, silty, roots, grey, listric surfaces. Ironstone nodules, very silty from 263.00. Patches of Sphaerosiderite.			263	50
End of run 263.90	~~Mudstone, silty/very silty, grey, poorly bedded, sphaerosiderite to 253.90, rooty, broken/sheared 263.90 to 264.00~~				

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
				264	00
	20 cm. veined ironstone.			264	20
	Mudstone, slightly silty, dark grey, polished partings to 264.50.				
Dip 21° @ 264.60	Canneloid in base. polished surfaces @ 264.75			264	94
	COAL 4 stick		4		
	dirt 1 stick		1		
	COAL 8 stick		8	265	07
	Mudstone, silty, medium/dark grey, scattered roots and plant debris; sandstone laminations to 265.20.				
	Coal band at 265.20 and 265.25.				
	Seatearth fracture to 265.70.				
	Steep polished parting at 265.65. Ironstone mass 265.70 to 266.20,				
Dip 12° @ 266.40	rooty, sheared @ 267.05, becoming slightly silty from 267.20. Ironstone @ 267.40, polished surfaces to base.			267	80
	COAL 33 stick				
	dirt 1				
	COAL 10 stick				
	6 fragments.				
	on timings		75	268	55
	Core lost 25 cms. to			268	55
	Seatearth, mudstone, silty, grey/brown. Steep shear planes with rashes in top. Carbonaceous roots, pyritic nodules.				
	Shear @ 268.75.			268	85
	Mudstone, slightly silty, grey/brown, scattered roots.			269	14
Dip 12° @ 269.10	COAL 25cms. fragments.		40	269	54
	Core lost 15 cms.				

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Sample 269.92 to 270.36	Seatearth, mudstone, silty, medium/dark grey roots, polished surfaces to 269.80, slightly silty from 270.40, grey/ brown, carbonaceous roots; lens of sphaerosiderite at 270.80; sandstone 4 cms. below. Steep irregular polished surfaces 2.70.80 to 271.10.			271	00
	Siltstone, grey, sandstone laminations and bands.			271	55
Dip 20° @ 271.60	Mudstone, silty, medium grey. Sandstone bands/laminations to 273.00; poorly bedded.				
	Occasional thin ironstone band becoming darker grey slightly silty, well bedded. Mussel fragment at				
End of run 272.91	273.50.				
Dip 16° @ 272.95	Coal band 273.60/273.65.				
	Large coalified plant debris below. Silty from 275.00.			275	22
	Siltstone, grey, scattered plant debris, massive, sandstone laminations.			275	85
	Sandstone, light grey, fine/medium grained quartzitic, wispy bedded. Ironstone lenses.			276	80
Dip 15° @ 276.90	Mudstone, very silty, grey, poorly bedded, scattered plant debris, sandstone wisps, comminuted plant debris.				
	Siltstone band, massive, 277.60 to 278.20.			278	50
	Sandstone, light grey, fine grained laminations, ironstone top, mudstone band 278.75 to 278.90. Striped in base.			279	50
	Mudstone, very silty, grey, fairly strong mudstone laminations to 280.80, thick ironstone at 281.50, and in				
Sample 279.92 to 280.86	base.			282	00
	Siltstone, grey, massive, slumped bedding throughout.			282	40
End of run 281.18					
Dip 14° @ 281.75	Mudstone, silty, grey, scattered plant debris, ironstone bands, vaguely wormy from 284.80. Carbonaceous partings several sub-vertical joints from 285.00 to 287.30; becoming slightly silty and darker grey from 288.00; irregular ironstone at 288.10				

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
Gamma high at 287.50	Mussel @ 288.40				
End of run 290.74	Wormy ironstone bands (Chubby worms).				
Dip 13° at 290.70	Sheared at 291.00, 291.15 and 291.35.				
	Thick wormy ironstone @ 291.90				
	Dark grey from 292.00				
	Sheared at 292.10.				
	Scattered coaly plant debris. Sheared/rashy 292.40 to 292.45.				
	Carbonaceous in base, welded contact			292	60
TWO FEET NINE	Thin coal in roof [Electric Logs] COAL 1.34 stick .10 tiny fragments.	1	90	294	50
Sample 294.05 to 294.52	Seatearth, mudstone, silty, grey/dark grey, roots and stigmaria. Small ironstone nodules from 295.00, carbonaceous debris.			295	10
Dip 23° @ 295.80	Mudstone, slightly silty, grey/dark grey ironstone masses. Steep shear at 295.50, rooty, packed with polished surfaces from 296.10 to base. Coal band at 296.46.			296	48
	COAL 4oms.		4	296	52
	Dirt 5oms. (Mudstone dark grey)		5	296	57
	COAL with thin dirt bands 17cms.		17	296	74
	Mudstone, dark grey packed with plant debris (some coalified) occasional coal streak, polished surfaces. Pyrite lens at 296.90. Sh/rashes at 297.00.			297	00
	Seatearth, mudstone - slightly silty roots. Steep shear at 297.10.			297	30
Dip 17° 298.00	Mudstone, silty grey, poorly bedded with sandstone bands, well preserved leaf; numerous ironstone bands 298.00 to 298.50; and from 299.00 to 299.20 with associated polishing, unbroken from 299.80.				
End of run 299.74. Sample 301.61 to 302.09	Faintly wormy, numerous ironstone bands from 301.00 with dark muddy bands.				
Dip 15° @ 299.80.	4 cms. sandstone @ 301.50; becoming slightly silty, darker grey in base.			303	45

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	COAL 55 cms. stick in all		10	303	55
	dirt - Mudstone - rashes		03	303	58
Dip 20° @ 303.30	COAL		42	304	00
	Seatearth – mudstone, dark grey roots and plant debris. Occasional polished surface; thin coal band at 304.10.				
	Shear at 304.20			304	30
	Mudstone, dark brown, planty, with polished surfaces, occasional roots.			304	50
	Seatearth – mudstone, slightly silty. Irregular ironstone 304.70 to 305.00			305	00
Dip 16° @ 305.20	Mudstone, silty grey/dark grey, rooty. 15 cms. sandstone band at 305.40, sandstone laminations below.			306	00
	Sandstone, fine/medium grained, light grey, ripple bedded throughout.			306	25
	Mudstone, very silty grey sandstone wisps and laminations, vertical joint from 306.25 to 306.80, polished bedding from 307.20.			307	70
Sample 306.98 to 307.42.	"Striped" beds – alternating bands of sandstone and mudstone, sandstone pre –				
Dip 17° @ 307.70	dominate from 307.90, slumping in base.			308	10
	Sandstone, fine/medium grained, light grey, wispy bedded, "striped" from 308.80 to 309.30.			309	95
End of run 309.04	"Striped" beds, sandstone, very silty mudstone laminations. Ironstone band in base.			310	25
Dip 17° at 312.00	Mudstone, silty/very silty grey partings packed with plant debris.				
	Thick ironstone at 311.70; vague worm trails, polished surface with slickensiding at 313.00.			313	80
Dip 27° @ 313.95	Mudstone – broken/disturbed packed with polished surfaces, rashes/core fragments 313.95 to 314.00. Gouge 314.10 to 314.15			314	30
Dip 15° @ 315.30	Mudstone, very silty, grey, numerous sandstone laminations to 315.00, broken top				
Sample 315.98 to 316.43	10 cms. Fracture @ 314.85.				
	Silty from 316.00.				
End of run 316.04	Occasional polished bedding plane.				
	Steep shear with slickensiding at 316.55.				

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	Occasional thick ironstone			319	50
Dip 15° @ 319.00	Mudstone, slightly silty, grey, wormy.				
	Low angled shears/broken from 319.95/320.05.				
	G.Carbonaria - becoming darker grey.				
	1cms. Inferior Coal Band at 320.12. Rashy in base			320	20
	COAL		28	320	48
	dirt (core lost / on electric logs)		10	320	58
Lower Four Feet	COAL 1.34 stick (fragments in top)	1	24	321	82
	Rashes grey/brown.			321	90
	Seatearth- mudstone, silty, grey, scattered roots, Ironstone nodules. Stigmaria, listric surfaces in top.			322	05
	Sandstone, light grey, fine/medium grained, laminated, thick ironstone in base.			3 2	35
	Siltstone, grey, sandstone laminations.			322	60
	Mudstone, silty/very silty, grey, rooty, sandy wisps, poorly bedded. Small ironstone lenses.				
	Rashy at 323.05				
End of run 323.58	Core lost 38 cms to			323	58
Dip 11° @ 323.60	C.Kochi at 323.60 becoming silty/ bedded.				
	Occasional large ironstone. Steep shear planes 325.80 to 326.10.				
	Darker grey/slightly silty, polished bedding and steep polished surface to 326.80.				
Dip 12° at 327.00	Sheared/rashes at 326.80.				
	Silty/grey from 327.00.				
	Unbroken to 327.90; becomes slightly silty, faint mussel impression at 328.20; some C.Kochi.				
	Dark grey, wormy			328	46
	Mudstone, slightly silty, carbonaceous with ironstone nodules and coalified plant debris/coal lenses.			328	52

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
	COAL 19 stick.		19	328	71
	Rashy Mudstone, grey/brown 8cms stick		8	328	79
	Rashes, black with coal streak 3 cm. stick		3	328	82
	Seatearth - mudstone, very silty roots.				
	Ironstone nodules from			329	70
Sample 329.12 - 329.60	Mudstone, very silty, grey, sheared @ 329.80				
	Sandstone laminations (slumped bedding) from 330. Numerous from 331.00 to 331.70.				
Dip 17° @ 332.00	Thick ironstone in base.			332	10
	Sandstone, medium grained, quartzitic, light grey, wisps, steep irregular joints.			333	00
	Siltstone, grey, muddy locally, sandstone bands, massive, unbroken, thick ironstone band in base.			334	50
	Sandstone, fine/medium grained, light grey quartzitic carbonaceous wisps.				
Sample 334.49 to 334.97	Irregular vertical fracture 335.30 to 336.00, massive/medium grained in base.			337	60
End of run 337.74	Mudstone, slightly silty grey/dark grey, wormy, mussel at 337.75.				
Dip 7° @ 337.80	Sheared with rashes at 337.86, 10cms. sheared ground to 338.05.				
	Polished bedding with occasional shear to 338.65.				
	Steep shear @ 339.45			339	85
Dip 12° @ 339.70	"Striped" beds - alternating laminations of sandstone and silty mudstone.			340	20
	Mudstone, very silty, grey, sandstone laminations and bands. "Striped" beds 340.40 to 341.00, and from 342.00 to 342.50; laminations to 343.50. Sheared @ 344.00			344	00
End of run 341.64					
	Mudstone, silty/slightly silty, dark grey, vaguely wormy with polished bedding planes. Thick ironstone at 345.15, with shear dips below.				
Dip 10° @ 345.00					

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Sample 344.39 to 344.85	Sheared with rashes at 346.05, polished surfaces to 346.40, dark grey below.				
End of run 346.00	Polished surfaces from 346.60 to base, low angled shear at 347.00				
	Dark grey ferruginous band at 347.00 with mussel imrpession. Packed with polished surfaces to base.			347	07
	COAL 35cms pulverised fragments.		40	347	47
	Rashes, grey/brown (dark in top).				
	Coal trace at 347.77		55	348	02
SIX FEET SEAM	COAL/rash mixture 10		10	348	12
	Ironstone band 7		7	348	19
	Rashes grey/brown 8		8	348	27
	COAL 31 cms. fragments.		50		
	dirt (core lost)		25		
End of run 349.68	Sphaerosiderite band 05cms. (End of run here)				
	COAL 130 cms.	1	97	350	99
	Rahses, dark grey coal streaks in top 20cms.		40	351	39
	COAL/rash bands		07	351	46
	Rashes, grey/brown		26	351	72
	Rashes, dark with coal streaks/bands		20	351	72
	Rashes, brown.		14	352	06
	Mudstone, silty/very silty, grey leached appearance, scattered roots, sphaerosiderite in base.			352	47
	Mudstone, grey/brown, roots, sheared/rashy in top to 352.60.				
	Scattered sphaerosiderite.				
	Sheared at 352.80 and @ 352.88.				
	Sheared/broken from 353.10, locally rashy. 5 cms. rashes at 353.60. Coalified plant debris at 353.70.			353	70
	Mudstone, rashy/friable with fragments of mudstone from 353.70. Gouge in base.			355	10

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	Seatearth - mudstone, silty, grey/brown roots, occasional polished surface, ironstone lenses.			356	00
Sample 356.00 to 356.45	Mudstone, silty grey, scattered roots and plant debris.				
Dip 14° @ 356.80	Sheared/broken 356.45 to 356.70.				
	Steep joints 357.00 to 357.50; broken/polished surfaces 357.65 to 357.95. Sheared/core fragments				
End of run 358.69	rashy from 358.35 to 358.65.				
	20 cms. Ironstone at 359.60				
	85 cms. Ironstone at 359.95				
Dip 12° @ 360.40	Some large plant debris (Calamites)				
	Coalified plant debris @ 363.00.				
	20 cms. Ironstone at 363.80, with Hatchetite. Occasional thick ironstone, sheared with rashes				
Dip 17° @ 363.50	366.50 with polished surfaces to				
Sample 365.12 to 365.73	367.00				
	Sandstone laminations from 367.00, thin sandstone bands from 363.00 to				
Dip 14° @ 367.60	368.60; partings packed with plant				
End of run 368.33	debris.			369	40
	"Striped" beds, alternating sandstone/mudstone bands.			369	90
	Mudstone, slightly silty, grey/dark grey, scattered plant debris, some coalified - polished bedding throughout, sheared/broken with slickensiding @ 370.10. Wormy, mussel @ 370.45.				
Dip 11° @ 370.50	Sheared with rashes in base.			370	51
	COAL 50 cms. stick		78	371	29
	Seatearth, mudstone, grey/brown roots packed with polished surfaces.				
	5 cms. rashes @ 371.33.				
CAERAU	Grey/silty from 371.40, packed with polished surfaces from 372.00 to base.	1	24	372	53
	COAL 30 cms. Fragments, 116cms. broken stick.	1	80	374	33
	COAL/rash 09 cms.		09	374	42
	Rashes, brown 05cm.		05	374	47
	COAL 05 cms. stick		05	374	52

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	Mudstone, rashy, polished surfaces with occasional coal band.				
	5 cms. rashes at 374.65				
	2 cms. Inferior Coal @ 374.70			375	00
	Rashes grey/brown		05	375	05
	Mudstone, silty, grey, rooty, sandstone laminations firm.				
	Irregular fracture from top to 375.00.			375	45
Sample 375.10 to 375.45	Sandstone, light grey, fine/medium grained, silty laminations, bands throughout.			375	75
	Mudstone, silty/very silty, grey scattered plant debris.				
Dip 14° @ 376.20	Joint 376.00 to 376.50 with slickensiding.			376	65
End of run 376.73	Sandstone, light grey, fine grained, numerous ironstone bands to 376.90.				
	Laminations			377	23
	Mudstone, silty, grey sandstone laminations to 377.70, scattered plant debris and roots, faintly wormy.				
Dip 16° @ 379.30	Ironstone bands.				
	Mussel impression @ 380.80.				
	Sheared/rashes @ 381.05 to 381.20, several steep polished surfaces below to 381.50.				
Dip 30° @ 381.70	Sheared/rashy below to 381.65, locally slightly silty.				
	Solid mussel/wormy @ 382.00.				
	Core fragments 882.25 to 383.00, packed with polished surfaces, rashy on ironstone bands. Tight fold in core @ 383.20				
Dip 24° @ 382.90	Dark grey/slightly silty from 383.50, worm trails (especially in ironstone).				
Dip low in base.	COAL 20 cms. broken core.			383	81
	30 cms. pulverised core.				
Lower Red	20 cms. COAL/rash mixture.		72		
	dirt core lost		14		
	COAL core lost		34	385	01

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	70 cms. core lost in all				
End of run 385.21	including 20 cms. of floor lost.		20	385	21
	Rashes, grey/brown in top of next run, then				
	Mudstone, silty, grey, rooty, scattered plant debris. Ironstone lenses with				
Dip 5° @ 386.00	pyrite 20 cms. Ironstone @ 386.40				
Dip 10° @ 387.00	Slightly silty/dark grey from 387.20, slightly carbonaceous with coalified plant debris at 387.80.				
	Sheared/rashes @ 387.90.				
	Grey from 388.05.				
	Silty from 388.70				
Dip 12° @ 390.00	Slight shear @ 390.60.				
End of run 391.70	Several vertical joints with slickensiding 394.08 to 395.00.				
	Slight shear @ 395.80.				
Dip 9° @ 392.30	Sub-vertical jointing 396.00 to 396.50.				
	Slightly silty/carbonaceous from 396.00, wormy in parts, otherwise smooth to 396.50				
	Grey/silty from 397.50.				
Dip 10° @ 396.00	Sandstone band @ 397.85.				
Dip 11° @ 398.25	Several polished/slickensided				
End of run 398.21	bedding planes @ 398.80				
	Core lost 20 cms. to			399	00
Foraky Barrel (Bearing dropped in hole)					
	Sandstone, light grey, fine grained, ripple bedded.			399	60
	Mudstone, silty, grey, scattered plant debris, occasional sandstone laminations, shear with rashes @ 400.10.				
	Sheared @ 400.32				
Dip 12° @ 400.25	Slight shears 400.60 to 400.70, partings packed with plant debris.				
	Sheared/rashy mudstone from 400.95 to base.			401	17
	COAL 75cms. broken stick c siderite band		63		
	Siderite band/coal		09		

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	COAL	1	05		
	40 cms. fragments.				
	S				
End of run 402.62	End of run				
	1·00cms fragments				
	Siderite band		07	403	01
	COAL		66	403	67
	Dirt including 10 cms. Ironstone, 20 cms.		20	403	87
UPPER NINE FEET.	COAL 30 cms. pulverised fragments.		50	404	37
	Rashes, grey/brown and ironstone band.		10	404	47
	Core lost. 18cms. to			404	60
Sample 404.83 to 405.26	Mudstone, silty, dark grey, roots, coalified plant debris; numerous ironstone nodules to 404.80.				
End of run 404.61	20 cms. fractured ironstone band, occasional thick ironstone.				
	Sheared/rashes 405.80 to 405.90; becoming grey/no roots.				
	Sheared/rashes 406.60 to 406.85.				
Dip 12° @ 406.40	Sheared/broken @ 408.00.				
	Wormy.				
End of run 409.03				409	70
	Sandstone, light grey, carbonaceous wisps. (fast drilling)				
				410	35
Dip 10° @ 410.40	Mudstone, silty grey, sheared/rash @ 411.30. darker/less silty, occasional sandstone laminations below.				
Sample 410.62 to 411.12	Scattered plant debris.			413	90
	"Striped" beds, alternating sandstone/silty mudstone bands, ripple bedding.				
	Thick ironstone in base			414	50
	Mudstone, silty, grey/dark grey sandstone laminations from 414.60				
Dip 5° @ 414.80	15 cms. sandstone band @ 415.00			415	35
Dip 10° @ 415.20	Mudstone, rashy/shears to 415.50 dark grey mudstone with coalified plant debris to base.			415	56
LOWER NINE FEET	COAL 35 cms. pulverised fragments. (poor response on electric logs)		40	415	96
WASHOUT?					
End of run 416.16	Sandstone fragments with coaly streaks, vague seatearth texture.				
	Mudstone, silty, grey/numerous roots.				
	Ironstone nodules, polished surfaces, especially from 417.05 to 417.30; becoming dark grey/slightly silty, packed with p plant debris, some coalified.				

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	Sheared at 417.30; silty below, sandstone laminations			418	00
Sample @ 417.38 to 417.83	"Striped" beds - alternating sandstone/mudstone bands, ripple bedding, erosive base.			418	42
Dip 7° @ 418.80	Mudstone, silty, grey, sandstone wisps, low angled fractures in sandstone band at 419.00.				
End of run 422.93 Dip low	Fractured sandstone band 419.20 to 419.45, less silty below, broken with irregular fractures from 421.50, steep shearing with rashes @ 421.75; broken core to 422.40 with steep joints.				
	Ironstone band 422.50 to 422.70 Gouge below with mudstone fragments, steep shears to 422.90. Broken, rashy mudstone below, wormy, sheare to base, becomes slightly silty/darker grey.			423	28
[disturbed]	COAL 40 cms. stick - pulverised/ disturbed.		46	423	74
	Steep base.				
	Gouge with fragments of mudstone and ironstone.			424	15
	Mudstone, silty, grey, rents, ironstone nodules, highly fractured, packed with polished surfaces.				
	Sheared/rashes 424.40 to base.			424	60
	Gouge, grey/brown fragments of mudstone, friable, clayey.			425	00
	CORE LOST 45 cms. to			425	45
	Mudstone fragments 425.45 to 425.60. Ironstone lens at 425.60 Rashy/sheared mudstone below. (Core fragments to 426.30			426	40
	Gouge, grey/brown, traces of pulverised coal at 426.50. Dark grey in parts, fragments of mudstone and ironstone				
	Coal band at 426.70.				
Dip 70° @ 426.70	Coal fragments at 426.75.			426	90
	Mudstone, silty/very silty, grey, sheared/ broken from top with slickensiding.				

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	Ironstone @ 427.25.				
	Sheared/rashes below to 428.00, in broken mudstone, becoming less silty/darker from 427.50.				
	Wormy (G.Carbonaria), dark grey, micaceous with coalified plant debris at 428.00, silty below with sandstone laminations to			428	25
	Sheared in base.				
Dip low	Seatearth - mudstone, very silty, roots, broken core/jumbled listric surfaces, sheared/rashes at 429.00. Solid core below packed with polished surfaces.				
	Ironstone lenses.				
	Sheared/rashes at 429.25.				
				429	50
Dip 25° @ 430.05	Mudstone, silty, grey, sheared with rashes locally from 429.70 to 430.10, sandstone laminations below.				
Dip 50° @ 431.40 End of run 431.44	Rashy 430.30 to 430.65; broken below, thick ironstone bands.			431	44
	Rashes/core fragments on top of run				
	Seatearth - mudstone, silty, grey/brown, packed with roots, listric surfaces. Gouge with core.				
	Fragments 431.60 to 431.80			431	80
	Siltstone, grey, massive with sandstone laminations (no roots), packed with polished surfaces, thick veined ironstone @ 432.			432	40
	Mudstone, very silty, grey, massive, polished surfaces. Numerous irregular fractures from 432.60.				
	Sandstone laminations from 432.80.				
	Fractured/broken below to 433.25			433	80
	Sandstone, light grey, silty bands			434	35
	Mudstone, very silty, grey, micaceous, scattered plant debris, sandstone laminations, slump structures.				
Dip 21° @ 435.00	Occasional thin ironstone packed with sandstone laminations 436.50 to 436.80.				

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	Silty from 437.50, occasional thick ironstone band.				
	Slight shear @ 438.25.				
Dip 20° @ 438.60	Sheared @ 439.80.				
	Steep joint 440.10 to 440.40				
Dip 21° @ 439.70	Mudstone, slightly silty, grey, packed with polished surfaces.			440	50
End of run 441.00	20 cms. ironstone @ 440.75			441	00
Sample 441.13 to 441.60	Mudstone, very silty, grey, with sandstone laminations.			441	60
Sample 442.15 to 442.72	Sandstone, light grey, fine/medium grained quartzitic, laminations, irregular veining.			442	72
	Mudstone, silty, grey, sandstone laminations from 443.70.				
Dip 15° @ 443.90	Sub-vertical joint at 443.00 and 444.00.				
	Core fragments from 444.00 to 445.55.				
	Becoming slightly silty and wormy (G. Carbonaria) from 444.50				
	Sheared/rashy @ 444.50 and 445.00, polished surfaces, locally rashy.			445	55
YA&D	COAL 1.00 fragments	1	26	446	81
	Seatearth - mudstone, very silty, grey/brown roots, becoming grey with sandy patches, listric surfaces.			447	50
Sample 447.87 to 448.43	Mudstone, silty, dark grey/grey, scattered roots; very silty in base.			449	00
	Sandstone, fine grained, light grey, silty laminations and bands.			450	00
	Mudstone, very silty, grey, rooty, sandstone laminations.			450	65
	Sandstone, light grey laminations, ripple bedding.			450	80
	"Striped" beds alternating sandstone/mudstone bands.			451	50
Dip 11° @ 452.20	Mudstone, silty/very silty, grey, scattered plant debris, sandstone bands, 10 cms. sandstone in base onto			452	20

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	COAL with dirt bands - 11 cms. stick.		11	452	31
	Mudstone, dark grey, packed with plant debris, coal streaks, polished surfaces.				
End of run 453.25	CORE LOST 57 cms. to			453	25
	Thin Coal (B.P.B. Logs)		10	453	20
Dip 22° @ 453.30	Seatearth - mudstone, dark grey, roots, plant debris, polished surfaces to 453.50.			453	50
	Mudstone, silty, grey, faint sandstone laminations, rooty.			454	10
Dip 20° @ 454.10	Rashes, grey			454	54
	CORE LOST 1.36 to			456	00
End of run 456.63	Mudstone, silty, grey, scattered plant debris, rooty, sandstone laminations and thin ironstone bands; polished surfaces. Core fragments 456.00 to 457.00; jumbled core fragments 457.00 to 460.90.				
Dip 20° 456.50					
	Fragments of slightly silty mudstone, rooty from 457.00				
	fragments of seatearth (dropped core?); fractured core @ 458.20, in very silty mudstone with sandstone laminations, rooty.			459	80
	Seatearth, mudstone, grey/brown rashy in top becoming silty/grey below, core fragments 461.20 to 461.70.			461	20
Dip 15° @ 461.80	Mudstone, silty, grey, rooty, sandstone laminations from 462.00, very silty in base.			462	30
	Sandstone, light grey, laminations striped in base.			462	85
Dip 18° @ 463.40	Mudstone, very silty, grey, partings packed with plant debris, sandstone bands in top. Sheared/rashy at 463.00. Sub-vertical jointing from 463.30 to 465.50. Sandstone				
End of run 464.59	laminations from 465.70 to 466.50.			466	90
Sample 465.98 to 466.54	Mudstone, slightly silty/silty, well preserved plant debris. Calamites packed with polished surfaces friable from 467.46, locally rashy, rashes in basal 10 cms.			467	59
	COAL 20 cms. stick 33 cms. broken stick		60	468	19

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	Seatearth - mudstone, silty, dark grey roots, plant debris, coaly streaks, listric surfaces, sheared/rashy at 468.30; strong silty below			469	00
	Sandstone, light grey, fine grained, silty mudstone laminations. Ironstone nodules. Fractured 469.40 to 469.55. Pyrite in nodules below. Slumped structures. Mudstone band 469.90 to 470.05; Ironstone/ mudstone/sandstone bands to 470.20. Fractures/veining 470.15 to 470.30. "Striped" in base.			470	60
Dip 12° @ 471.70.	Mudstone, very silty, grey, scattered roots, large ironstone nodules, silty from 471.00. Shear @ 471.05. Millerite in joint @ 472.60. Polished partings from 473.00.			473	00
	Mudstone, slightly silty, dark grey/grey, carbonaceous/core fragments.			473	81
End of run 473.61	COAL few fragments only		10	473	91
	Seatearth - mudstone, carbonaceous top. 5 cms., medium grey below with listric surfaces, dark grey roots, soft to 474.10, slightly silty below. Ironstone nodules at 474.90. Broken/rashy @ 475.20 to 475.50. Ironstone from 475.70 to 476.20.			476	20
Dip 10° @ 476.50	Mudstone, medium grey, slightly silty roots, coalified plant debris; small ironstone nodules. Silty with sandstone laminations from 477.30 with plant stems. Coaly threads @ 477.60. Sheared - with listric surfaces from 478.15. 20° fractures, near vertical polished surfaces at 479.50. Rashes from 479.50 to 480.20 with a little pulverised Coal at 480.00			480	20
Sample 478.16 to 478.61 Dip 50° on laminations at 479.00					
	Seatearth, mudstone, medium grey, slightly silty/silty, dark grey roots, unbroken. Very broken from 480.70 to base.			481	00
Dip 15° @ 482.00 End of run 483.25. Dip 20° @ 485.10 Dip 30° @ 486.00 Dip 25° @ 486.80 Sample 486.07 to 486.51	Mudstone, slightly silty/silty, ironstone nodules; broken, sub-vertical fracture at 481.20; rooty. Large plant straps. Broken/sheared silty mudstone from 483.25 to 485.00. 80° fracture with slickensiding at 483.50. Ironstone nodules, strong/silty from 486.45; broken with polished surfaces from 487.80 to 489.35; sheared with 35° fractures. rashes at 488.40				

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
End of run 489.25	Core lost 30 cms. to			489	25
	Mudstone, very silty, grey, fairly strong. Ironstone nodules, quarts veining at 490. Sandstone laminations from 490.35, striped from 490.60 to 492.00. 25 cms. laminated				
Dip 20° @ 491.20	sandstone in base.			492	90
	Siltstone, medium grey, fairly massive, finely micaceous.			494	10
Sample 493.47 to 493.87	Mudstone, sheared/rashy, sub-vertical dip. 30 cms. rashes @ 495.20. 40° fracture @ 495.20. 40°				
Dip 90° @ 494.10	fracture @ 495.80			496	10
	Mudstone, slightly silty, medium grey, plant straps, thin ironstone bands to 496.50; silty below. 60° shear at				
	496.90.			496	90
Dip 90° @ 497.00	Mudstone, sheared/rashy, vertical bedding.			499	75
	Mudstone, silty, medium grey, occasional sandstone laminations. Ironstone nodules in top				
Sample 500.07 to 500.52	Vertical fracture/polished surfaces. Broken @ 501.10 to 501.50. Clay gouge @ 501.20.			501	50
Dip 50° on laminations at 500.60	Mudstone, very silty, medium grey, plant debris, finely micaceous, sandstone laminations from 501.90 to 502.10.				
Dip 90° @ 501.00 End of run 501.10.	60" polished surfaces @ 502.90.			503	90
	Sandstone, pale grey, wispy bedded, quartzitic,				
Dip 45° on laminations at 502.00	broken/rashy @ 504.30; striped beds below to 504.00.			505	55
	Mudstone, very silty, grey, occasional sandstone laminations, very broken				
Dip 80° @ 505.90	from 506.20 to 506.50.			507	00
	Sandstone, fine grained, pale grey, quartz				
End of run 507.40	veining, muddy wisps.			507	80
	Mudstone, silty, medium grey, sandstone laminations to 508.20; rare plant				
Dip 25° @ 509.00	debris. Slightly silty from 510.00. Occasional thick ironstone,				
Sample 509.33 to 510.00	fairly fissile, occasional polished surface. Ironstone bands and				
	nodules. Rashy from 512.40 to base.			512	28
Dip 30° @ 511.00 Dip 40° @ 512.00	COAL ~~few fragments, pulverised.~~		20	512	48
	Mudstone, silty grey, (vague seatearth texture) roots @ 515.40, broken core packed with polished surfaces from 514.10 to 514.79. Steeply dipping polished surfaces 515.50 to 515.90				

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
Dip 60° @ 512.40 on laminations.					
Dip 45° @ 513.80 on laminations. End of run at 514.79.	Steep shear with slickensiding @ 517.25. Very steep polished surfaces in broken core @ 513.00. Very silty from 518.70. Calamites @ 518.80. Silty from 519.40 with sandstone laminations. 30 cms. ironstone @ 520.60; broken/rashy core from 520.60 to 521.15; gouge @ 520.80. End of sandstone laminations @ 524. Steeply dipping polished surfaces, broken core to end of run 525.61.				
Dip 26° @ 514.90 Dip 40° @ 516.50 Dip 25° @ 517.00 Dip 19° @ 518.80 End of run 520.24.					
Dip 65° @ 521.15 on laminations.					
Dip 90° @ 522.70 on laminations.	Very silty from 526.20 with scattered plant debris. Vertical/sub-vertical fractures and polished surfaces. Very broken/rashy 526.90 to 527.20.				
Sample 522.40 to 522.95.					
Dip 70° @ 523.10 on laminations. End of run 525.61	Vertical polished surfaces below. 30 cms. of sandy ironstone, dark grey @ 528.50. Steeply dipping polished surfaces and fractures from 529.00, becoming vertical @ 529.50.				
Dip 90° @ 529.50				529	60
Dip 80° on laminations.	Sandstone, pale grey, medium grained, laminated, steeply dipping and polished; dark grey with abundant scattered plant debris. Pale grey laminations from 531.60 to 532.00; then similar dark grey sandstone with abundant plant debris.				
Sample 531.04 to 531.46					
End of run 533.15	Vertical bedding in dark grey, fine grained sandstone at 533.00			533	15
Dip 90° @ 534.20	Siltstone, medium/dark grey, sandy patches, abundant plant debris, very steep fractures. 10 cms. dark grey sandstone with coalified plant debris in base.			534	80
Dip 70° @ 534.90	Mudstone, very silty, medium grey, well preserved ferns (Neuropteris). Steep polished surfaces. Sub-vertical polished surfaces in dark grey, silty mudstone. Packed with partially coalified plant debris @ 536.00. Very silty from 537.10. Sandstone laminations from 538.20. Broken core 539.60 to 540.20. Steep polished bedding planes. Sandstone laminations from 540.20 to 543.30. Broken/rashes from 545.30 to 546.40; silty below numerous crossoutting steeply dipping polished surfaces from 546.40. Well preserved ferns, sandstone laminations @ 547.40				
Dip 60° @ 536.40 Dip 90° @ 539.00 End of run 539.80					
Dip 80° @ 543.00					
Sample 541.90 to 542.41.					
				543	00

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
	Siltstone, medium grey, scattered plant debris.				
End of run 549.17	55° polished surfaces.			549	17
	Mudstone, very silty, scattered plant debris,				
	silty with coalified large plant				
Dip 70° @ 550.	1 straps @ 550. Sheared/rashy at				
	550.50. Ironstone nodules at				
Dip 90° @ 552.40	553.30. Rashy from 553.45;				
End of run 553.82.	occasional ironstone from 553.82.			555	10
Dip 30° @ 555.00	Siltstone, medium grey, plant debris. 10°				
Dip 10° @ 555.90	polished planes. Rapid changes in				
Dip 90° @ 555.95	dip 556.00 to 557.50; sandstone				
Dip 8° @ 557.60	laminations from 556.80.			557	60
	Mudstone, silty with sandstone laminations,				
End of run 568.65	broken core from 558.10. Very				
Dip 20° @ 559.00	silty from 559.10, polished bedding,				
on laminations.	sandstone lens with thick ironstone				
Dip 17° @ 569.70	@ 560.10. Silty from 560.30,				
Dip 20° @ 561.00	partings packed with plant debris,				
	locally slightly silty and wormy,				
Dip 15° @ 565.00	thin ironstone. 10 cms. rashes				
Sample 565.34 to	from 564.90; partially coalified				
565.68.	plant debris @ 565.90. Wormy at				
	566.40.			566	45
	Mudstone, black, smooth, carbonaceous from				
	566.60; vaguely cannaloid, pimples				
	@ 566.65, listrict surface @ 566.68				
	Slightly silty @ 566.70, with				
	partially coalified plant straps				
	(Lepidodenron). Black rashes in				
	base.			566	93
End of run 567.37	COAL 48 cms. recovered, to end of run.	1	34	568	27
BUTE	core lost 1.10m. in all to			568	45
	Seatearth-mudstone, medium grey, soft/clayey				
	in top 20cms., silty with dark				
	roots below. Overbored/broken to				
	570.50.			570	80
Sample 569.49 to	Sandstone, fine grained, medium grey, large				
569.86	dark grey roots.			571	40
Dip 12° @ 571.60	Mudstone, medium grey, silty, scattered				
	plant debris, pale/medium grey				
	from 572.30, with medium grey				
	mudstone bands, wormy, occasional				
Sample 572.45 to	plant sten to 572.60. Sandstone				
573.50	laminations from 572.60, medium				
	grey from 575.80 with plant stems.				
End of run 576.49	Broken core from 577.00, packed				
	with polished surfaces @ 577.50.				
	Vague seatearth texture @ 577.70.			578	31
End of run 578.31	Sandstone, medium grained, pale grey, quartz				
	veining, laminated.			578	60
	"Striped" beds, interlaminated sandstone/				
	mudstone.			579	90

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Sample 579.91 to 580.22	Mudstone, slightly silty, medium grey, occasional sandy laminations in top 30 cms. Mussel fragments at 581.30. 20 cms. sandstone, fine grained with quartz veining				
Dip 24° @ 580.50					
Dip 10° @ 582.30	@ 582.20, medium to dark grey, silty, finely micaceous. 50° polished surfaces and slickensiding				
	@ 583.00. Slightly silty, dark grey, with listric surfaces from 583.00.				
	Rashy @ 583.10. Pyrite pimples at 583.40. Lingula @ 583.50 in				
AMMAN MARINE BAND.	black, slightly silty mudstone, finely micaceous.			583	59
	COAL 18 cm. stick.		18		
	Dirt 3 cm.		3		
	COAL 8 cms. fragments.		8	583	88
Dip 30° @ 583.88	Steeply dipping in base, mudstone silty, in immediate floor				
	Seatearth - mudstone, medium/dark grey, clayey rashes. Gouge @ 584.20 to 584.57. Broken mudstone with				
Dip 40° @ 584.50 in core fragments.	ironstone fragments, rashes to 585.00. 15cms. Ironstone band. 20 cms. rashes @ 585.35.			585	35
	Mudstone, silty, grey, medium grey with 60° listric surfaces with slickensiding. Sandstone laminations from 585.90 to 586.30. 70° slickensided polished surfaces from 585.90. Slightly silty with large plant				
Sample 586.50 to 586.89	stems from 586.50. Silty from 587.40.			587	72
Dip 20° @ 587.10	Mudstone, very silty, medium grey, occasional large plant straps, irregular				
End of run 587.72.	fractures.			588	40
Dip 15° @ 588.00	Seatearth - mudstone, silty, roots, medium grey, wormy in top. Rashy @ 588.90.			589	00
	Mudstone, slightly silty, medium grey, plant straps.			589	52
YARD	COAL 77 cms. fragments. 46 cms. stick/broken stick. 18 cms. [high density band in middle of coal (siderite?).]	1	25	590	87
	Seatearth - mudstone, slightly silty, medium/dark grey, roots. Ironstone nodules.			591	50

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	Mudstone, silty, medium grey, ironstone nodules, roots, sandstone laminations to 592.10; becomes medium dark grey and slightly silty @ 592.90. Black rashes 592.93.			592	95
	Inferior Coal - 10 cms. stick.		10	593	05
	COAL/Mudstone mixture.		10	593	15
	Mudstone, dark grey, carbonaceous, planty.		18	593	33
	COAL Coal 19 cms. stick.		19	593	52
Dip 8° @ 593.32	Seatearth - mudstone, mottled dark grey/brown, coalified roots. Brown rashes from 593.65. 4 cms. black, rashy mudstone from		62	594	14
	COAL 20 cms. broken stick. 17 cms. stick. 13 cms. fragments.		50	594	64
	Seatearth - mudstone, dark grey/brown, rashy/ clayey, roots from 594.70; continuing rashy. Rashes @ 595.95 and 595.70.			595	90
	COAL/Mudstone mixture.		04	595	94
	Rashes - black		05	595	99
	Rashes - brown		11	596	10
	COAL 10 cms. stick. 30 cms. fragments.		58	596	68
End of run 596.55	Seatearth - mudstone, silty, dark grey roots, rashy.		30	596	90
	COAL/Mudstone mixture.		04	596	90
	Mudstone, dark grey, rashy, large fragments of coal in rashes. Rashes to 597.30.			597	30
	Seatearth, mudstone, silty, dark grey. Ironstone nodules			597	40
Sample 597.50 to 598.00	Mudstone, silty, medium grey, sandstone laminations to 597.60. Sandstone lenses 598.50 to 599.10; polished bedding. Broken core from 599.10, becoming slightly silty, packed with				
Dip 5° @ 599.00	polished surfaces.			599	95
	COAL 9 cms. broken stick		10		
	Dirt 4 cms. fragments.		10		
	COAL 6 cms. broken stick.		20	600	35
	Seatearth - mudstone, silty, medium/dark grey roots, friable, listric surfaces.			600	50
	Mudstone, slightly silty, medium/dark grey, partially coalified plant straps, 40° polished surfaces, friable.				

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Dip 5° @ 600.80	Roots @ 600.90 with ironstone nodules, medium grey/silty, worm				
Sample 602.15 to 602.79.	burrows from 601.00. Sandstone laminations from 602.10. Cross-				
	bedded to 604.00. Large plant straps and well preserved plants				
Dip 6° @ 609.10	from 604.00. Broken from 606.00. Slightly silty, medium grey/brown				
End of run 605.96.	with coalified plant straps from 606.10.			606	46
Dip 5° @ 606.00	COAL [1.03 stick overall c dirt band]		45		
	dirt		3		
	COAL	1	16	608	10
	Seatearth - mudstone, packed with polished surfaces, vertical breaks to 608.15. Rashes from 607.70 to 608.00. Silty with roots packed with polished surfaces from 608.05			609	00
Sample 609.20 to 609.62	Mudstone, silty, medium grey roots. Ironstone masses 609.90 to 610.20.			610	20
	Seatearth - mudstone, silty roots, medium grey, ironstone masses.			611	00
Dip 55° @ 611.50	Silstone, medium grey roots, steep polished surfaces. Sandstone wisps from 612.00, packed with steep polished surfaces.			613	90
End of run 613.01	Mudstone, silty, medium grey plant stems, broken/rashy becomes very silty from 614.10. Sandstone laminations from 614.90 to 615.40, comminuted plant debris. Small ironstone nodules @ 615.10. Slightly silty				
Dip 5° @ 615.60	from615.50. G. Carbonaria at 615.70 with plant stems. Many polished surfaces, rashy and medium/dark grey from 616.00, core broken, vaguely wormy. Mussel in slightly silty mudstone, rashes in immediate roof.			616	34
	COAL [5 cms. fragments, 24 stick,] c.		43	616	77
core lost {	9 fragments.] d.		09	616	86
	dirt				
	COAL c.		13	616	99
	Rashes, black.			617	47
	COAL pulverised.		02	617	49
	Seatearth - mudstone, medium grey, silty, rashy in top, roots @ 617.60. Very silty from 618.20. Ironstone mass from 618.50 to 619.00.			619	00
Dip 10° @ 619.40 Dip 15° @ 619.70	Mudstone, very silty, finely micaceous, grey, well preserved ferns. Coalified plant stems; sandstone laminations from 620.00 to 620.50, some polished partings, coalified				
Sample 620.82 to 620.14	calamites at 622.00. Sandstone lenses from 622.50.			622	80

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
Dip 8° @ 621.00	Sandstone, fine grained, medium grey, pale grey coarser bands.			624	00
End of run 622.24					
	Mudstone, very silty, medium grey, ferns and stems. 20 cms. fine grained sandstone with abundant plants at 624.70. Silty below, large Calamites. 50° slickensided fracture at 626.20. Small ironstone				
Dip 10° @ 626.00					
Dip 7° @ 627.50					
	nodules at 627.60, very silty below 45° polished surfaces @ 628.10, and at 628.80, with slickensiding.				
Dip 5° @ 628.80					
End of run 630.85	Abundant plant straps/stems at 628.90, Ironstone mass @ 630.10.				
	CORE LOST 20 cms. to			630	85
	Strong roof.			631	37
	COAL 60 cms. stick.		70	632	07
	Floor lost 20 cms. to			632	27
	Rashes		06	632	37
	Mudstone, silty, medium grey polished surfaces, thin ironstone bands. Slightly				
Dip 9° @ 632.60	silty from 632.80.			633	50
	Siltstone, medium grey, sandstone laminations, plant debris. Slip planes from				
Sample 634.41 to 634.76	639.70 to 635.00. Sandstone bands from 638.60			639	00
Dip 60° on sandstone lamin-ations.	Sandstone, pale grey, medium grained, wispy.			639	80
	Mudstone, silty, medium grey, abrupt change, very broken packed with polished surfaces, 80° fractures. Canneloid mudstone; basal 6 cms packed with polished surfaces.			641	72
	COAL 50 cms. stick. 45° pyrite band 16 cms. from base.		90	642	62
	Mudstone, black, smooth, packed with polished surfaces, very carbonaceous.		40	643	02
	COAL 20 cms. pulverised with mudstone fragments.		48	643	50
	Seatearth-mudstone, medium grey, tough sandy patches, thick ironstone at top. Jumbled broken core from 644.00				
End of run 644.00	to 644.90, polished surfaces.			644	40
	Mudstone, silty to slightly silty, medium grey, polished surfaces and bedding planes. Ironstone nodules.				
Dip 15° @ 645.00	Calamites, broken/rashy from 645.50 Steep fractures at 647.00, rashes				
Variable dip 35/40 @ 647.50 to 647.80.	@ 647.20. Variable dip, folds in core with steep fractures from 647.50 to 649.00. Rahses from 648.20.				

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Dip 28° @ 649.10	Largely unfossiliferous, occasional small stem. 40 cms.				
Dip 36° @ 650.20	ironstone @ 651.50. 45° fracture				
Dip 60° @ 650.70	@ 653.10, broken, rashy core				
Dip 47° @ 652.00	packed with polished surfaces				
Dip 75° @ 653.00	belwo to 656.10. Broken jumbled				
	core to 659.00. Sandstone				
End of run 653.43	laminations from 660.00 to 660.60.				
	40° fracture/polished surfaces,				
Dip 90° @ 654.50	coalified plant straps in dark				
Dip 90° @ 657.00	slightly silty mudstone to 660.70,				
to 659.00	silty below. Rashes medium grey/				
Dip lessens @	brown, clayey (Seatearth texture)				
659.90	from 661.10 to 661.25.				
	20 cms. core lost to 661.45.				
Dip 40° on lamina-	Well preserved ferns, occasional				
tions @ 660.10.	polished parting, rashy with				
Dip 40° @ 661.00	coalified plant debris in steep				
End of run 661.45	ground @ 662.80, Millerite on				
Dip 38° @ 661.60	polished surfaces.				
	Core very broken, rashy packed with				
Dip 70/80° at	near vertical polished planes				
662.80	662.90 to 663.50, then silty				
	medium grey mudstone with abundant				
	ironstone nodules and pyrite to				
Dip 45° @ 664.30	664.20; Very silty with abundant				
	plant stems from 664.25, packed				
	with polished surfaces from 664.50.			664	80
	Rashes, black, occasional fragments of medium/ dark grey, slightly silty mudstone with plant straps. Dark grey silty and carbonaceous, Fish scales and seed pods, pyrite specks.			665	75
Bute (disturbed)	COAL 72 cms. large fragments, disturbed.		90	666	55
	(Thin coal only on electric logs, based on timings).			667	55
	Core lost 1.00m. to				
	Mudstone rashings, black, sheared			667	77
End of run 668.27	Seatearth – mudstone, very silty, sandy patches in top, roots, disturbed, vertical fractures and polished surfaces, very broken, silty from 669.50; Ironstone nodules from 670.60, broken/rashy 672.00 to 672.80,			673	00
	Mudstone, silty, grey, rooty with abundant ironstone and pyrite, core more solid and compact from 673.00, with 45° fractures.			667	50
End of run 667.51	Clay gouge (top of run)		10	667	60
Dip 30° @ 667.80	Mudstone, slightly silty to silty, medium grey rooty, abundant polished surfaces,				
	broken from 667.51. Sandstone				
Dip 70° @ 679.50	lenses 679.80 to 679.90, broken core/curved polished surfaces from				
	680.00. Rashes/contorted core @				
	680.90 to 681.25, polished bedding				
Dip 35° @ 681.50	plane, scattered plant debris				
	@ 682.20.				

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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
	Broken core from 682.30. 20 cms. of clay gouge from 683.00, 20 cms. ironstone from 683.20, with ironstone nodules, large roots @ 683.90.			685	30
Dip 15° at 683.90	Seatearth- mudstone, silty, medium grey, dull grey roots.			685	46
Dip 12° @ 685.00					
End of run 685.46.					
	Mudstone, silty, medium grey roots to 686.79. 30° fractures with slickensiding,				
Dip 8° @ 686.80.	broken core, irregular dips, quartz veining from 686.95.			687	00
Sample 689	Seatearth - mudstone, very silty, medium grey, dull grey roots. 40° polished surfaces. Abundant ironstone nodules from 689.00 to 692.00. Vertical fractures with Millerite and 45° fractures and polished surfaces.			691	00
	Mudstone, silty to slightly silty, medium grey polished surfaces, abundant ironstone nodules polished bedding planes. Medium to dark grey and well preserved ferns from 692.90; 10 cms. dark grey clayey rashes from 693.00. Large Calamites,				
End of run 693.11	10 cms. black rashes @ 693.80; becoming slightly silty with blebs.			694	48
Dip 30° @ 693.20					
	COAL (Core lost)		30	694	78
	72 cms. core lost 694.06 to 694.78.				
	Seatearth - mudstone, silty, medium grey, dull grey roots. Broken and clayey with polished surfaces from 695.70 to 696.10.			696	10
Sample No. 78 696.19 to 696.48	Mudstone, silty, medium grey, rooty in top 10 cms. Sandstone laminations to 697.00, fracture core with steep abundant polished surfaces and slickensiding. Ironstone nodules from 697.00, becoming medium/dark				
Dip 35° @ 697.20	grey and slightly silty.				
	10 cms. Ironstone band at 697.40			697	60
	Rashes, clayey, black.			698	10
	Siltstone, dark grey, very planty, fairly fissile, occasional polished surface.			698	00
Dip <5° @ 698.15	Core lost 23 cms.			698	36
	Thin Coal (on Gamma log) dirt			698	36

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EPSG: 27700 : 284149,185053

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SERIES 680

6-INCH MAP	B/H
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GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
	COAL (5cms. pulverised fragments recovered).		24	698	60
	Seatearth, mudstone, silty, dark grey roots. 5 cms. of clay in top. Clayey,				
End of run 698.76	grey/brown from 698.76		52	699	12
	COAL 22 cms. fragments recovered)		60	699	72
	Seatearth - mudstone, medium grey/brown, dark grey roots, packed with polished surfaces, rashy.			699	90
	Mudstone, slightly silty, medium/dark grey, packed with polished surfaces, black, rashy mudstone in top.			700	20
	COAL 70 cms. fragments/pulverised mixture.	1	40	701	60
End of run 702.03	Core lost 67 cms. to			702	03
	Mudstone, slightly silty, dark grey, wormy contorted bedding, overturned, rashy.			703	65
Overturned beds	Seatearth, mudstone, silty, medium grey, few roots. 15cms. sandstone/ironstone band in base.			704	50
Dip 8° @ 704.80	Mudstone, silty, medium grey, roots to 70 . becoming dark grey with abundant plant debris below. Ironstone				
Dip<5° @ 705.20	fragments in base.			704	78
	COAL (core lost) based on timings.		30	705	08
	dirt (core lost)		24	705	32
	COAL (core lost) from electric logs		14	705	46
	Seatearth, mudstone clayey brown dark grey roots				
Dip <5° @ 705.80	Mudstone, silty, carbonaceous, abundant plant debris including seed ppds.			705	94
	COAL (30 cms. pulverised core recovered)		60	706	54
	Seatearth, mudstone, light/medium grey, clayey/ rashy, soft.			706	64
	Core lost 65 cms. to			706	99
	Seatearth, mudstone, silty, medium grey/brown, roots.			707	10
Dip 40° @ 707.45 Dip 90° @ 707.60 Overturned. Dip 20° @ 707.80	Mudstone, silty, medium/dark grey, abundant plant debris, irregular listric surfaces; contorted bedding at 707.13, vertical/overturned beds at 707.60. Coaly mudstone at 707.90. Small ironstone nodules at base.			708	20

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	Seatearth, mudstone, silty, roots, thin sandstone band at 708.90; Ironstone nodules. 20 cms. Ironstone band at 709.50.			709	70
	Interlaminated/medium grey mudstone, pale grey sandstone.			710	50
	Mudstone, silty, medium grey, plant stems.			711	10
Dip 15° @ 710.60	COAL 11 cms. recovered.		11	711	21
Sample 712.58 to 712.15	Seatearth, mudstone, silty, roots. Ironstone nodules.			713	00
	Interlaminated mudstone/sandstone.			714	20
End of run 715.38	Sandstone, pale grey, medium grained, quartz veining, muddy/carbonaceous wisps, quartzitic. 10 cms. mudstone band at 715.10. Quartz veining 715.50 to 716.40.			716	50
	Mudstone, with sandstone laminations (sedimentary structures).			716	80
Sample 716.36 to 716.98	Sandstone, fine/medium grained, pale grey, quartzitic, carbonaceous/muddy wisps. Quartz veining in top.			717	30
Dip 26° @ 718.50 (?sedimentary)	Mudstone, silty, medium grey, scattered plant debris, sandstone laminations with sedimentary structures to 718.20. Very silty from 718.20, sandstone laminations again from 718.90.			720	00
End of run 720.91	Core lost 1.34 to			720	80
	COAL (Core lost) approximately		70	720	70
	Gouge with 75° fractures, rashy, fragments of seatearth in clay gouge.			721	00
	Seatearth - sandstone, muddy, medium grey with roots and ironstone nodules.			721	40
	Interlaminated mudstone/sandstone, core broken with polished surfaces from 722.40 to 722.60.			723	50
	Sandstone, medium grained, dark grey, quartz veining in top, carbonaceous/muddy wisps.			726	00
Dip 10° @ 727.60	Mudstone, silty, medium grey, unfossiliferous. Broken from 727.10 and packed with polished surfaces, slightly silty/ silty, and wormy from 727.60, rashy in basal 10 cms.			727	88
	COAL (few large fragments (2cms.)		02	727	90
End of run 728.35	?Seatearth - mudstone mainly brown/dark rashes, dark grey mudstone pellets. Broken to 729.00 with 30 cms. veined ironstone below.			729	30

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Dip 20° @ 729.50 Dip 25° @ 730.50 End of run 731.72 Dip 13° @ 732.30	Mudstone, very silty, scattered plant debris, medium grey, vertical jointing and polished surfaces. 10 cms. Ironstone band at 731.40. Abundant plant debris.				
B.P.B. logs ran to 737.00m. except verticality log. End of run 737.28	Sandstone band, muddy, laminated, medium grey packed with plant debris (straps/ ferns) from 732.90 to 733.30. Sandstone bands and laminations from 734.90, polished bedding planes. Sandstone laminations increase from 738.60.			739	00
	Sandstone, pale grey, medium grained, mudstone laminations. Ironstone nodules at 739.90 and 740.20, becoming more muddy and medium grained from 740.50. Medium/dark grey with abundant plant debris from 740.60.			740	70
	COAL/mudstone mixture (Raft)?		06	740	76
	Mudstone, canneloid, smashed from 740.95 to 741.10; rashy below, sandy/coaly in immediate roof.			741	32.
FIVE FEET	COAL 45 cms. stick. 10 cms. pulverised.		60	741	92
	Clay, pale brown with many coal bands (seatearth?)			742	00
End of run 742.17	Sandstone, pale brown, abundant carbonaceous plant straps (roots?) in irregular bedding. Coal streaks and mudstone in base. Erosive base.			742	30
Dip 70° @ 742.50 Dip 70° @ 743.20 on laminations. Dip 90° @ 745.40 on laminations. Sample 745. Dip 45° @ 748.50 on laminations. End of run 751.17 Dip 20° @ 751.80 Dip 5° @ 752.30 Sample 755.	Siltstone, medium grey, occasional sandstone laminations, slickensided surfaces @ 742.40. Plant straps at 742.40. Small scale folding on sandstone laminations from 743.20. Sandstone "balling" at 748.00. 60° polished surfaces at 750.80. End of sandstone laminations at 752.00. Comminuted plant debris at 752.30. Sandstone lenses at 753.30.			756	30
	Sandstone, pale grey, medium grained, quartzitic.			757	00
	Silstone, medium grey.			757	50
Dip 5° @ 757.60	Mudstone, silty, medium grained and coalified plant straps, polished surfaces and rashy from 758.00, slightly silty from 758.00. Well preserved plant debris @ 758.30.			758	70
	Mudstone, clayey, rashes.			758	76
	COAL 10 cms. pulverised recovered.		20	758	96

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End of run 759.01	Seatearth, siltstone, muddy, sandy in parts, medium grey, roots.			759	20
	Seatearth, mudstone, very silty, medium grey roots, clayey/rashy, 760.90 to 761.30.			761	90
Dips low	Mudstone, silty, medium grained, sandstone laminations. 10 cms. sandstone band at 762.30.			763	20
Sample 762.49 to 762.94	Sandstone, fine grained, pale grey, muddy wisps, quartzitic, mudstone laminations dominant from 764.00 to 765.00.			765	60
Dips low End of run 768.17	Mudstone, silty, medium grained, sandstone laminations and sedimentary structures. End of sandstone laminations 768.60; silty/slightly silty from 768.60, more plant debris and micaceous in roof.			768	79
Dip 5° @ 778.70 FIVE QUARTERS	COAL 40 cms. stick. 60 cms. fragments.		100	769	79
	Seatearth, mudstone, slightly silty, medium/dark grey, roots. Sandy in basal 30 cms.			770	70
Sample 772.29 to 772.74	Mudstone, silty, medium grey sandstone laminations/sedimentary structures, sandstone dominant from 774.50.			775	00
Sample 775.54 to 776.52	Sandstone, fine grained, quartzitic, muddy wisps, 30 cms. very silty mudstone from 776.50.			777	20
End of run 776.52	Interlaminated mudstone, medium grey and pale grey sandstone, sandstone dominant from 779.00			780	00
	Sandstone, pale grey, medium grained, quartzitic, muddy wisps.			781	00
	Interlaminated, medium grained mudstone and pale grey sandstone. 50 cms. of sandstone from 783.30			784	40
Sample 782.13 to 782.85 End of run 787.17	Sandstone, medium grained, pale grey muddy wisps, mudstone bands from 787.60 to 788.30. 30 cms. sandstone band to 792. Abundant muddy laminations from 793.00 to 793.30.				
Sample: A 790.82 to 791.19	Mudstone band @ 794.10			795	10
B. 791.19 to 791.61.	Interlaminated medium grey mudstone and pale grey sandstone.				
End of run 796.41				797	70
Sample A: 796.35 to 796.17	Sandstone, medium grained, pale grey, carbonaceous muddy wisps to 800.20.			802	60
B: 796.77 - 797.37					

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End of run 799.07	Siltstone, medium grained, large dark grey plant straps.			803	20
Sample A & B 799.95 to 801.78	Mudstone, silty, medium grey, scattered plant debris, some coalified, irregular polished surfaces and vertical joints, broken.			804	80
Dip 10° @ 803.00	Core lost 30cm. to			805	10
Dip 5° @ 803.50	Sandstone, pale grey, medium grained, occasional carbonaceous wisps.			805	32
Sample: - A 803. - 804.24 B 804.23 - 804.47	Conglomerate, fine grained, pale gray sandstone matrix with large rounded mudstone boulders orientated right angles to core.			805	82
	COAL 27 cms. stick. 13 cms. fragments.		50	806	32
	Quartzite, pale grey, dirty - muddy wisps.		24	806	56
GELLIOEG [disturbed]	Mudstone, silty, medium grey, packed with irregular polished surfaces. (No roots seen).		14	806	70
	Sandstone, medium grained, paled grey, muddy, quartzitic, muddy lenses.		12	806	82
	COAL 40 cms. fragments recovered.	2	62	809	44
End of run 809.32	Seatearth, mudstone, very silty, strong medium grey, large roots, sandy patches.			813	00
Sample: A 809.75 to 810.33 B 810.45 - 810.42	Mudstone, very silty, medium grey roots, sandstone laminations 813.20 to 813.40, occasional polished bedding plane			814	20
Dip 30° on laminations @ 813.40	Mudstone, slightly silty/silty, medium grey. 10 cms. ironstone band @ 814.90.				
Dip 15° @ 813.60	Sandstone laminations from 815.30. 20 cms. ironstone band at 818.20.				
Sample:- A 816.68 - 817.35 B 815.82 - 816.35	Plant straps.				
End of run 818.20	Core lost 40 cms. to			821	60
Dip 10/20o on sandstone laminations from 818 to 820.	Mudstone, silty, dark grey, micaceous. 60° joints @ 822.40. Slightly silty from 822.60. Calcified mussels @ 822.72. Large calcified C. Pseudorobusta at 823.00 in ironstone band. End of mussels 823.30.				
Dip 15° @ 822.40					
Dip 15° @ 823.70	Mussel debris @ 823.70; small plant fragments. C. Pseudorobusta 824.10 to 824.53. Wormy from 824.60.				
Dip 10° @ 824.90	Mixed medium grey/dark grey laminated mudstone.			825	30
Fuh Coal	Inferior Coal - 6 cms. recovered.		06	825	36
	Mudstone, canneloid, black, smooth, concoidal fracture.			825	41

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Dip 20° @ 825.55	Mudstone, slightly silty, black, occasional partially coalified plant debris. Smooth mudstone from 825.10. Scattered plant debris 825.73.			825	75
	Siltstone, medium/dark grey, carbonaceous, packed with plants.			825	82
	COAL Core lost.		10	825	92
End of run 826.72	Seatearth, siltstone muddy medium grey, dull grey roots.			827	00
Sample: A 825.90 - 826.22 B 826.22 - 826.52 Dip 15° @ 827.50	Mudstone, very silty, medium grey sandstone laminations to 827.50, rooty. Sandstone bands and laminations from 828.00. 25 cms. ironstone band @ 828.30.			829	05
	Sandstone, pale grey, fine/medium grained quartzitic, mudstone swirls in top 10 cms. Mudstone wisps to 830.00.			831	50
Dip 15° @ 831.60	Mudstone, silty, medium grey, finely micaceous scattered plant debris. 80° joint @ 831.60. Sandstone laminations 831.80 to 832.20. Occasional ironstone band very silty from 833.20. Occasional sandstone laminations 834.00 to 835.30. Silty from 835.30., some vertical polished joints from 836.50.				
Sample 95 833.00					
Dip 15° @ 836.80	Occasional plant strap. Planolites sp. - like markings @ 837.50.			837	70
	Mudstone, slightly silty, medium/dark grey, wormy, broken core 838.30 to 839.00, fragments of thick ironstone, smooth dark mudstone from 838.80. Ostracods @ 838.90. Fish scale @ 839.00. Broken/contorted core with polished surfaces @ 839.20, polished surfaces below. Wormy to 840.00. Pyrite blebs @ 840.40. Coalified mussels from 840.60. C.Pseudorobusta from 840.80 to 841.50, disorientated.			841	80
Dip 20° @ 842.00	Mudstone, slightly silty/silty, medium grey, occasional sandstone laminations, polished bedding, wormy, broken core.				
End of run 843.03	CORE LOST 38cms. to			845	75
Dip 50° @ 844.00	CORE LOST 60cms. to			847	00
End of run 845.75 Dip 90° from 845.75, becoming overturned. Dip 40° @ 846.20. End of run 848.78 Dip 8° @ 847.00.	Mudstone, dark grey, silty, finely micaceous. Calcified mussels @ 846.90. C. Pseudorobusta @ 847.15. 10 cms. rashes @ 847.15. 25 cms. ironstone below; partially coalified plant debris, pyrite (marcasite) in vein.			850	10
	Seatearth - mudstone, medium grey, carbonaceous, shiny, roots.			850	30

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	Seatearth - siltstone, medium grey, dull grey roots.			851	00
Sample 850.44 to 850.85 Dip 5° @ 851.30	Mudstone, silty, medium grey, carbonaceous plant straps, sandstone lamirations from 851.30, discrete roots @ 851.80.			852	50
	Striped beds, sandstone/silty mudstone laminations, bands of sandstone from 852.80, fault plane @ 853.00 with hard compact gouge dipping @ 35°.			853	00
Dip 5° @ 854	Mudstone, silty, medium grey, polished surfaces and sandstone laminations in top, occasional root, polished bedding to 853.50. Sub-vertical vein from 853.50 to 854.00.			854	10
	"Striped" beds, sandstone/mudstone laminations, thick ironstone in base.			854	75
Dip 75° @ 857.00 End of run 857.74 Dip 85° @ 859.00 Dip 68° @ 861.00 Dip 55° @ 863.00	Mudstone, very silty, grey, scattered small plant debris, compact, several sub-vertical joints from 855.50 to 855.90, silty from 856.00. Polished surfaces/slickensiding from 856.50 to 856.60. Dip steepens below. Several steel polished surfaces then core fragments from 857.30 to 857.74. Thick ironstone @ 859.00, steep jointing @ 859.50, faint sandstone laminations from 860.00. Slightly silty, darker grey from 861.50, broken from 862.80 to 863.00, then 20 cms. of rashes with 30 cms. ironstone below. Dark grey from 863.50, micaceous with coalified plant debris. Core fragments 863.50 to 863.70 with jointing, low angled polished surfaces 865.00 to 865.87. Grey/wormy bands @ 865.50.				
Dip 58° @ 864.00 Dip 65° @ 865.00 End of run 865.37 Dip 65° @ 865.46 Dip 45° @ 866.80 End of run 870.70	Planolites sp. @ 866.40 with occasional polished parting. Core fragments 866.90 to 867.40; numerous polished surfaces below to end of run 870.70. Occasional thick ironstone, dark grey.				
	CORE LOST 1.56 to			811	76
Dip 90° @ 872.00 to 874.00 Dip 10° @ 874.30	Core fragments to 874.60, packed with polished surfaces, medium dark grey, slightly silty, rashy @ 874.00, broken with irregular veining from 874.40 to 874.70.			870	85
Dip 20° on laminations at 875.00	Mudstone, silty grey with sandstone laminations, occasional polished parting, faint veining 875.50 to 876.00.				

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Dip 5° @ 876.40	Steep polished surfaces from 877.22				
End of run 877.22	to 877.80, dark grey/slightly silty				
	from 878.50, scattered plant debris				
Sample 876.50 to 876.99	and ironstone bands. Worn trails				
	@ 880.00. Chitinous mussel @ 880.50;				
	Mussel at 881.30. Large Mussel @				
	881.50, packed with polished surfaces				
	881.60 to 881.70. Broken ground at				
Dip 5° @ 878.00	882.50 to 882.90, rashes @ 883.10.				
End of run 880.35	Core fragments 883.30 to 885.80,				
Dip <5° @ 882.10	rashes @ 883.60, steep polished joint				
	884.00 to 884.50. Mussel with radial				
Dip 65° @ 883.70	ornamentation @ 885.00. Broken core				
Dip 50° @ 884.00	885.00 to 885.40 with polished surfaces				
Dip 20° @ 884.90	Small fold @ 886.60, polished surfaces				
Dip near 90° at 886.10	with slickens iding @ 886.60.				
	Occasional ironstone band, packed with				
Dip 35° @ 886.50	polished surfaces 887.10 to 887.80.				
Dip 45° @ 887.90	Steep polished/ slickensided surfaces				
End of run 888.00	below, occasional polished bedding				
Dip 7° @ 888.50	plane. Steep joint @ 889.00.				
	Slight shear @ 889.40, medium grey				
Sample 99 888.57 to 888.81	from 890.00, occasional ironstone				
	lens. Pyrite bleb @ 891.60. Vertical				
	jointing 891.80 to base, vaguely				
Dip <5° @ 891.00	wormy. Dark grey finely micaceous				
	with coalified plant debris from				
	891.95, slightly carbonaceous in				
	roof with pyrite patches.			892	16
GARW	COAL 17 cm. fragments recovered		64	892	80
	Seatearth - mudstone, silty, grey, packed				
	with roots, Stigmaria with pyrite				
	@ 893.10; Ironstone lenses at				
	893.70, patches of sphaerosiderite				
	@ 893.90.			893	90
	Mudstone, silty, grey, rooty.			894	10
Sample 894.19 to 894.82	Sandstone, pale grey, fine grained, quartzitic,				
	massive.			894	75
	Mudstone, silty, grey, medium/dark grey from				
Dip <5° @ 896.00	896.30; large mussel debris from				
	896.50. Fish scale, occasional dark				
Sample 101	ironstone becoming medium grey, shear				
897.72 to 898.21.	@ 897.70, thick ironstone below.			897	80
	Sandstone, pale grey, fine grained, striped				
	with silty mudstone laminations/bands				
	to 899.00. Slumping @ 898.80, laminated				
	below fractured/veined with Quartz/				
	pyrite infill @ 900.00; massive below				
	with darker bands, wisps from 901.				
End of run 901.93	45° fracture @ 901.40. Massive from				
Sample 902.13 to 902.74.	902.00. Veining from 903.30 to base.				
	Several 55° veins from 904.00.				
	Wisps from 909.30.			904	75
Sample 905.25 to 905.65	Mudstone, very silty, grey, strong and				
	compact, poorly bedded. Broken iron-				
	stone in top. Mixture sandstone/				
	mudstone to 906.00			906	40

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	Fault Zone dipping @ 80° from 906.40, highly broken and fractured on one side. Core fragments of sandstone/striped beds to 907.30, recemented fragments of striped sandstone @ 907.20. Steep irregular base.			907	30
Dip 75° @ 907.30.	"Striped" beds, sandstone/silty, mudstone				
Dip 33° @ 907.60 on laminations.	laminations fractured with irregular quartz veining.				
Dip 15° @ 908.00	10 cms. gouge @ 908.40. Core fragments from 908.10 to 909.50.			909	50
Dip 40° in fragments.	Mudstone, silty/very silty, medium grey, compact/strong, faint sandstone laminations; bands from 910.50 to 911.00. Steep vein from 910.00 and				
Dip 10° @ 909.80	911.15. Steep closed joints with small				
Sample 911.35 to 911.74	amount of displacement from 913.00.			915	00
Dip 9° @ 913.80	Mudstone, grey, slightly silty, wormy,				
Dip 25° @ 915.60	numerous polished bedding planes to 915.00. Rashy/broken, core fragments from 915.80 to 916.60. Rashes @ 916.10, dark mudstone packed with polished surfaces below to 916.60. Gouge @ 916.60. Small amount of plant				
Dip 5° @ 917.00	debris. Sheared/broken @ 917.30,				
End of run 918.08	numerous polished surfaces below, becomes very dark grey, finely micaceous with scattered pyrites. Sheared/broken from 918.40 to 918.70, with some rashes packed with polished surfaces below to				
Dip 13° @ 919.20	base, becomes medium/dark grey. Fish scale @ 920.30, dark grey in base.			920	45
	Sandstone, pale grey, fine grained quartzitic laminations.			921	00
	Mudstone, silty/very silty medium grey sandstone laminations to 922.90. Wormy from 933.00. Planolites sp.				
Dip 5° @ 922.00	Sub-vertical joint, locally slightly silty. Steep shear @ 925.60, broken rashy below.			925	80
Sample 924.00.	Siltstone, medium grey, sandy patches, strong/ massive with pyrite infilled tubes, irregular veining in top. Vague seatearth texture (no roots). Steep				
Dip 5° @ 926.30.	joints.			927	40
Sample	Sandstone, pale grey, fine/medium grained quartzitic. Quartz veining @ 928.50, laminations from 928.90. Steep base				
End of run 928.09	55°.			929	25
	Rashes			929	40
Dip 35° @ 929.50	Mudstone, slightly silty/silty, medium grey polished surfaces. Rashy/broken from 930.00; vertical polished srufaces at				
Dip 15° @ 931.00	930.90. Thick worm trails, micaceous partings, steep joint @ 932.50.				

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BGS ID: 372657 : BGS Reference: SS88NW23
EPSG: 27700 : 284149,185053

FORM P 71
SERIES 680

6-INCH MAP	B/H
SS88NW	23

*Delete as appropriate

Section of Margam 13.

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
End of run 931.45 Dip 15° at 931.45.	Planolites sp. (small) @ 933.05; large Mussel @ 933.30.			933	45
Dip 5° @ 932.20.	Siltstone, medium grey, very tough and sandy, steep quartz veins from 934.00; muddy with pyrite infilled burrows in beds.			934	20
Dip 15° @ 934.40	Mudstone, medium grey, silty, very micaceous in base.			935	20
	Sandstone, pale grey, fine grained, quartzitic, muddy laminations from 936.00.			937	30
Sample	"Striped" beds, sandstone/mudstone laminations, cross bedding, low dips, mudstone dominant from 944.50, thin ironstone @ 945.90, very muddy in base.			948	80
End of run 949.89					
Dip 5° @ 949.50 Dip 8° @ 950.70	Mudstone, silty, medium grey, large vertical quartz veins, vaguely wormy, occasional sandstone laminations, becomes slightly silty/silty, fairly fissile, compact core. Wormy horizons from 950.70, largely unfossiliferous, Sandstone wisps from 951.10 to 960.50, Pimples @ 952.00; thin quartz veining throughout				
Dip 5° @ 953.00	@ 952.50. Plant strap @ 953.00, vertical joint 953.00 to 954.00 and 956.00.				
Sample 955. Dip 5° @ 956.00	Occasional thin ironstone, wormy from 957.30, small ironstone nodules at 959.40. Silty from 962.50. Sandstone				
Dip 15° @ 959.00 Sample 961.00	wisps from 962.70. Slightly silty/ silty from 963.50, wormy with plant straps (some coalified plant debris).				
Sample 963.00	Pimples @ 965.20, very wormy/slightly silty from 965.50 to 966.10. Coalified				
Dip 15° @ 966.00	plant straps @ 966.00. Medium/dark grey from 966.10; dark grey/smooth with pyrite blebs 966.80. Joint from 967 to 967.40, vaguely wormy @ 967.00. 10 cms. of Sphaerosiderite @ 967.35. Medium/dark grey, slightly silty, wormy, finely micaceous.				
End of run 967.95	Core lost 25cms.			967	95
Dip 15° @ 968.20	Pyrite patches, Fish scale @ 968.50, Dark grey from 968.80, with coalified plant debris. Fish scale @ 968.80. Thick, ironstone @ 969.50, medium/dark grey with rare pyrite. Irregular dark grey colouring below 97.00 to 970.30; steep polished surfaces @ 971.00. Silty and more massive from 971.50, with pyrite blebs and veining. Coalified plant debris @ 971.90.			972	00
	Seatearth - mudstone, silty, grey/brown leached appearance, roots, polished surface @ 972.35.			973	00
	Siltstone, grey, massive, rooty.			973	30

YPU.918

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British Geological Survey
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EPSG: 27700 : 284149,185053

6-INCH MAP	B/H
SS88NW	23

Section of .....

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
	Sandstone, light grey, wispy			973	70
	Mudstone, silty, grey, discrete roots, poorly bedded, sandstone bands to 974.00; rooty with vague seatearth texture				
Dip low	@ 974.50 in solid core, becomes very silty with Ironstone nodules. Stigmaria @ 975.00. Sandstone lamina- tions below, darker silty bands from 976.00. Silty from 977.40 with occasional root packed with plant debris				
	at 978.60, very silty below in patches.				
Dip low	Sandstone laminations 979.80 to 980.00 Packed with plant debris, some coali- fied @ 980.70, plant straps and roots;				
	patches of Sphaerosiderite @ 981.60. Slightly silty, rooty with polished surfaces from 981.80. Vague seatearth texture from 982.00 to 982.20 with polished surfaces/friable. Dark grey with scattered plant debris. Very dark grey/carbonaceous in base, packed with plant debris.			982	40
	COA L 20 cms. fragments. 45cms. pulverised.		65	982	05
	Core lost 60 cms. to			982	65
End of run 983.65	Seatearth - mudstone, grey/brown, hard/very silty from 983.80.			984	15
	Sandstone, fine grained, dark grey, quartzitic, hard quartzite band @ 984.50. 15cms. silty band below, sandstone/mudstone mixture to 985.25, massive below to 985.60. "Striped" to 986.20. Medium/ coarse grained dirty grey, very quartzite (glassy texture) brittle, carbonaceous debris, sub vertical fracturing from 987.00 to base, speckled with white felspars? Conglomeratic bands from 987.50 with large quartz grains.			987	75
	Conglomerate angular fragments of quartz, well cemented, dirty grey, very quartzitic, sub-vertical fracturing throughout, coaly threads. Rock fragments below with specks of white felspar?.			988	72
Dip 43 @ 989.80	Mudstone, slightly silty, grey, core fragments from 989.00 to 990.30; rashy from				
Dip 23 @ 990.50	989.80 to 990.30; pyrite blebs from 991.30, darker grey and more silty				
Dip 5° @ 992.00	Lingula @ 993.00. Vertical joint at 992.10.				
MARGAM MARINE BAND	Core lost 42 cms. to			992	62

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EPSG: 27700 : 284149,185053

6-INCH MAP	B/H
SS 88 NW	23

Section of Margam 13

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
End of run 992.30	Sub-vertical joints at 993.20 packed with pyrite blebs, broken core 993.50/993.70, and 994.10/994.30. P.Ophthalmoides at 993.70. Sub-vertical joints 994.50 to 994.80. ?Nautiloid and ?Ostracods @ 995.10. Fish scale at 995.50. Strong/silty from 995.50 with pyrite blebs to 997.80. Large P. Ophthalmoides. Ironstone bands from 998.00, becomes slightly silty with scattered plant debris (some coalified) Packed with plant debris from 99.10 to 999.30, scattered plant debris with P. Ophthalmoides, fairly fissile, rashy in base.			1000	22
Dip 5° @ 1000.30					
End of run 1000.50	Seatearth-mudstone, very silty, grey, sandy from 1000.70 to 1001.20, roots below.			1001	90
	Sandstone, fine grained, light grey, carbonaceous roots. Slumped in top, grey siltstone bands from 1002.40			1002	80
	Mudstone, very silty, grey roots, vague seatearth texture.			1003	70
Dip 7° @ 1003.70	Mudstone, silty/slightly silty, dark grey/brown, rashy, coal streaks @ 1004.18, dark grey rooty below with polished surfaces, rashy, mainly fragments from 1004.25 to 1005.00.			1005	15
	Siltstone, grey/dark grey, rooty, scattered sphaerosiderite.			1005	50
	Mudstone, silty, grey/brown roots, vague seatearth texture, broken, packed with polished surfaces 1005.50 to 1005.90. Sphaerosiderite			1006	35
Sedimentary dip 12° @ 1007.80.	Sandstone, pale grey, fine grained, quartzitic, silty bands, sub-vertical quartz veining from top, green mineralisation on veins @ 1007.00 (Chlorite?) Silty bands 1007.80 to 1008.10, broken core (jointing) 1008.10 to 1008.60. Silty laminations from 1009.00. Sub-vertical joints/irregular veining 1009.40 to 1011.30. Medium grained from 1009.00. Medium/coarse grained 1010.00 with wisps and white specks (Felspar?) to 1011.40. Red staining in base.			1011	40
End of run 1010.42					
Dip low	Siltstone, grey, massive, scattered plant debris, sandy, reddening in core fragments from 1012.80, slumped in base.			1012	90

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BGS ID: 372657 : BGS Reference: SS88NW23
EPSG: 27700 : 284149,185053

FORM P 71
SERIES 680

6-INCH MAP	B/H
SS88 NW	23

Section of .....

*Delete as appropriate

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m or ft*	THICKNESS cm or in*	DEPTH m or ft*	DEPTH cm or in*
	Sandstone, fine grained grey/light grey, quartzitic with sub-vertical quartz veining from top, irregular in places, laminations. Red "clay" on some joints. Black powdery mineral (carbon?) on joint @ 1014.20, occasional carbonaceous lamination; heavy reddening on partings and joints 1016.70 to 1018.00. Red Clay on partings @ 1017.00. "Green" colouring around closed joints @ 1018.30, fine/medium grained from 1020.80 with slight reddening of grains. Carbonaceous debris @ 1022.90, reddening at 1024.00, with black powdery mineral on joints. Grey sandstone with carbonaceous wisps from 1023.50 to				
End of run 1027.97	1027.20. Red staining to 1028.00. Core fragments from 1028.20 to 1029.60 in jointed ground. Green staining on joints 10cms. band with ironstone pellets at 1030.10. Fine grained below with coaly wisps, medium grained				
End of run 1032.72.	with specks of white and pink felspars. Irregular coaly debris from 1034 to 1034.80 with bands of coarser sandstone. Ironstone pellets @ 1034.20.			1036	10
	Mudstone, very silty, grey, compact, faint sandstone laminations.			1038	10
Dip 13° @ 1036.50	Siltstone, grey, massive sandstone bands/lenses. 1038 to 1038.30.			1038	60
End of run 1040.20 Drilled to clear hole for Schlumberger. TD 1041.54	Sandstone, light grey, quartzitic, fine/medium grained with carbonaceous debris, massive. Sub-vertical quartz veining 1040.20 to 1040.80. Medium/coarse grained to 1041.00.			1041	54
	End of hole				
	Logs run				
	Schlumberger - August 4th/5th/6th 1978. B.P.B. - August 7th/8th 1978. S.S.L. - August 9th 1978.				
	Drill stem tests/Haliburton August 10th/11th/12th; cemented with 60 tonnes of Shallow Oil Well cement by August 16th, 1978.				
	Schlumberger Logs : Dual lateralog (1040m); Density/Gamma Ray (923m); Dipmeter/Bore hole Geometry (923m); Sonic (923m) Temperature (841m)				
	BPB Logs : LSD/BSD Densities, Gamma Ray, Caliper (725m) Neutron/Neutron (725m) Verticallity (1040m)				
	SSL logs Density, Caliper, 3d Velocity (3ft/6ft) [1040m]				
	Drill Stem Tests (1) 463 to 565 (2) 742 to 817 (3) 825 to 916 (4) 995 to 1040				

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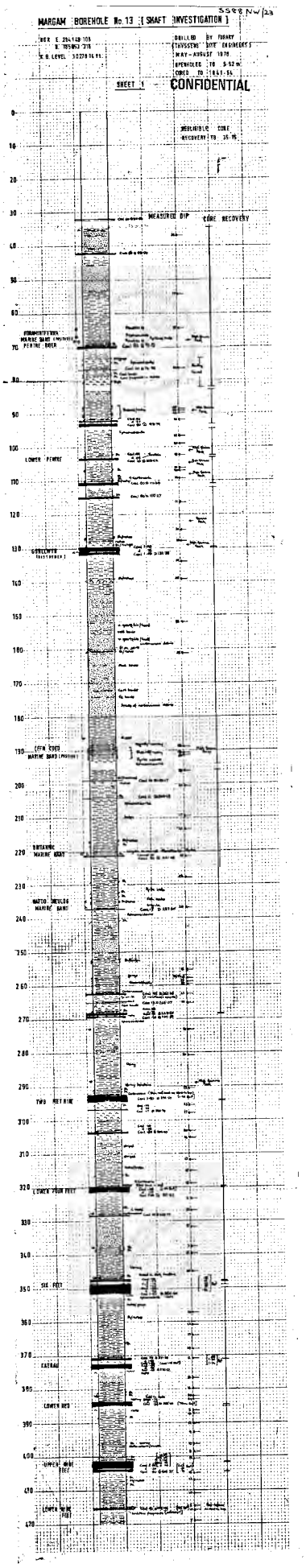
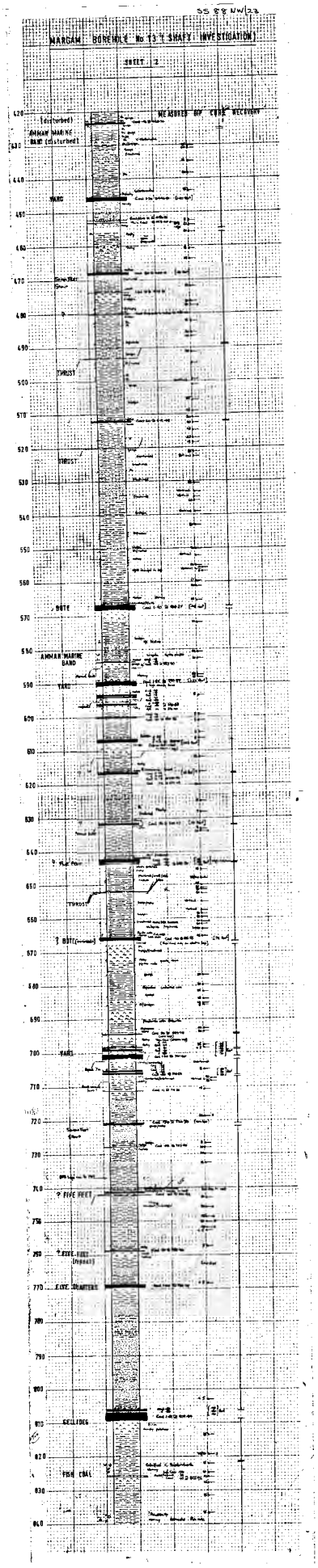
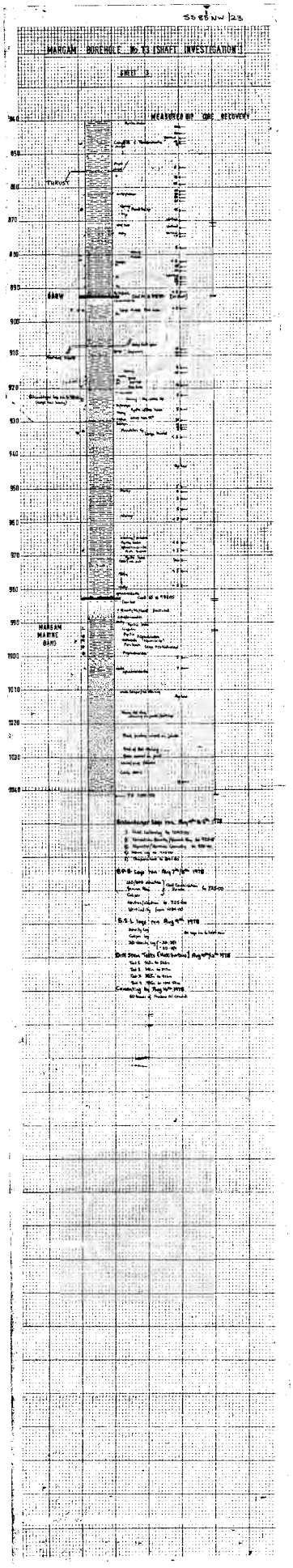

SS88 NW/23
MARGAM : BOREHOLE No. 13 : (SHAFT INVESTIGATION)
SHEET 1
CONFIDENTIAL
MEASURED DIP
CORE RECOVERY


SS 88 NW/23
WARGAM BOREHOLE No 13 'E SHAFT' INVESTIGATION
SHEET 2
MEASURED BY CORE RECOVERY
(disturbed)
AMHAM MARINE BAND (disturbed)
YARG
THRUST
BOTT
AMHAM MARINE BAND
YARG
THRUST
BOTT (normal)
YARG
? FIVE FEET
? FIVE FEET (normal)
FIVE FEET
SCILLYDEG
FISH CHAL

British Geological Survey

BGS ID: 372657 : BGS Reference: SS88NW23
EPSG: 27700 : 284149,185053



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British Geological Survey
BGS ID: 372652 : BGS Reference: SS88NW18
British National Grid (27700) : 283770,186060

GLAM. 8 S.W. 1.1866

Aberbaiden U/Boring No 7. 1" 248.

Pentre Slant. (1937)

SS 88 NW 18

118 below O.D.

Add 3'6" to get d... below Rock Fawr Ve...

Dip: 15-25°
" 15-45° (current-bedded.)
(True dip. 15-20°)

Sandstone with thin conglomerates of ironstone pebbles & Coal pebbles, and Coaly streaks & films.

Dip: 20-25°. 75'
10-30°
" 20-30°
" 15-17° 115'
" 15-35°
" 5-20° 148'
165'8"
" 12-20°
177'4"

Plants. Coal. 4"
Many plants.

" 14-16°
" 12-20°

All in LOWER COAL SERIES.
(Zone of ...)

219'5"

Neuropteris. Coal. 1'8"

... shale.

" 12-20°
" 12-14° 275'
281'

Naiadites etc. 5'-7'
Lingula, 4c. 77'-81'

291'

Nautiloid 85-91'
Euphemus 295'

308'

Orbiculoidea & Lingula. 307'-8'

" 12-16°
324'

Black shale. 3"

337'

Plants, Naiadites, 4c.

" 12-15°
383'
388'6"

?Anthracomya.
Coal. 2'10".

401'

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BGS ID: 372652 : BGS Reference: SS88NW18
British National Grid (27700) : 283770,186060

SS88 NW 18
8377.8606

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS. 248

County Glam.

Ground or SHAFT No. 7, in No. 7 West 6-in. Map 33 NE

Pentre Llant Aberbaiden Colliery. GSM 7090

(See plan for site)

Depth of Bore: 118' Below O.D. One-inch Map 248.

Surface level

Communicated 27.1.37 to 1.4.37. by Messrs Baldwins, Ltd.

Date of sinking 31.10.36 to 22.1.37 Borer Francis Benetation Co. Ltd. (F. G. Glen i/c)

Specimens Bx. 1222-1272. Rock Favr Seam 5'6" thick at Bore. Dip of Seam 12 in. p. yard .. .. Section drawn

Notes by A.J.

Description.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Top of Core is c. 3'6" below Rock Favr Seam			
Core in 84 bxs, ca. 4ft-4½"			
Quarter 9 at bxs 5 & 6 at bottom.			
to add 3'6" (fireclay) to get distances below Rock Favr Seam			
Grey sandy shale with Grey shaly rock	4	4	
Hard grey rock	10 10	14	10
Hard light grey & grey sandy Hard grey rock	60 10	75	8
Dark grey shale	3	75	11
Hard grey rock	2 9	78	8
Grey rock with coal markings	1 6	80	2
Grey rock	18 10	99	
Shaly rock	12 3	111	3
Soft dark grey shale	1 8	112	11
Shaly rock	2 2	115	1
Grey rock	1 2	116	3
Hard grey rock	3 9	120	
Grey rock with coal markings	24	144	
Coal & shale beds	4 6	148	6
do. do. do.	1	149	6
Grey rock	14½ 13	164	4
with thin seams of coal	1 4	165	8
Grey shaly fireclay, strong	3	165	11
Soft grey fireclay	½	165	11½
Grey shaly fireclay, strong	1 5½	167	5
Dark grey shale	9 7	174	
Bright coal	4	174	4
Dk grey strong fireclay	4	174	8
Strong grey fireclay	9	175	5
Dark grey shaly rock	3 3	178	8
Dark grey shale	3 1	179	9
Soft shale w. ironstone nodules	4 3	183	4
Strong shaly rock	2 4	187	
Sandy shale	3 8	191	8
Dark grey shale	30 9	217	5
Coal	1 6	219	5
Dark grey fireclay	1 3	220	8
Hard grey shaly fireclay with ironstone nodules	2 6	223	2
Hard grey shaly rock	2 10	226	
Strong grey shale	8 9	234	9
Sandy shale w. ironstone nodules.	1	235	6
Sandy shale w. coal markings.	1 3	236	9

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

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372652 : BGS Reference: SS88NW18
British National Grid (27700) : 283770,186060

SS 08 NW 18

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

No. 7. Upper Pentre Slant, Aberbaiden Colliery (cont.)

Folio 248

County Glam.

6 in. Map 70

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
B/f° forward			236	9
Soft to strong dk. grey shaly & silty rotten shaly fireclay	3	9	240	9/6
4-22° Strong grey silty shale Strong grey shaly	14	6	255	.
4-16° Black shale with coal	.	3	255	3
Dark shale with ironstone slickensided on fleces	3	6	258	9
12-30° Strong grey silty to fine sandy shale Strong grey shale [1 fossil ironstone at top part of this shale	16	3	275	.
14-18° Grey shale with ironstone nodules	6	7	281	7
Dark shale.	3	1	284	8
Strong grey shale	9	4	294	.
Dark grey shale W. ironstone nodules	5	.	299	.
Dark grey shale	10	.	309	.
14-16° Grey shale	10	.	319	.
12-16° Grey shale with ironstone nodules	13	.	332	.
Broken grey shale W. ironstone nodules	8	9	340	7
12-15° Strong grey sandy shale	12	3	353	.
Strong sandy shale	1	3	354	3
Hard grey rock	2	5	356	8
As above Strong sandy shale	1	6	358	2
10-16° Hard grey rock	.	10	359	.
Strong sandy shale	2	.	361	.
Hard grey rock	1	6	362	6
Strong grey shales (Kettlestty)	8	.	370	6
12-15° Broken grey shale with ironstone nodules	5	.	375	6
Grey shale with " "	7	6	383	.
Grey shale	.	11	383	11
Very broken grey shale	1	7	385	6
Black carbonaceous shale Black parting.	.	2	385	8
Not seen Coal	2	10	388	6
Very soft grey fireclay.	.	11	389	5
Soft to strong & silty to fine sandy Strong " "	1	8	391	1
Dark " "	.	6	391	7
Strong " "	.	7	392	2
Grey fireclay with ironstone nodules	.	4	392	6
Strong grey fireclay	.	6	393	.
Strong sandy shale	8	.	401	.

A. Templeman. 6.4.37.

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

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372652 : BGS Reference: SS88NW18
British National Grid (27700) : 283770,186060

Name and Number of Shaft or Bore given by Geological Survey: SS 88 NW/18
Underground B.H. P No 7 West, Pentwyn Seam. 1936
Mardy Garden Colliery (Baldwins Ltd.)

County Glam.
6" Quarter Sheet 34 SW.

248

GEOLOGICAL CLASSIFICATION	DESCRIPTION SS88NW/18	THICKNESS		DEPTH	
	Hard grey rock	11	-		
	Grey shaly "	3	10	14	10
	Very hard broken grey rock	9	2	24	-
	Hard grey rock	51	-	75	-
	" " " broken	36	3	111	3
	Shaly rock	1	8	112	11
	Soft dark grey shale	2	2	115	1
	Shaly rock	1	2	116	3
	Broken grey rock, hard	27	9	144	-
	Grey rock w. coal markings + shale beds	5	6	149	6
	Hard grey rock	11	6	161	-
	" " " very broken	3	-	164	-
	Grey rock w. coal veins	1	8	165	8
	Strong grey fireclay	1	9	167	5
	" shale	9	7	177	-
	COAL		4	177	4
	Dark grey fireclay		4	177	8
	Strong " "		9	178	5
	Grey shaly rock	5	3	183	8
	Dark grey shale	4	7	188	3
	Rotten " " w. ironstone nodules	2	9	191	-
	Hard shaly rock	2	4	193	4
	Grey sandy shale	3	8	197	-
	Dark grey "	20	9	217	9
	COAL	1	8	219	5
	Dark grey fireclay	1	3	220	8
	Hard grey shaly fireclay with ironstone nodules	2	6	223	2
	Hard grey shaly rock	9	4	232	6
	Grey shale	2	-	234	6
	Sandy shale w. ironstone nodules	1	-	235	6
	" " " coal markings	1	3	236	9
	Rotten shaly fireclay	2	11	239	8
	" " "		10	240	6
	Grey fireclay w. ironstone nodules	2	-	242	6
	Strong grey shale	12	6	255	-
	Black shale + COAL		3	255	3
	" " " ironstone	3	6	258	9
	Strong grey shale	20	3	279	-
	Grey shale w. ironstone nodules	2	7	281	7
	Dark " " " "	3	1	284	8
	Grey shale	9	4	294	-
	Dark " w. ironstone bands	10	-	304	-
	Dark grey shale	5	-	309	-
	Grey shale	4	-	313	-
	" " w. ironstone nodules	27	9	340	9
	Strong sandy shale	13	6	354	3
	Hard broken grey rock	1	5	356	8
	Strong sandy shale	1	6	358	2
	Grey rock		10	359	-
	Strong sandy shale	2	-	361	-
	Grey rock	1	6	362	6

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372652 : BGS Reference: SS88NW18
British National Grid (27700) : 283770,186060

Name and Number of Shaft or Bore given by Geological Survey: 1240 No 7 West. Penlan Slant (cont.) SS 88 NW/18

County Glam. 6" Quarter Sheet 24 SE

248

GEOLOGICAL CLASSIFICATION	DESCRIPTION	THICKNESS		DEPTH	
	Bt. Ford.			365	6
	Strong sandy shale	5	6	366	-
	" grey "	2	6	370	6
	Broken " " w. ironstone bands	5	-	375	6
	Strong " " " " "	7	6	383	-
	Dark " " " " medium		11	383	11
	Very broken dark grey shale	1	9	385	8
	COAL	2	10	388	6
	Hard grey fireclay	3	8	392	2
	Grey fireclay w. ironstone nodules		4	392	6
	Strong grey fireclay		6	393	-
	" sandy shale	8	-	401	-
	Sunk by François Compétin & Co.				
	Information recorded from F.C. Co., June, 1941				

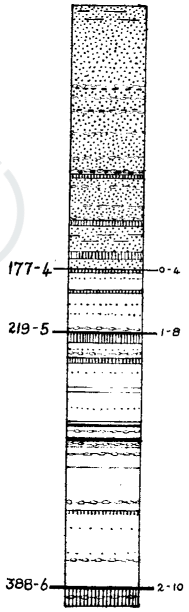
British Geological Survey

BGS ID: 372652 : BGS Reference: SS88NW18
British National Grid (27700) : 283770,186060

SS88NW/18
8377.8606

ABERBAIDEN COLLIERY D

No. 7 IN No. 7 WEST PENTRE SLANT



CODE 18-75

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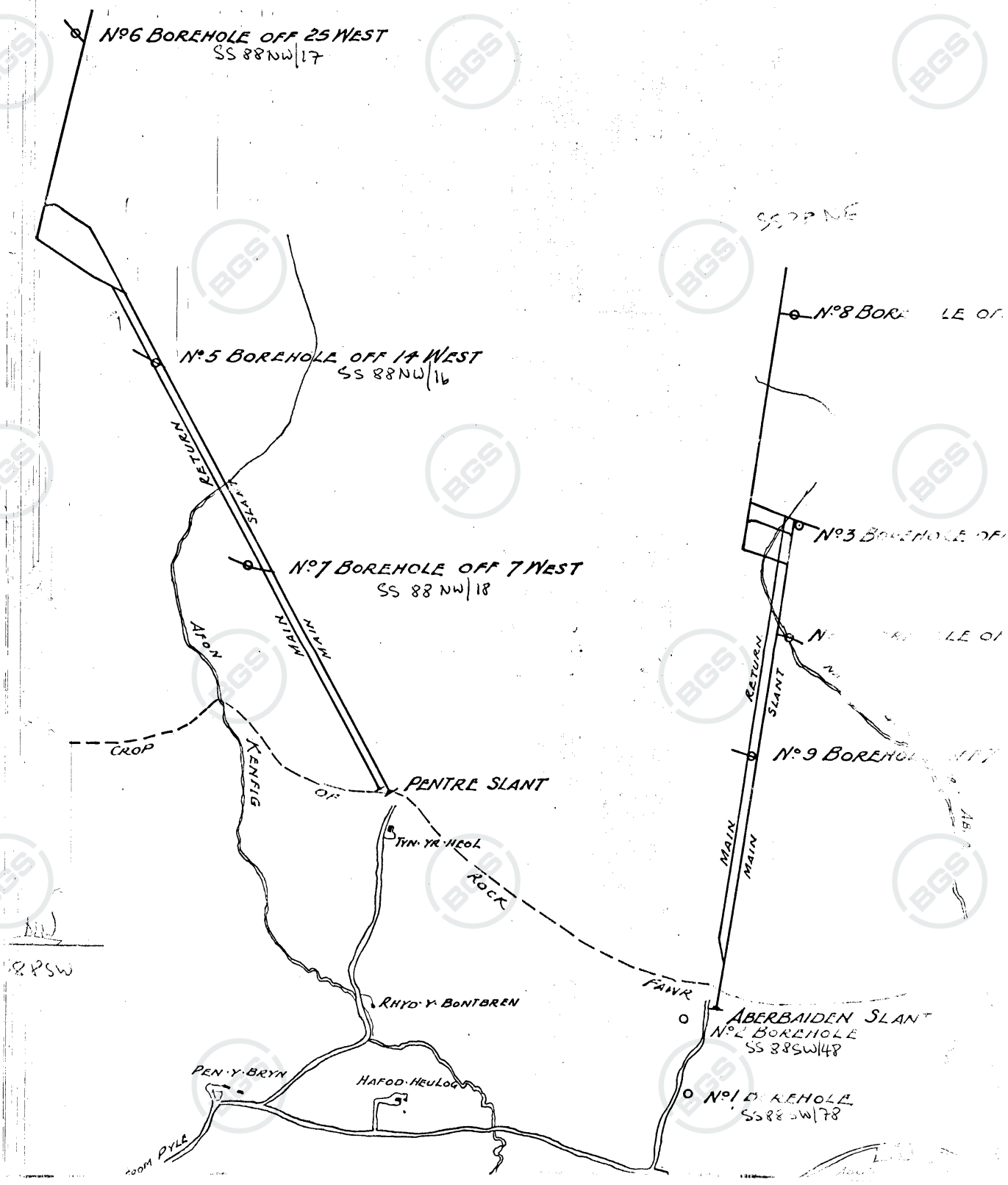
British Geological Survey

BGS ID: 372652 : BGS Reference: SS88NW18
British National Grid (27700) : 283770,186060

SS 88 NW/16-18

BALDWINS LTD – ABERBAIDEN

PLAN SHEWING POSITIONS OF BOREHOLES.



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British Geological Survey

BGS ID: 372652 : BGS Reference: SS88NW18
British National Grid (27700) : 283770,186060

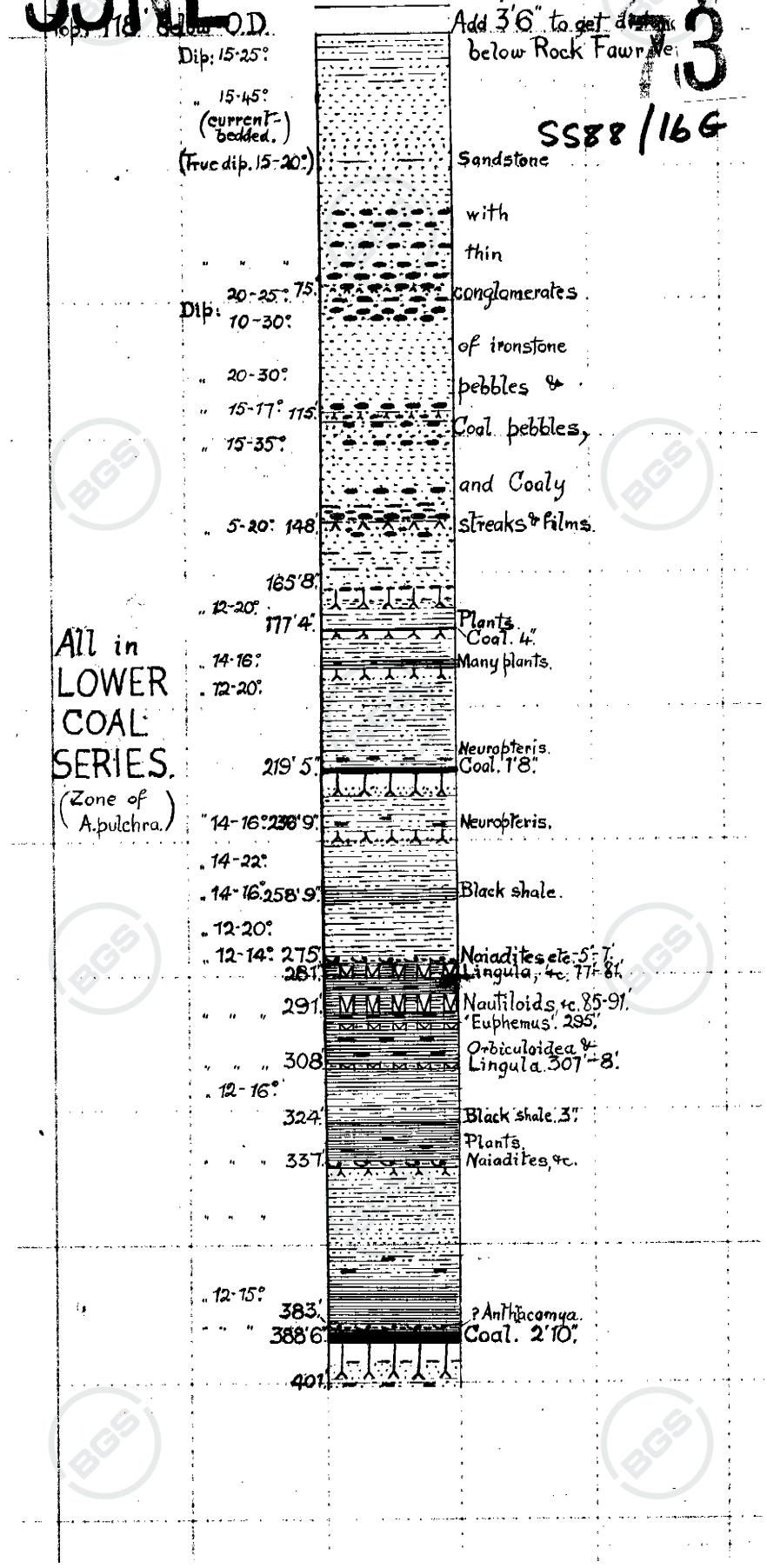
GLAM ~~Confidential~~ Glam. 6" 33.

33NE

Aberbaiden U/Boring No 7. 1" 24.

Pentre Slant. (1937)

SS88/16G



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372652 : BGS Reference: SS88NW18
British National Grid (27700) : 283770,186060

~~SS 88 NW 18~~ ~~8370 8606~~ ~~33 NE/3~~ 1.

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS. 248

Underground
BORE or ~~SHAFT~~ No. 7, in No. 7 West
Pentre Llant Aberbaiden Colliery. (See plan for site)

County Glam. 6-in. Map 33 NE GSM 700 SS 838 860

Top of Bore: 118' Below O.D. One-inch Map 248. SS 88/16G

Surface level

Communicated 27·1·37 to 1·4·37. by Messrs Baldwins, Ltd.

Date of sinking 31·10·36 to 22·1·37 Borer Francois Benetation Bro. Ltd. (J. Godden i/c)

Specimens Bc. 1222-1272. Rock Favr Seam c. 3'6" thick at Bore. Dip of Seam 12 in. p. yard .. Section drawn

Notes by A.J.

Grey in 84 bys av. 44'-46'
Diameter 9" at top 5 6" at bm.

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Top of Bore is c. 3'6" below Rock Favr Seam — to add 3'6" (fireclay) to get distances below Rock Favr Seam				
Grey shaly rock	4		4	
Hard grey rock	10	10	14	10
Dark grey shale	60	10	75	8
Hard grey rock		3	75	11
Grey rock with coal markings	2	9	78	8
Grey rock	1	6	80	2
Shaly rock	18	10	99	
Soft dark grey shale	12	3	111	3
Shaly rock	1	8	112	11
Grey rock	2	2	115	1
Shaly rock	1	2	116	3
Hard grey rock	3	9	120	
Grey rock with coal markings	24		144	
Shale beds	4	6	148	6
do.	1		149	6
Grey rock	14	15	164	4
with thin seams of coal	1	4	165	8
Grey shaly fireclay, strong		3	165	11
Soft gritty fireclay		4½	165	11½
Grey shaly fireclay, strong	1	5½	167	5
Dark grey shale	9	7	177	
Coal		4	177	4
Dk grey strong fireclay w. rootlets		4	177	8
Strong grey fireclay		9	178	5
Dark grey shaly rock	5	3	183	8
Dark grey shale	3	1	186	9
Dk shale w. ironstone nodules	4	3	191	
Strong shaly rock	2	4½	193	4
Sandy shale	3	8	197	
Dark grey shale	20	9	217	9
Coal	1	6	219	3
Dark grey fireclay	1	3	220	8
Hard grey shaly fireclay with ironstone nodules	2	6	223	2
Hard grey shaly rock	2	10	226	
Strong grey shale	8	9	234	9
Shaly shale w. ironstone nodules.		9	235	6
Sandy shale w. coal markings.	1	3	236	9

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

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372652 : BGS Reference: SS88NW18
British National Grid (27700) : 283770,186060

SS 88 NW 18

GEOLOGICAL SURVEY AND MUSEUM. BOREHOLES AND SHAFTS.

No. 7. Upper Pentre Slant, Aberbaiden Colliery (cont)

Folio

County Glam.

6 in. Map

SS88/16G

Description.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
Brot. forward			236	9
Rotten shaly fireclay	3	9	240	6
Strong grey shale	14	6	255	.
Black shale with coal	.	3	255	3
ironstone slickensided on floor	3	6	258	9
Strong grey shale (2 fossil bands on top part of this shale)	16	3	275	.
Grey shale with ironstone nodules	6	7	281	7
Dark shale	3	1	284	8
Grey shale	9	4	294	.
Dark grey shale W. ironstone nodules	5	.	299	.
Dark grey shale	10	.	309	.
Grey shale	10	.	319	.
Grey shale with ironstone nodules	13	.	332	.
Broken grey shale W. ironstone nodules	8	9	340	9
Strong grey sandy shale	12	3	353	.
Strong sandy shale	1	3	354	3
Hard grey rock	2	5	356	8
Strong sandy shale	1	6	358	2
Hard grey rock	2	10	359	.
Strong sandy shale	2	.	361	.
Hard grey rock	1	6	362	6
Strong grey shale (partially)	8	.	370	6
Broken grey shale with ironstone nodules	5	.	375	6
Grey shale with " "	7	6	383	.
Grey shale	.	11	383	11
Very broken grey shale	1	7	385	6
Black crushing	.	2	385	8
Coal	2	10	388	6
Very soft grey fireclay	.	11	389	5
Strong " "	1	8	391	1
Dark " "	.	6	391	7
Strong " "	.	7	392	2
Grey fireclay with ironstone nodules	.	4	392	6
Strong grey fireclay	.	6	393	.
Strong sandy shale	8	.	401	.

A. Templeman. 6.4.37.

(B12267) Wt. 13119A—9614 5000 9.27 Gp. 160 O.A.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372652 : BGS Reference: SS88NW18
British National Grid (27700) : 283770,186060

(°11932) Wt.30370/0870 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. P.187 W28, Pentre Colliery 1236

A. Forrester Colliery (Powell Duffryn Ltd.)

SS88/16 248 79

Geological Classification	Description	Thickness		Depth	
	Hard grey rock	11	-		-
	Grey shaly "	3	10	14	10
	Very hard broken grey rock	9	2	24	-
	Hard grey rock	51	-	75	-
	" " " broken	36	3	111	3
	Shaly rock	1	8	112	11
	Soft dark grey shale	2	2	115	1
	Shaly rock	1	2	116	3
	Broken grey rock, hard	27	9	144	-
	Grey rock w. coal markings + shale beds	5	6	149	6
	Hard grey rock	11	6	161	-
	" " " very broken	3	-	164	-
	Grey rock w. coal veins	1	8	165	8
	Strong grey fireclay	1	9	167	5
	" " shale	9	7	177	-
	COAL		4	177	4
	Dark grey fireclay		4	177	8
	Strong " "		9	178	5
	Grey shaly rock	5	3	183	8
	Dark grey shale	4	7	188	3
	Rolls " " w. ironstone nodules	2	9	191	-
	Hard shaly rock	2	4	193	4
	Grey sandy shale	3	8	197	-
	Dark grey "	20	9	217	9
	COAL	1	8	219	5
	Dark grey fireclay	1	3	220	8
	Hard grey shaly fireclay with ironstone nodules	2	6	223	2
	Hard grey shaly rock	9	4	232	6
	Grey shale	2	-	234	6
	Sandy shale w. ironstone nodules	1	-	235	6
	" " " coal markings	1	3	236	9
	Rolls shaly fireclay	2	11	239	8
	" " "		10	240	6
	Grey fireclay w. ironstone nodules	2	-	242	6
	Strong grey shale	12	6	255	-
	Black shale + COAL		3	255	3
	" " " ironstone	3	6	258	9
	Strong grey shale	20	3	279	-
	Grey shale w. ironstone nodules	2	7	281	7
	Dark " " " "	3	1	284	8
	Grey shale	9	4	294	-
	Dark " w. ironstone bands	10	-	304	-
	Dark grey shale	5	-	309	-
	Grey shale	4	-	313	-
	" " w. ironstone nodules	27	9	340	9
	Strong sandy shale	13	6	354	3
	Hard broken grey rock	1	5	355	8
	Strong sandy shale	1	6	357	2
	Grey rock		10	358	-
	Strong sandy shale	2	-	360	-
	Grey rock	1	6	362	6

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372652 : BGS Reference: SS88NW18
British National Grid (27700) : 283770,186060

3/2

(*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:

No 7 West, Pasture Drift Bore (Trial)

County ... 6" Quarter Sheet ...

248/73

Geological Classification	Description	Thickness			Depth		
	Bl. Tod.						6
	Strong sandy shale		5	6		365	-
	" grey "		2	6		370	6
	Broken " " w. ironstone bands		5	-		375	6
	Strong " " " "		7	6		383	-
	Dark " " " " nodules			11		383	11
	Very broken dark grey shale		1	9		385	8
	COAL		2	10		388	6
	Hard grey limestone		3	8		392	2
	Grey limestone w. ironstone nodules			4		392	6
	Strong grey limestone			6		393	-
	" sandy shale		8	-		401	-
	Sunk by François Cementation Co. Ingress cased from F.C.Co., June, 1941						

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372652 : BGS Reference: SS88NW18
British National Grid (27700) : 283770,186060

COPY

THE FRANCOIS CEMENTATION COMPANY LIMITED,

BENTLEY WORKS, DONCASTER.

No: 3528

CORE BOXES NOS 1 to 36. - ABERRAITEN 7 WEST BOREHOLE.

Box Nos	Depth
1	1 ft 6 ins to 4 feet.
2	4 feet to 8 ft 6 ins.
3	8 " 6 ins to 13 feet.
4	13 " to 17 ft 3 ins.
5	17 " 3 ins to 21 ft 9 ins.
6	21 " 9 ins to 26 feet.
7	26 " to 30 feet 6 ins.
8	30 " 6 ins to 35 feet.
9	35 " to 40 feet.
10	40 " to 45 feet.
11	45 " to 50 feet.
12	50 " to 54 feet 8 ins.
13	54 " 8 ins to 59 ft 4 ins.
14	59 " 4 ins to 64 feet.
15	64 " to 68 feet 8 ins.
16	68 " 8 ins to 73 feet 4 ins.
17	73 " 4 ins to 78 feet.
18	78 " to 82 feet 8 ins.
19	82 feet 8 ins to 87 ft 4 ins.
20	87 " 4 ins to 92 feet.
21	92 " to 96 feet 7 ins.
22	96 " 7 ins to 101 ft 2 ins.
23	101 " 2 ins to 105 ft 9 ins.
24	105 " 9 ins to 110 ft 4 ins.
25	110 " 4 ins to 114 ft 11 ins.
26	114 " 11 ins to 119 ft 6 ins.
27	119 " 6 ins to 124 ft 1 in.
28	124 " 1 in. to 128 ft 8 ins.
29	128 " 8 ins to 133 ft 3 ins.
30	133 " 3 ins to 137 ft 3 ins.
31	137 " 3 ins to 141 ft 3 ins.
32	141 " 3 ins to 145 ft 6 ins.
33	145 " 6 ins to 150 feet.
34	150 " to 154 feet 6 ins.
35	154 " 6 ins to 159 feet.
36	159 " to 165 feet 6 ins.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 372652 : BGS Reference: SS88NW18
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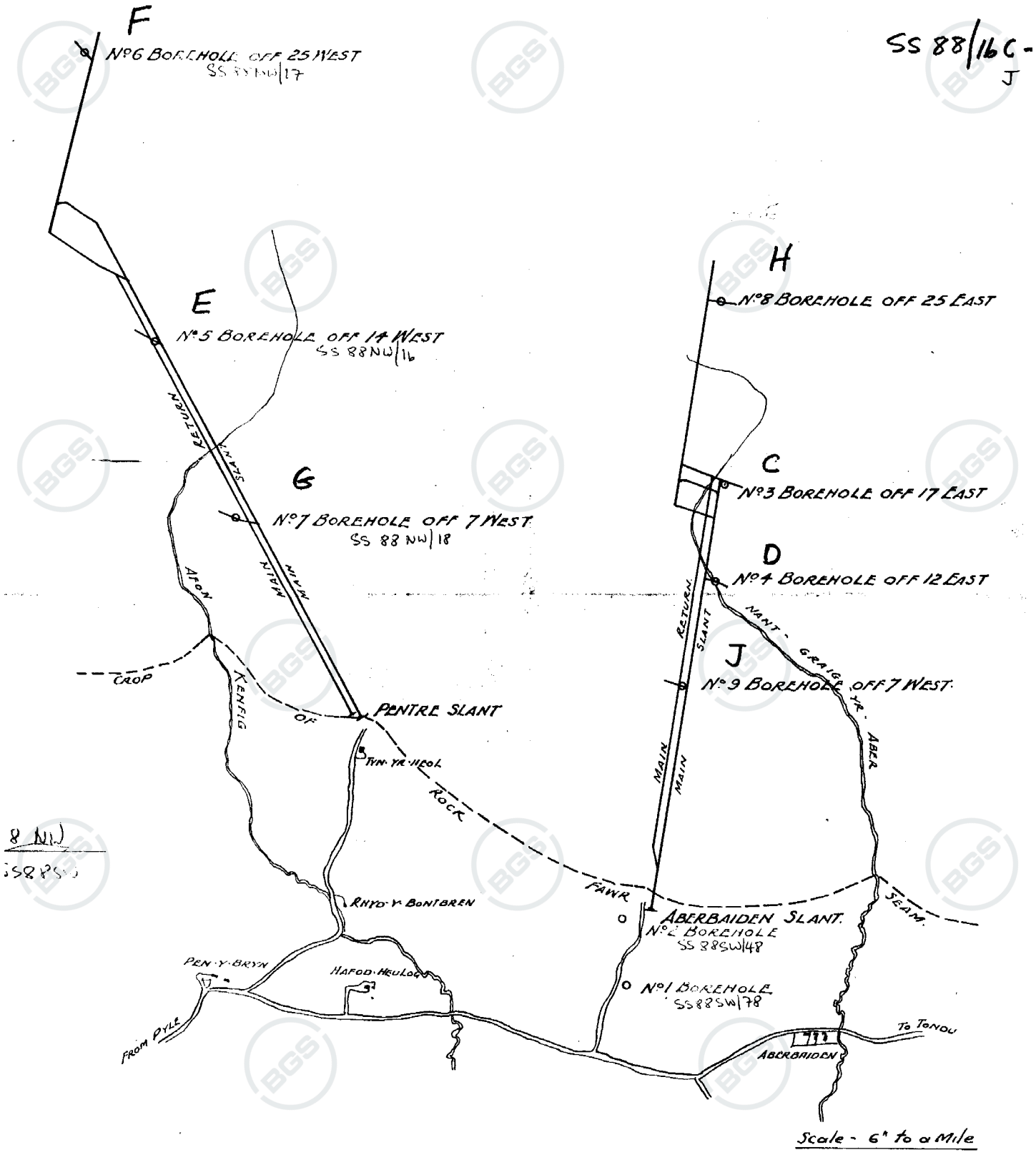
SS88/16G

BALDWINS LTD – ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.



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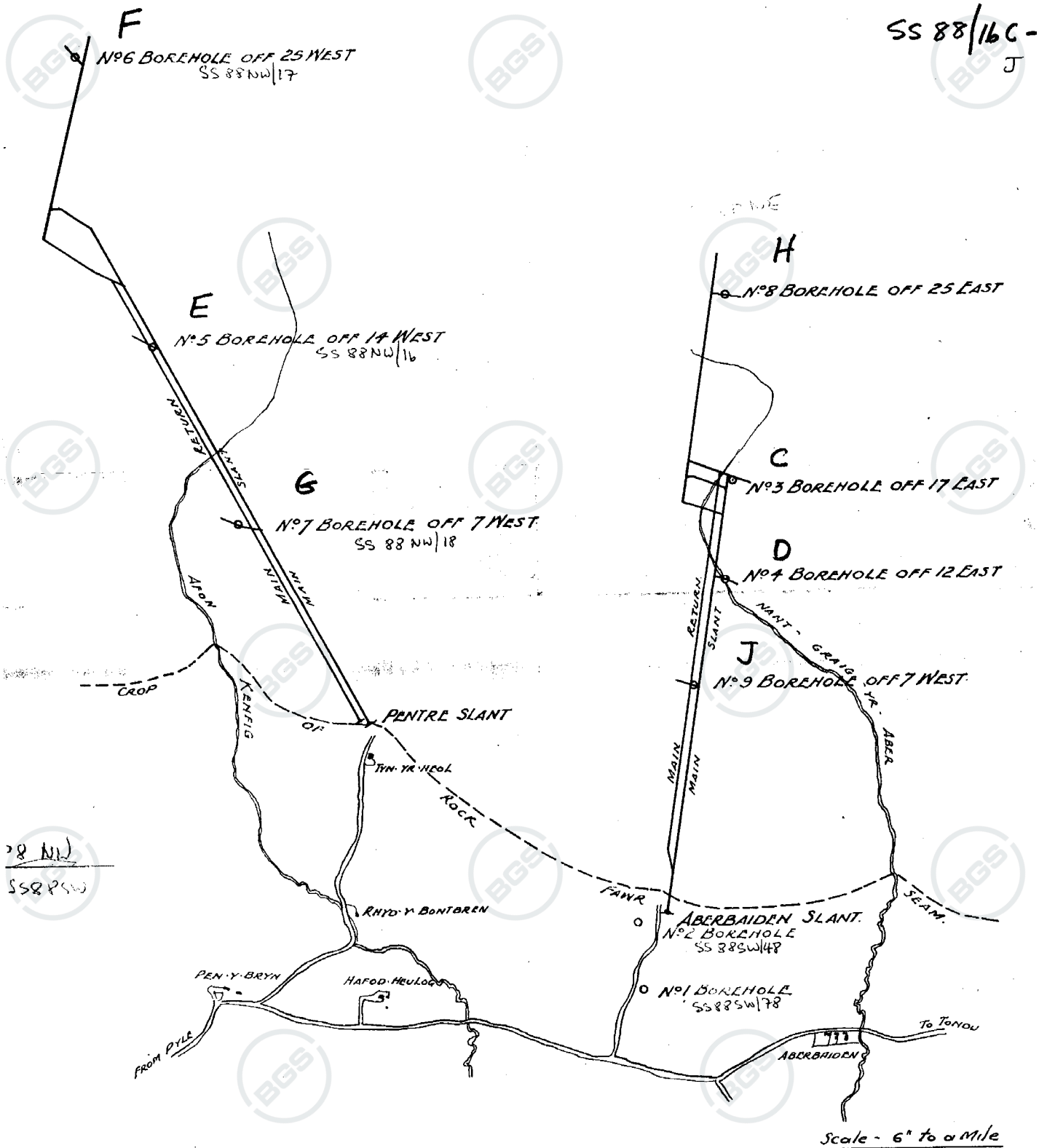
British National Grid (27700) : 283770,186060

SS 88 /16 H

BALDWINS LTD – ABERBAIDEN COLLIERY.

PLAN SHEWING POSITIONS OF BOREHOLES.

SS 88/16C-J



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British Geological Survey

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SS88/16J

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

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
SS 88 SW/78

PENTRE SLANT

SS 88 NW

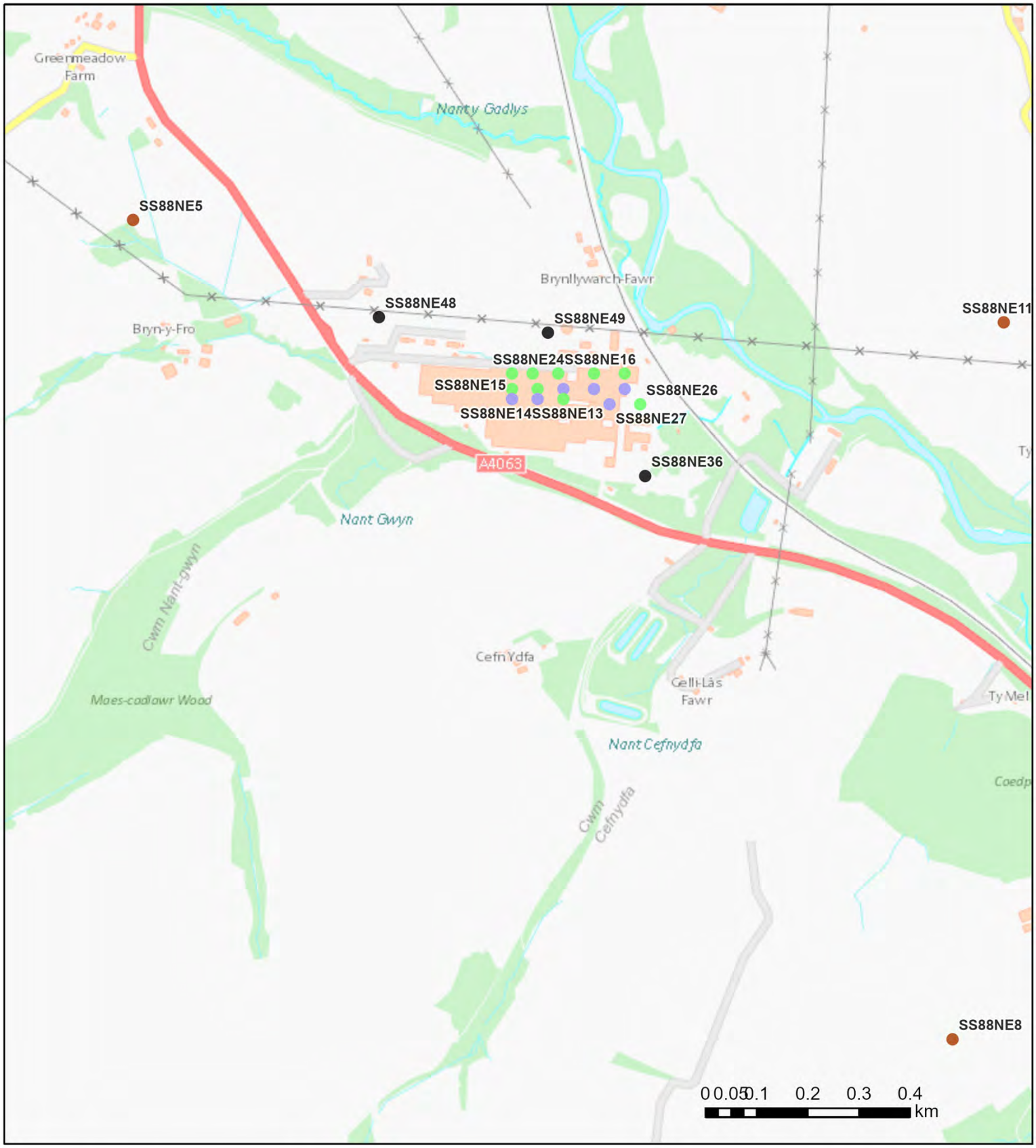
SS 88 SW

88 SE

Scale - 6" to a Mile

Contact BGS: ngdc@bgs.ac.uk

GeoIndex Report



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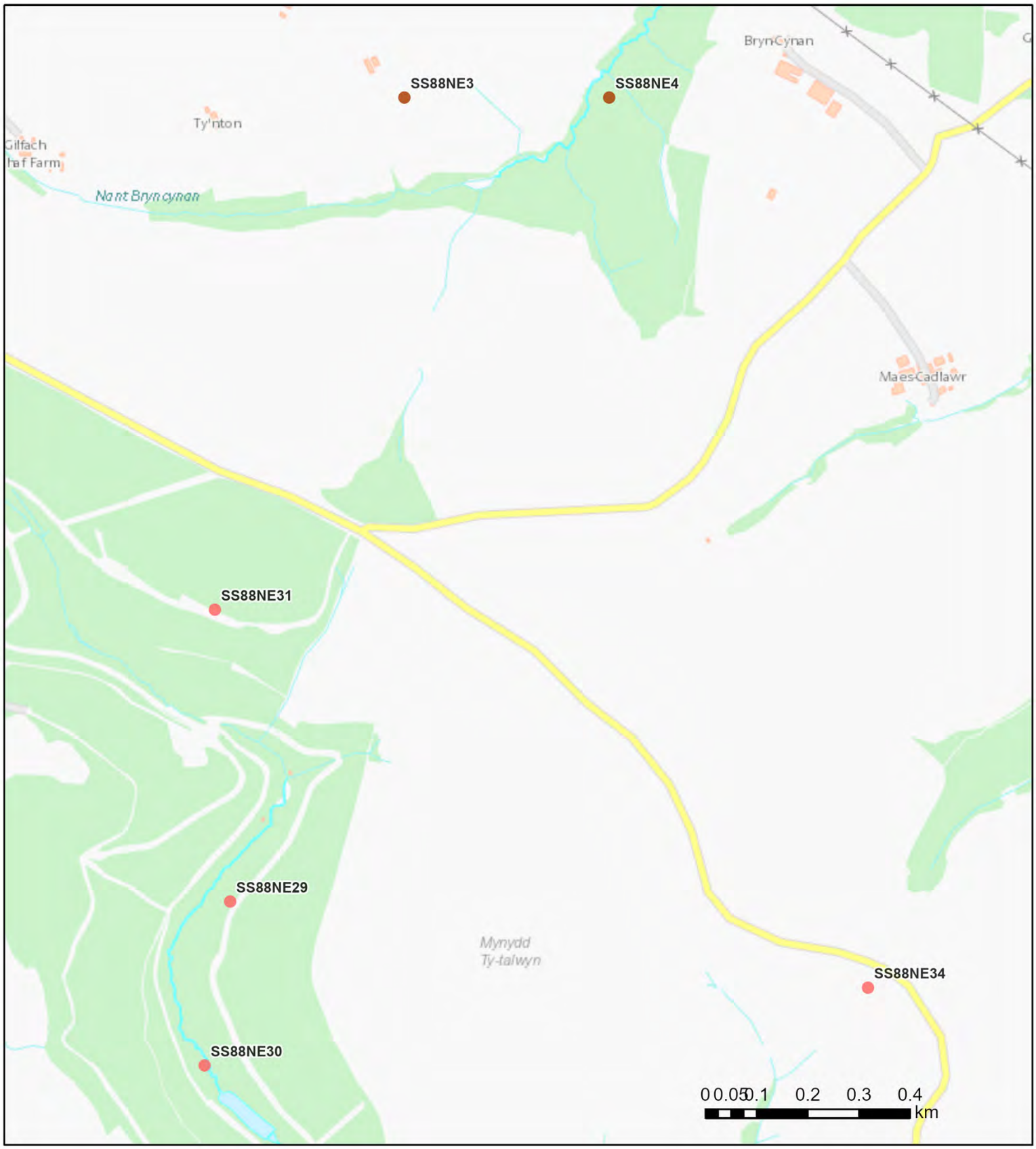
GeoIndex Onshore Data Sources: NERC, Natural England, English Heritage and Ordnance Survey

Map Key

Borehole records

- Unknown Length
- Confidential
- 0 - 10m
- 10 - 30m
- 30m+

GeoIndex Report



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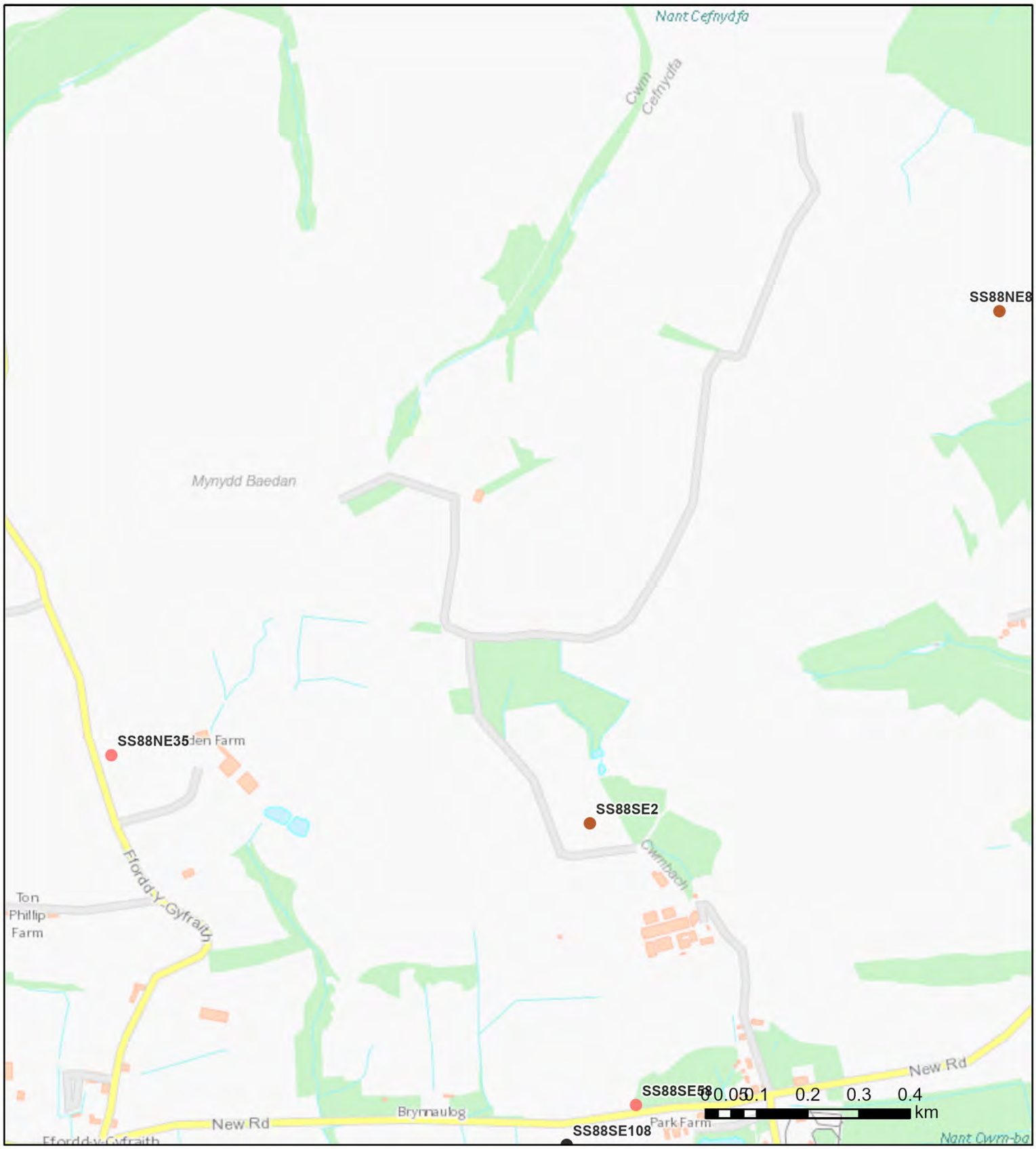

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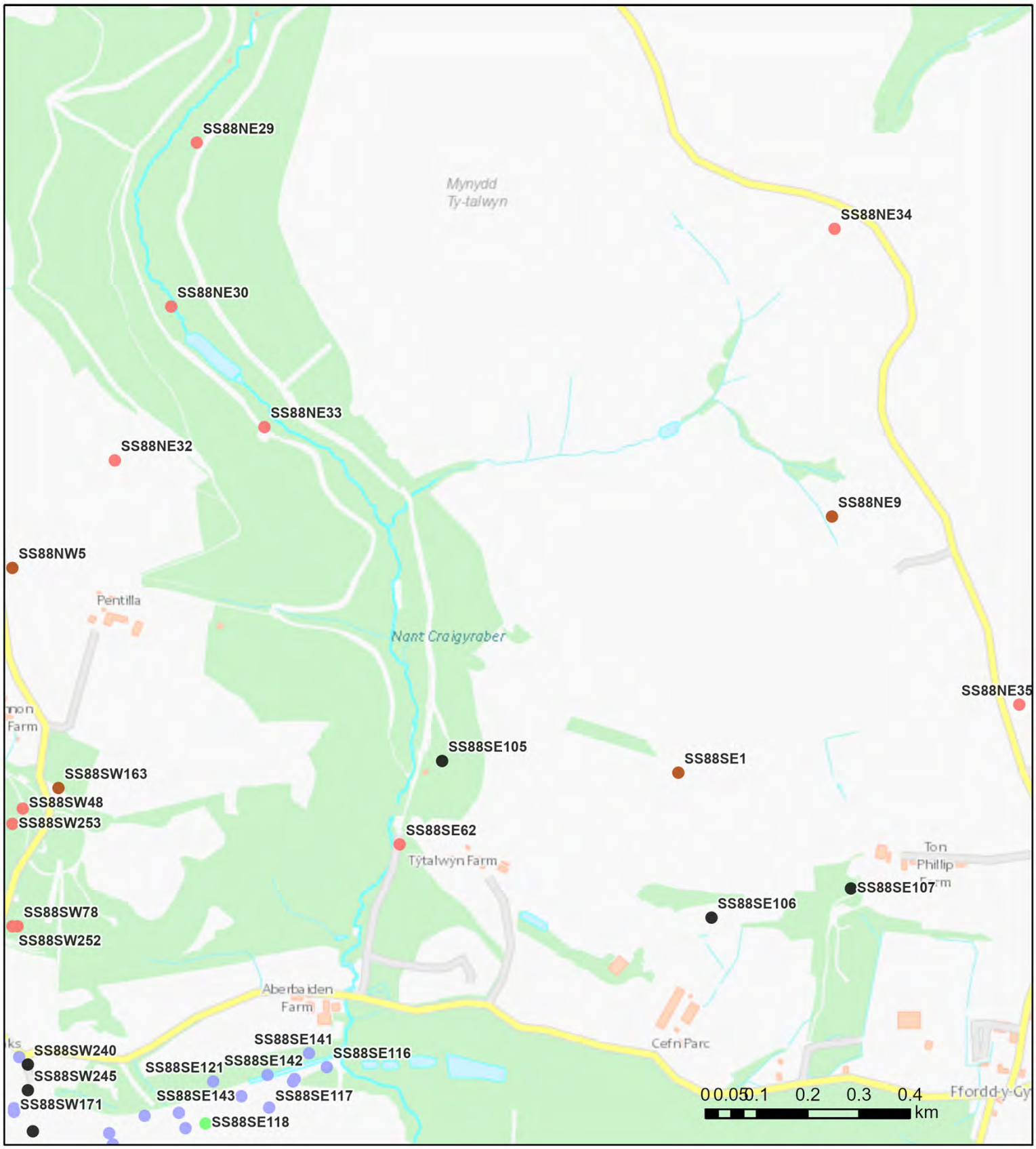

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APRIL 2025