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

Institute of Geological Sciences

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

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

National Grid Reference

Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		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 ironstone 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 528.20; siltstone to 528.45; coarse,		
Dip 10° at 528.50	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 laminated siltstone with fine sandstone		
Dip 17° at 529.65	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;		
P	'planty' mudstone, with abundant debris and leaf impressions, slickensided		
	near base; To 531.13; gouge band		
	531.13 to 531.15; slickensided mudstone		
Sh.	fragments with some plant debris		
	to 531.26	4.51	531.26
	Core lost.	0.31	531.57
	COAL; sheared shale fragments,		
	and some coal fragments to 531.66;		
MIDDLE SEVEN FEET	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
	Striped beds; current laminated		
Dip 16° at 533.90	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 rootlets to 535·65; broken, sheared fragments		
sh.	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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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		539.20
	544.30; sandstone layer at 544.30; 20° polished surface at 544.40; finer 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;		
v	slickensided siltstone with some		
Dip c.30° at 557.40	sandstone laminae, fractured, disturbed,		
Dip 40° at 557.55.	to 557.62;	18.42	557.62
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. siltstone, medium grey, fractured		
	slickensided, some rootlets; ironstone		
Dip c.25° at 561.20	layer from 561.05 to 561.14; sandstone		
	wisps in S. 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 f. th...		

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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		
Dip 36° at 568.85	at base – probably tectonic.	6.55	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°)		
Dip 50° at 569.80	striped silty mudstone and sandstone from 569.70 to 570.00	1.10	570.00
	Siltstone, medium grey, faint sandstone streaks, steeply dipping, slickensided		
Dip 57° at 570.10	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		
Dip c. 50° at 570.60	streaks from 570.50 to 570.60. Common sandstone streaks to 570.70; some sandstone		
	streaks to 570.90; passes into sandstone		
Dip 38° at 570.90	with siltstone streaks at 570.90; dips		
	lessening, some microfaulting to 571.10;		
	striped bed [illegible] 571.10 to 571.15;		

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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 sheared mudstone seatearth; core solid		
Dip c.25° at 575.93.			
Dip c.45° at 578.15			
Dip c.50° at 578.50.			
sh ↑			

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	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 buff 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-ed, 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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Geological Classification	Description of Strata	Thickness metres	Depth metres
	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 debris and straps to 596.10, passing into silty mudstone with plant debris, fining downwards to 596.30; siltstone from 596.30 to 596.81 thinly laminated, occasional sandstone streaks, plant debris; finely micaceous; passes at 596.81 into sandstone, fine grained, cross-laminated;		
Dip 10° at 596.35	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;		

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Geological Classification	Description of Strata	Thickness metres	Depth metres
	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
Dip 8° at 601·00	Siltstone medium grey, abundant plant debris at top; thinly laminated; plant 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/disturbed layer at 602.50. silty mudstone, with some soft 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. mentanum, 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 inspo at 615.85, and thin sandstone inspo 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 619.05; 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 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 6838 to 623.47; passes into silty mudstone with plant debris at 624.00 to 624.50; 50° polished shear planes at 624.50, 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;		
	strong, coarse siltstone with sandstone		
Dip 30° at 631.00	streaks, scattered plant fragments to		
	631.60; sandstone laminae and layers		
	in very coarse siltstone to 631.30;		
	finer siltstone to 631.40; coarse siltstone		
	to 631.80; finer 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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	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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	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 burrow fills at 659.90; rather broken, with slickensided joints from 669.90 to 660·03; slickensided, broken smooth mudstone from 660·03, with common ferruginous burrow fills, 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. koehi 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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National Grid Reference

/c

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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Geological Classification	Description of Strata	Thickness metres	Depth metres
	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,		
Dip 40° at 690·00			
Dip 45° at 691·00			
	scattered plant debris (only some bedding planes are slickensided, and this ground is strong)		
Dip 32° at 691·30	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		
Dip 10° at 691·80	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		
Dip 5° at 692·13.	bedding planes from 692·05 to 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
Dip c. 20°	Siltstone, medium grey; very disturbed, slickensided; thin sandstone laminae. to 692·36. ironstone lamina to 692·41		

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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
Dip 28° at 693.50	Mudstone, medium grey, core very broken, slickensided, some folded crumpled fragments, scattered plant debris, mudstone as above 1055, but becoming smoother; some harder silty fragments; folded, crumpled fragments towards base	0.73	693.77
	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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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 lessens below 698.00: Core in polished discuits below 698.20 to 699.65: Silty mudstone, fining downwards, scattered plant debris, slickensided throughout, some thin ironstone layers, softer, fine mudstone with plant debris at 698.72;		
Dip 35° at 698.20	hard, slickensided siltstone, finely laminated, with plant debris, to 698.90;		
Dip 24° at 698.50	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		
Dip 48° at 699.60	ironstone layers; to 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 lessens 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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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 lessens slightly in harder silty mudstone below c 701.00' to c.701.30;		
Dip 60° at 701.40	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,		
Dip 47° at 701.85	crushed, crumpled mudstone to 701.85; harder, smoothish intensely slickensided mudstone to 702.00; soft, crushed mudstone to 702.14; harder silty mudstone with		
Dip 40° at 702.20	some thin sandstone laminae, plant 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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	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 silthier, harder layers, dip lenses 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 coal 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 709.85 to 709.85; smooth mudstone, some rootlets scattered throughout to 710.05; faint [illegible]		

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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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Geological Classification	Description of Strata	Thickness metres	Depth metres
	Brought Forward		711.87
	bedding planes, with coalified		
	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 'wavy' 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 coalified		
	slickensides to 715.10; very 'planty',		
	slickensided mudstone, 'loose ground',		
	much coalified 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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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		
Dip 40° at 717.50	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 folded, slickensided		
Dip 33° at 718.27	silty mudstone to 718.25; dip straightens below 718.25; ironstone layer to 718.27		
	very slickensided, folded 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, dark brown medium grey silty mudstone (some fine sandstone seams with plant remains);		
	Send core piece from 719.00 to 719.07 of flexured		
	ironstone layer;		
	End of core at 719.07m.		
	End of Borehole 719.17m.		

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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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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

6-INCH MAP	B/H
SS 88 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			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				
X 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~~				
Dip 10° @ 561.60m.	~~and thin bands again from 561.50m., becoming siltstone~~			562	20
	~~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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FORM P 71
SERIES 680

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

*Delete as appropriate

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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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			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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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NE	34
	12

*Delete as appropriate

Section of MARGAM BOREHOLE NO.11

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS Metres	THICKNESS cm.	DEPTH Metres	DEPTH cm.
	B/F			596	30
Dip 8° @ 596.50m.	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. Open joint 65° at 597.30m.	1	20	597	50
BROKEN GROUND	Mudstone, smooth, carbonaceous, very dark grey, very well bedded, blocky; ground broken and listricated from 597.30 to 598.15m.; pyrite very 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
Dip 5° @ 601.90m. WASHOUT	Mudstone, silty, grey, massive; partings of plant debris very common throughout; occasional wisps of light grey sandstone throughout; tough, sandstone laminations become very common in bottom 20 cm.	1	75	602	75
FAULT	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 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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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NE	39
	11

*Delete as appropriate

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;				
Dip 10° @ 621 m.	occasional partings packed with 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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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS88 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			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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FORM P 71
SERIES 680

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			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~~ [Tonstein 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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SERIES 680

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			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 planess, vague worm markings in top (Planolites sp.-like markings), becoming packed with plant debris with occasional faint sandstone~~			~~...~~	

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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			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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6-INCH MAP	B/H
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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.			695	80
Dip 6° @ 696.00m.	Siltstone, grey, sandy in top 30 cm., massive 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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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 small Lingulae, fish scale, shell				
CEFN COED MARINE BAND	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	cm.	DEPTH Metres	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	cm.	DEPTH Metres	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.	7	35	739	15
Dip 15° @ 736 m.			05	739	20
Hafod Heulog	Black rashes		40	739	60
	COAL, 10 cm. tiny fragments recovered				
	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
Di[illegible]0° @ 743.50m	Mudstone, very silty, medium grey, sandstone laminations, roots, abundant plant debris on more carbonaceous partings; becoming more sandy from 745.70m., 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
SS88 NE	34
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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 FAULT (Small Thrust) Shallow dips	~~Mudstone, bastard seatearth, with sphaerosiderite, no roots, steep polished surfaces throughout, becoming sandy~~		30	755	50
	~~Sandstone, light grey, quartzitic, sphaerosiderit, 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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	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 95cm. core lost from 793.70m.	1	71	794	12
				../	

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FORM P 71
SERIES 680

6-INCH MAP	B.H
SS 8 8 NE	34
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*Delete as appropriate

Section of MARGAM BOREHOLE NO. 11

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.; 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., 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
Dip 3° @ 999.70m.	COAL, fragments		12	803	77
	Dirt, seatearth, muddy, dark grey, stick		10	803	87
	COAL, stick		04	803	91
Dip 4° @ 803.00m.	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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SERIES 680

6-INCH MAP: SS 88 NE | B/H: 39

• Section of MARGAM BOREHOLE NO. 11

*Delete as appropriate

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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6-INCH MAP: SS 88 NE
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Section of MARGAM BOREHOLE NO. 11

*Delete as appropriate

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
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			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
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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				
Dip near horizontal @ 875.80m.					
Dip 5° @ 878.60m.	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.				

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*Delete as appropriate

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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6-INCH MAP	B/H
SS 88 NE	34
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*Delete as appropriate

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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SS88 NE	39

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*Delete as appropriate

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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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			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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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

*Delete as appropriate

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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FORM P 71
SERIES 680

6-INCH MAP	B.H
SS 88 NE	39

*Delete as appropriate

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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FORM P 71
SERIES 680

6-INCH MAP	B/H
SS 88 NE	39

*Delete as appropriate

* Section of MARGAM BOREHOLE NO. 11

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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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			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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British Geological Survey

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

FORM P 71
SERIES 680

Section of MARGAM BOREHOLE NO. 11

6-INCH MAP	B/H
SS88 NE	34

*Delete as appropriate

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

FORM P 71
SERIES 680

Section of MARGAM BOREHOLE NO. 11

6-INCH MAP	B/H
SS88 NE	34

*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
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			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
Dip 5° @ 1026.80m.	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 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

*Delete as appropriate

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 surfaces at 1043.10m., associated with thick ironstone band, becoming darker grey and silty, scattered coalified plant debris, sheared at 1043.60m., Ostracods				
Dip 7° @ 1042.70m.	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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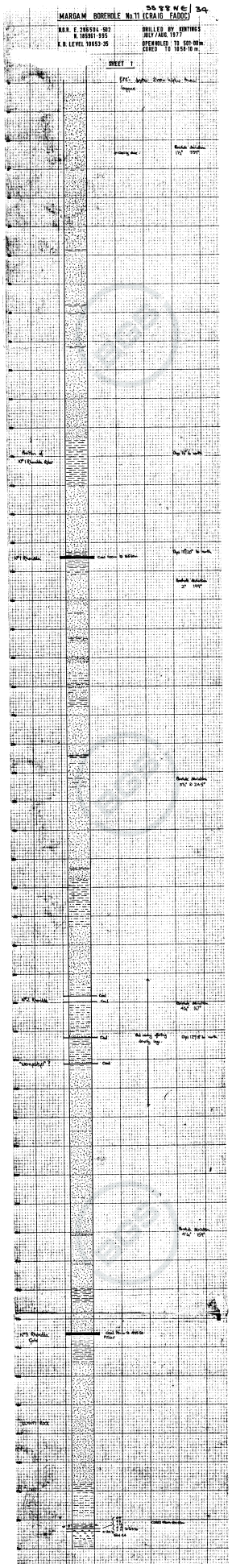
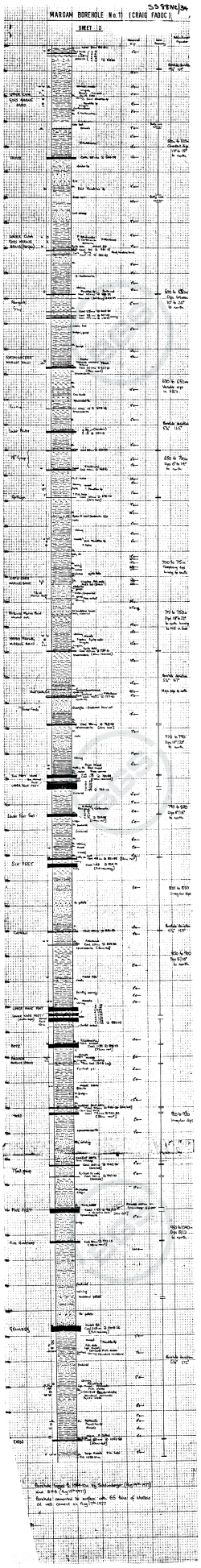

SS 88 NE / 30
MARGAM BOREHOLE No.11 (CRAIG FADOC)
DRILLED BY RENTONS (BLY/AIR.1977)
OPENHOLED TO 501·00m.
CORED TO 1056·10 m.
SHEET 1


MARGAM BOREHOLE No.1 (CRAIG FADOC)
SHEET 2

British Geological Survey

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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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 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 MARINE BAND?	Slightly sheared at 251.80m. and no longer wormy. Shear at 252 m. associated with thick ironstone 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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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 8° @ 291.50m.	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.; planty from 298.50m. Mussel at 298.60m.	6	10	298	60
Dip 5° @ 296.80m.	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
	Seatearth, muddy, grey-brown, steep polished surfaces, roots, friable and rushy from 308.10m.; becoming carbonaceous from 308.20m.		47	308	40
Dip 7° @ 306.80m.	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. (Fforddy-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.				
Dip 12° @ 327 m.	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
	Seatearth, silty, grey, roots, becoming sandy in base		60	330	20
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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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6-INCH MAP	B/H
SS 88 NE	35

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*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
	Siltstone, grey, massive, scattered plant debris, occasional band of silty mudstone. Steep fracture 349.70m.	2	30	350	50
Dip 11° @ 351 m.	Mudstone, silty, grey, wormy		50	351	00
	Siltstone, grey, massive, locally sandy, scattered plant debris	1	70	352	70
	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.				
HORIZON OF FORAMINIFERA MARINE BAND					
Dip 15° @ 357.40m		6	20	358	90
	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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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.				
ip 13° @ 371.30	and 371.80m.	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 378.80m., 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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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
Dip 9° @ 400.10m.	~~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
	~~Sandstone, light grey, wispy bedded, medium grained, quartzitic~~		20	402	50
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6-INCH MAP	B/H
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Section of MARGAM NO. 12 B.H. (Ffordd-y-Gyraith)

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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				
6° @ 404.60m.	with no sandstone	2	30	404	80
	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
	Mudstone, silty, grey, occasional faint sandstone laminations to 411.80m. Vertical joint from 411.40m. to				
8° @ 411.50m.	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
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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 silty from 423.50m.	6	13	424	03
ip 8° @ 421 m.					
nd of run 24.03m.					
	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. - slumped bedding~~	1	90	435	70
ip 16° @ 435.50m.					
	~~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

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

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 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 5° @ 449.50m.					
Dip 16° @ 452.30	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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6-INCH MAP	B/H
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• 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
CEFN COED MARINE BAND	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
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~~		20	468	00
	~~Approx. 50 cm. core lost here~~ (No Coal on B/B Log)		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)

*Delete as appropriate

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.			469	70
Dip < 5°	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.	5	30	475	00
	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.			485	26
	Mudstone, silty, grey, micaceous, scattered roots.		20	485	46
	Sandstone, light grey, fine grained, quartzitic silty mudstone wisps.		40	485	46
Horizon of Britannic Marine Band. Washed out.	Seatearth, muddy in top becoming very silty with occasional sandy band, scattered roots.		18	485	04
	COAL 20 cms. stick		20	485	24
	Sandstone, medium grained, light grey quartzitic carbonaceous laminations throughout.		62	485	86
Runs from 481.71 to 491.15 originally racked upside down - see BPB log.	Mudstone, slightly silty, dark grey pyrite blobs, occasional polished surface.		60	486	46
	Mudstone, grey, very silty, broken core in top, sandstone laminations from top to 487.00, occasional roots, vague seatearth texture in base.	1	00	487	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 blebs, occasional polished surface and Thick Ironstone band.			491	75
Dip 60° @ 492m. Dip sub-vertical at 491.50m.	Mudstone, dark grey, slightly silty; pyrite blebs: Lingula at 492m. Core fragments only below 492m.		85	492	60
Dip 20° @ 491.60m. Local high dip. Small repeat.	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.				

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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				
Repeat	to 500.10m. 30° base	1	35	500	20
	Gouge - dark grey, rashy, clay gouge with fragments of mudstone		20	500	40
.p 40° @ 500.50m	Mudstone, dark grey, slightly silty, Lingula fish scales		60	501	00
	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	2	75	504	50
	Large ironstone band at base				
p 17° @ 504.70m	Mudstone, silty, grey/dark grey, scattered roots and occasional ironstone nodules; occasional polished surface; becoming packed with polished surfaces at 505.30m., vaguely				
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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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
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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.				
Dip 9° @ 542 m.	Occasional thick ironstone band			.../	

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6-INCH MAP	B/H
SS 88 NE	35

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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 throu hout	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
Dip 27° @ 535.50m	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 45° @ 536.40m	ironstone band	3	20	537	20
Dip 19° @ 538 m.	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 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
Dip 9° @ 542 m.	Mudstone, silty, locally slightly silty, faintly wormy; medium/dark grey; sheared at 541.80m.; G.corbensris at 542 m.; sheared with roches at 542.60m. associated with ironstone band; slightly silty below. Occasional thick ironstone band			.../	

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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
	Mudstone, silty, grey, roots, plant debris;				
p 33° @ 551 m.	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.;				
	sheared with rashes associated				
p 38° @ 553 m.	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
	Mudstone, softly grey, roots, sandstone laminations/bands; comminuted				
ip 22° @ 555.70	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.				
p 28° @ 558.30m.	ironstone band at 558 m.		50	558	00
				.../	

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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 bolding planes below associated with thin ironstone bands. Worm trails at 567.80m.; sheared with rakes 567.70 to 567.80m.	1	80	568	00
12° @ 568.70m	Mudstone, silty, grey, poorly bedded, occasional thick ironstone band; sheared, no polished bedding, 15 cm. ironstone band at 569.20m., darker grey from 569.50m. and slightly silty and dark grey in base, wavy sheared in base	2	00	570	00
	Seatearth, dark grey, roots, muddy, polished surfaces in top, becoming very silty and hard from 570.25m.; iron stone 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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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
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• Section of MARGAM 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, rashes		5	620	47
CAERAU	COAL, fragments		20	620	67
	Seatearth, 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 banks 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
SS 88 NE	36

• 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 rushes, becoming dark grey and fissile, carbonaceous, polished surfaces,				
Dip 15° @ 626.72m.	mussel fragment in roof	3	42	626	72
	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 rushes to 628.50m., steep shear plane at 628.80m. to 629.10m. - rushes throughout, becoming grey/brown at 629 m.	1	77	629	10
	Seatearth, grey brown, muddy 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				
Dip 5° @ 632 m.	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.				
Dip 6° @ 635 m.	with rushes; thick ironstone band 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				
Dip 7° @ 639 m.	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
	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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SERIES 680

6-INCH MAP	B/H
SS 88 NE	35

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.				
ip 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 iron-stone bands, stronger, becoming darker grey and wormy and slightly				
ip 12° @ 647.30m	silty from 647.80m.; numerous mussel debris at 647.90m., carbo-naceous 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				
SMALL REPEAT	grey and wormy; mussel at 649.50m occasional polished surface;				
Dip 5°	becoming dark grey with mussel 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
	Sandstone, light grey, quartzitic, wispy bedded throughout		30	651	40
	Mudstone, silty, grey, scattered plant debris, compact, thin ironstone band, occasional polished bedding sur-face from 651.80m., sheared with rashes at 652 m., polished surfa-ces 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
ower Nine Feet					
	(slough off in coal)			657	00

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6-INCH MAP	B/H
SS 88 NE	35

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

*Delete as appropriate

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 662 m.	2	60	662	00
	~~Siltstone, fine grained, grey, sandstone laminations, partings packed with plant debris, steep fracture at 662.60m., disclosing 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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SERIES 680

6-INCH MAP	B/H
SS 88 NE	35

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

*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 678.90m.		90	679	10
dip 11° @ 679.20m.	Mudstone, silty, grey/dark grey, slightly silty locally, wormy, 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

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

*Delete as appropriate

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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6-INCH MAP	B/H
SS 88 NE	35

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ection of MARGAM SURFACE B.H.NO.12(Ffrord-y-Gyraith)

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., spherosiderite 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					
15° @ 705.80m.	Mudstone, silty, grey, sandstone laminations in top 20 cm., roots, 20 cm. 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 partings 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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6-INCH MAP	B/H
SS88NE	35

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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 packed 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
°@ 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
°@ 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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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 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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6-INCH MAP	B/H
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.			743	60
Dip 45° @ 743.40					
Dip 38° @ 744.00	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 ne. Vertical dding.	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
parent overturned beds, sub-vertical dip roughout	Mudstone, silty, grey, packed with polished surfaces, crushed in top. Steep base.			748	50
p 70° at base of sandstone.	Sandstone, light grey, quartzitic, fine grained, silty wisps and laminations. Sub-vertical joints from the top Horizontal fractures in silty band at base.			749	00
p 65° @ 750.30 b vertical Dip at 751.30	Mudstone, silty grey, faint sandstone laminations. Occasional polished bedding plane and irregular horizontal fracture. Vertical fracture at 751.00 to base.			749	80
				751	30
	Core lost, from			751	30
	including Thin Coal (BPB Logs & drillers timings) Core lost to		10	751	92
				752	30
p 42° @ 753.80	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 Broken 755.00 to 755.50. Only occasional polished surface below, Plant straps, thick ironstone				

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ORM P 71
ERIES 680

6-INCH MAP	B/H
SS 88 NE	35

ection of .....

*Delete as appropriate

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 e.	base with coal fragments			758	30
	Mudstone, silty, grey, massive, sub-vertical bedding, broken and packed with irregular polished surfaces.				
vertical Dip 760.00	Occasional thick ironstone lens. 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	60
	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 base.			770	10
	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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BGS ID: 372611 : BGS Reference: SS88NE35
EPSG: 27700 : 286866,185033

FORM P 71
SERIES 660

6-INCH MAP	B/H
SS 88 NE	35

Section of ~~(Fforddy-Gyraith)~~ MARGAM SURFACE BOREHOLE NO. 12

*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 18° @ 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 joints from 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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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 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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BGS ID: 372611 : BGS Reference: SS88NE35
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6-INCH MAP	B/H
SS 88 NE	35

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

*Delete as appropriate

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

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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,			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

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6-INCH MAP	B/H
SS88NE	35

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

*Delete as appropriate

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
ip 20° @ 867.00	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 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.				

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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		
Dip 10° @ 879.00	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
	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
Dip 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.		

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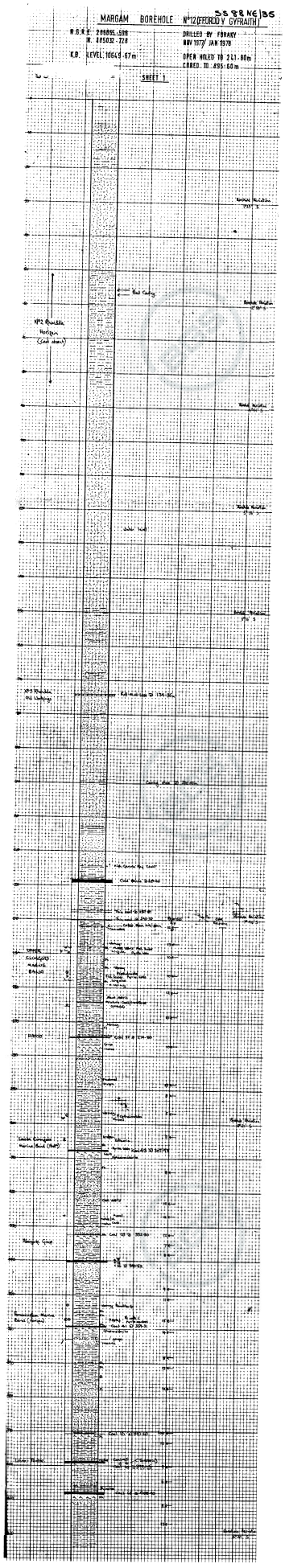
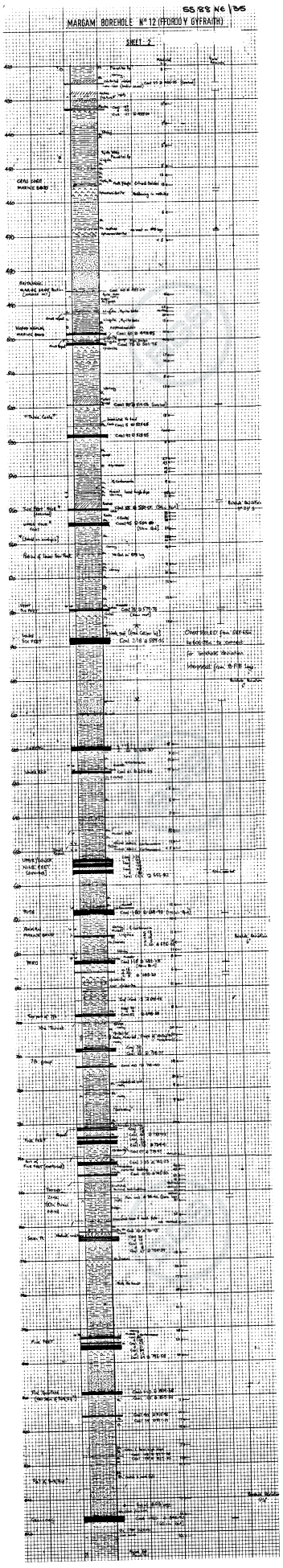
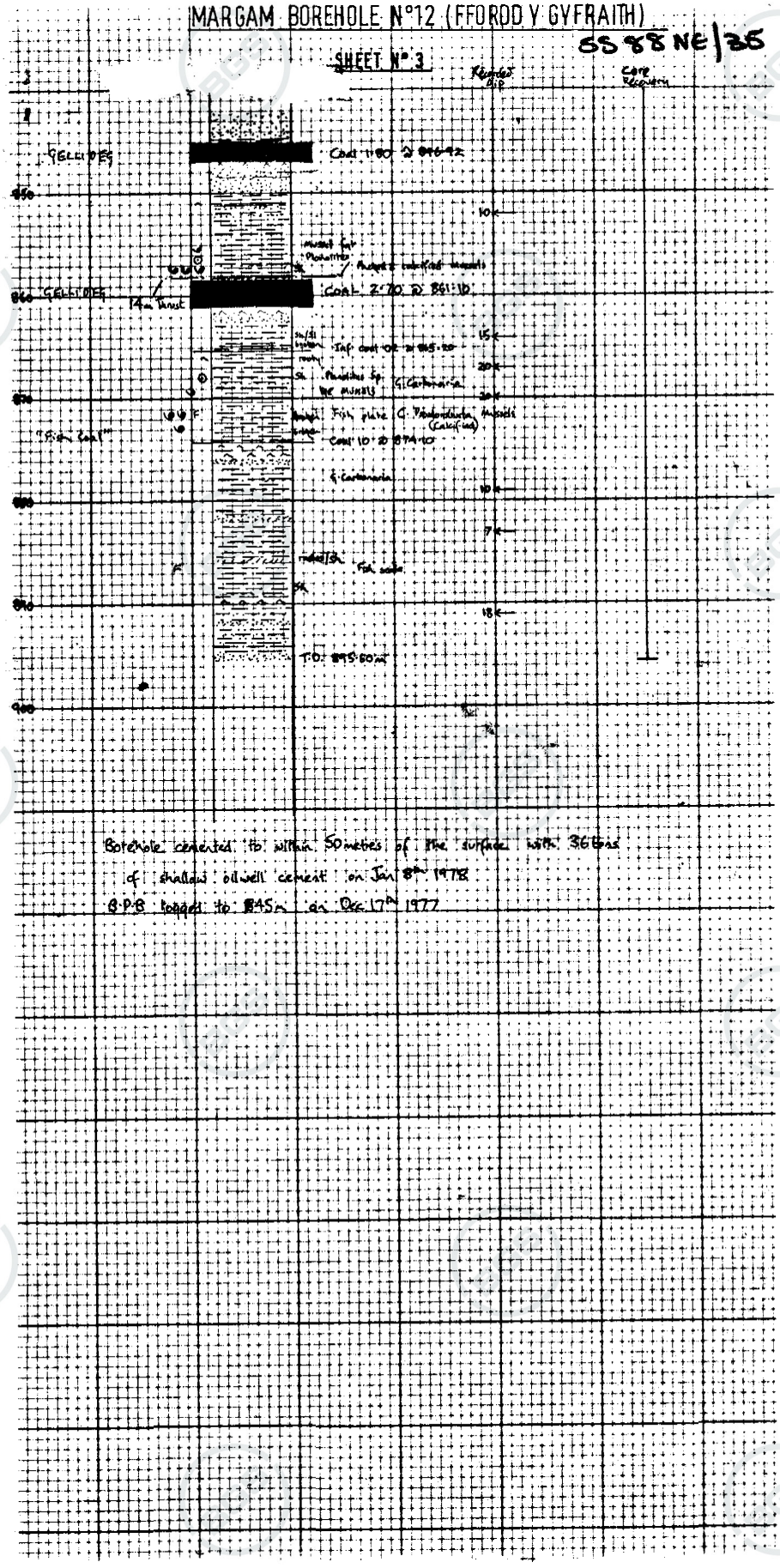

SS 88 NE 35
MARGAM BOREHOLE No 12 (FFORDD Y GYFRAITH)
DRILLED BY FORAKY
NOV 1977/ JAN 1978
OPEN HOLED TO 241.80m
CORED TO 295.60m
SHEET 1


SS 88 NE / 35
MARGAM BOREHOLE N° 12 (FFORDD Y GYFRAITH)
SHEET 2


MARGAM BOREHOLE N°12 (FFORDD Y GYFRAITH)
SS 88 NE/35
SHEET N° 3
Borehole cemented to within 50 metres of the surface with 36 Bags of shallow oilwell cement on Jan 8th 1978
B.P.B topped up to 8ASL on Dec 17th 1977

British Geological Survey

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

(*11932) Wt.30870/0370 10,000 9/39 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 fclay	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	.	(19.55)	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 fclay		2	6	(34.49)	113	2
	Rock		2	6	(35.26)	115	8
	Cliff	c.	4	6	(36.63)	120	2
	Strong fclay	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)	244	2
	COAL		4	.	(75.83)	248	2
	F'clay	c	11		(79.20)	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)	336	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	.	(115.24)	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 rapping 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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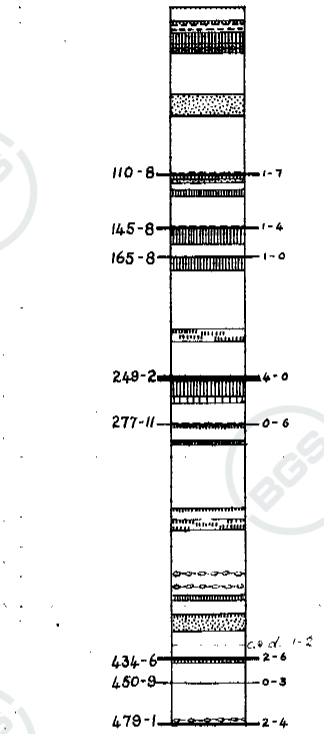
British Geological Survey

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.
SS8NW/24

Name and Number of Shaft or Bore
PENTRE COLY.
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 Feby	3	2		
	Strong cliff		6		
	Mine	3	7		
	Strong cliff.				
	Cliff with mine balls.	8	11		
	Cliff	2	6		
	Cliff	1			
1770	Coal	2	6		
	Feby	2	11		
	Strong cliff	4	11		
	Cliff	3	1		
	Coal	1	2		
	Feby	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	6		
		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			
	Sandy clay		4	6			
	Rock		1	6			
	Cliff		1	6			
	Cliff.		5	8			
	Coal			10			
	Clod		2	6			
	Cliff		2				
	Sandstone			6			
	Coal		2	10			
	Pyrites			2			
	Coal			5			
5'-0.	Dark stone			6			
	Coal		2	6			
	Sandstone			1½			
	Coal			6		117	6

ADDITIONAL NOTES

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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; 0-½" @ 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

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SS 88 NW/12
84148530

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
	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
	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;				
17° at 281/-	sporadic nodules between 272/6 - 275/9; 0-½" @ 277/4; 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
	Mudstone, 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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SS 88 NW/12 Sheet 1.
8414 8530

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 ...				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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SS 88 NW/12
8414 8530

Sheet 4.

6 inch Map Regd. No. 2498/96

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 ...			409	9
	Mudstone, medium grey with roots and occasional very thin ironstone bands near the top		8	410	5
	Mudstone, dark shaly ¼" 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; ¼" @ 475/0; ¼" @ 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 @ 503/10. 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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SS 88 NW/ 12 Sheet 5.
8414 8530

6 inch Map Regd. No.

SECTION OF MARGAM NO: 4 BOREHOLE

Six Inch Map (County and Quarter Sheet)

Geologist's Notes	NATURE OF STRATA — Borer's Journal	THICKNESS Feet	In.	DEPTH 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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EPSG: 27700 : 284140,185300

Geologist's Notes	NATURE OF STRATA Borer's Journal	THICKNESS Feet	 In.	DEPTH 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° a6621/-	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. 248/10

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.	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;				
14° at 812 ft.	1½" @ 801/7; 1" @ 806/10. passing gradually into -	24	6	812	9
	Mudstone, medium grey smooth Ironstone bands:- ½" @ 812/7; 2½" @ 814/5; 1" @ 816 ft. 1½" @ 816/7; ½" @ 816/10; ½" @ 817 ft. Nodular band @ 820/10; ½" @ 821/-; ¾" @ 822/2. Passing				
7° @ 820 ft.	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		
	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	 In.	DEPTH Feet	 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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Sheet 8.

6 inch Map Regd. No. 24 8/96

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 ...			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		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	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
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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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NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	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 develoments 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.
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6 inch Map Regd. No. 2488 96

SECTION OF MARIAN 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 ...			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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NATURE OF STRATA Geologist's Notes & Borer's Journal		THICKNESS		DEPTH	
		Feet	In.	Feet	In.
	Brought forward ...			1146	4
	Mudstone, dark grey, highly sheared with thin layers of pale grey quartzitic silt-stone. 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 mud-stone, badly sheared at top	5	3	1173	3
	Seatearth, slightly buff-grey silty mudstone with patches of gannister-like seatearth with sphaeros-iderite 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 mud-stone 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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6 inch Map Regd. No.

SECTION OF MARGAM NO: 4 BOREHOLE 2 43 46

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" (wormy) @ 1246/3 gunsele @ 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 abundant 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	THICKNESS In.	DEPTH Feet	DEPTH 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 quart-zitic 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	THICKNESS In.	DEPTH Feet	DEPTH 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 11

6 inch Map Regd. No.

SECTION OF
Six Inch Map (County and Quarter Sheet)

248/96

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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Geologist's Notes	NATURE OF STRATA — Borer's Journal	THICKNESS Feet	THICKNESS In.	DEPTH Feet	DEPTH 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 ~~Mudstone~~ 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
	Rashings		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, ~~iron~~stone 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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NATURE OF STRATA Geologist's Notes — 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 248

Six Inch Map (County and Quarter Sheet)

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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Geologist's Notes	NATURE OF STRATA Borer's Journal	THICKNESS Feet	THICKNESS In.	DEPTH Feet	DEPTH 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.

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 ...			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 248/96
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			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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NATURE OF STRATA Geologist's Notes — 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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SS 88 NW/12. Sheet 18.
8414 8530

SECTION OF MARGAM NO: 4 BOREHOLE

Six Inch Map (County and Quarter Sheet)

6 inch Map Regd, No. 24896

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	18	0	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.

6 inch Map Regd. No. 248/96

SECTION OF MARGAM BOR: 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 ...			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	1	2301	6
		4	9	2306	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	 In.	DEPTH Feet	 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
	Rashings (from drillers log)		1	2356	7
	COAL (from drillers log)	1	0	2357	7
	Rashings 1'9" (from drillers log)	1	9	2359	4
(N.B. about 4' to 5' of ~~coal~~ 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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Sheet 20.

6 inch Map Regd. No. 248/96

SECTION OF MARGAM BO: 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			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
12° at 2491 ft. with occasional plant fossils → Ironstone 1" at 2489' 6".	Medium grey mudstone with poorly developed striping. Dip 53° at 2484'; 73° at 2485'6". Vertical at 2487'6"	4	6	2488	0
	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

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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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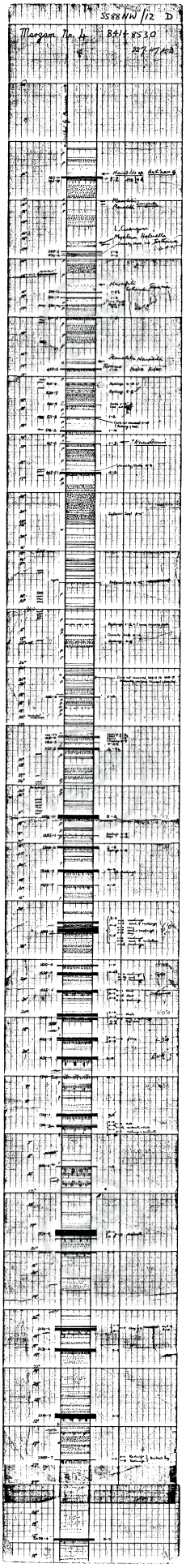

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SS 88 NW / 12-15

SS88NW/13
8162 8730
No.3 B.H.

SS88NW/12
8414 8530
No.4 B.H.

SS 88 NW /12-15

SS 88 NW /14
8111 8632
No.2 B.H.

SS88NW/16 8194 8581
No.1 B.H.

UPPER COAL MEASURES

MIDDLE COAL MEASURES

LOWER COAL MEASURES

LAG FAULT 400—500FT.

MARGAM BOREHOLES.
SCALE:—100FT.—1INCH.

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GEOLOGICAL SURVEY OF GREAT BRITAIN

RECORD OF SHAFT OR BORE FOR MINERALS

(For Survey use only)

6-in. Map Registered No. ~~SS88NW1/12~~ 34 SW

248/96

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

Name and Number given by owner: SS84148530

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

6-inch Map Registered No. 248/96

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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 the top. Ironstone bands :- ¼" @ 271/-				
16° @ 266/-	¼" - ½" @ 271/6, sporadic nodules between				
	272/6 - 275/9, 0 - ½" @ 277/4, ½" @ 277/10,				
17° @ 281/-	½" @ 278/5, ¼" @ 279/-, ¾" @ 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	-	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

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Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Mudstone, dark, slightly carbonaceous, with plant debris (? Carbonaceous seatearth)		10	SS88/10 292	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 0-1½" @ 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
	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
16° @ 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° @ 363/-	Mudstone, blocky medium grey with sporadic roots and plant remains. Passing into:	5	3	364	9
	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 trace		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	-
15° @ 437'	Mudstone, silty, massive, medium grey, with occasional faint stripes + scattered plant debris.				
16° @ 461/-	1" Ironstone band @ 451/3. Passing into (grey)	27	-	470	-
	Mudstone, blocky, medium grey, well bedded. Ironstone bands:- 2" @ 470/10, ½" @ 475/-, ½" @ 475/1; becoming gradually darker downwards. Small ironstone nodules becoming frequent below 484/-. 1½" Ironstone band @ 477/- Planolites common				
15° @ 481'	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" @ 548/3	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.

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Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Rashings, structural, with coal fragments		5	550	4
	COAL		c4	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 ? Rashings 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. Frequent other shearing especially along bedding planes to 583/-. Irregular ironstone nodules 583¾ – 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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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 3/4"-2" Ironstone 643/6	3	1	643	7
	Mudstone; medium grey. Ironstone bands:- ÷" @ 645/2, 0-1÷" @ 645/9, and 0-1÷" 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: ÷-1÷" @ 654/7 ÷-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, ironey, 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; tuffy grey mudstone, soapy 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: ÷" @ 732/3, ÷-½" @ 732/-, 1" @ 732/7, 1÷" @ 734/4, 1" @ 735/1, 1÷" @ 735/9	6	7	737	7
	Mudstone, strong, medium grey, silty	1	11	739	6
	Inferior Coal		1	739	7

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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, 1¼" @ 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'	1¼" @ 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, lightly sheared.		5	874	7

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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				
10°@ 879/+	Ironstone band @ 880/7	2	6	880	10
	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 899/+	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 shattered		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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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 down-				
	wards. 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 @ 1036/8, 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				
18° @ 1048/6	and 1049/8. Passing gradually into:-	22	1	1049	7
	Shale, rather dark carbonaceous, 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

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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				
	strife developments 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 silty, 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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Contact BGS: ngdc@bgs.ac.uk