

SD40SW12

~~WELL~~ BORING at

Made by

Communicated by Southport & W. Lancs. Water Board

Height above Ordnance Datum $105\frac{1}{2}$ fr. Rest level of water 53 fr.

Yield

Quality (with copy of analysis on separate sheet)

NGR 4142

00314

County *Lanc.*

1 in. map New Series 84

6 in. map 100 NW

Date _____

Sunk

feet.

Bored

feet.

GEOLOGICAL SURVEY AND MUSEUM,
 JERMYN STREET, LONDON, S.W. 1.

(B10619). Wt. 15824—S123. 2500. 11/25. Gp. 160. O.A.

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CLASSIFIED SHEET

SD40/159

C. TEST PUMPING SUMMARY (Please supply fully details on Form WR - 39)

Test Pumping Datum (if different from borehole datum)	_____	above m below borehole datum
Pump Suction Depth	_____	mbd
Water Level (Start of Test)	_____	mbd
Water Level (End of Test)	_____	mbd
Pumping rate	_____	m ³ /d : l/s
for	_____	days/hours
Recovery to (from end of pumping)	_____ mbd in _____	mins : hrs : days
Date(s) of measurements	_____	
Please Supply Chemical Analysis If Available		

D. STRATA LOG

Geological Classification	Description of Strata	Thickness	Depth
(BGS only)		m	m
	HARDWARE	0.8	0.8
	CLAY	5.8	6.6
	RED SAND	1.0	7.6
	SANDSTONE (RED)	52.4	60.0
	[continue on separate page if necessary]		
	Other Comments (eg gas encountered, saline water intercepted, etc)		

FOR OFFICIAL USE ONLY

FILE CONSENT NO BGS REF NO
 LICENCE NO USE OF BH NGR.....

FORM WR - 38

British Geological Survey

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Agency No:

ENVIRONMENT
AGENCY

SD40/159

BOREHOLE RECORD**A. SITE DETAILS**

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Borehole drilled for	CITY CENTRE COMMERCIALS LIMITED	
Location	SIMONSWOOD INDUSTRIAL PARK, KIRBY	
NGR (8 fig) Ground Level (if known)	SD4365/0084	Please attach site plan
Drilling Company	BLAIR DRILLING	
Date of drilling	Commenced: 12/12/2000 Completed: 20/12/2000	

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B. CONSTRUCTION DETAILS

Borehole datum (if not ground level)..... (point from which all measurements of depth are taken eg flange, edge of chamber, etc)			above m below GL
Borehole drilled diameter	300 mm from 0	to 16	m/depth
	200 mm from 16	to 60	m/depth
	mm from	to	m/depth
Casing material <u>STEEL</u> diameter	200 mm from 0	to 15	m/depth
and type (eg plain steel, plastic slotted)	mm from	to	m/depth
diameter	mm from	to	m/depth
diameter	mm from	to	m/depth
diameter	mm from	to	m/depth
Grouting details <u>15m</u>			
Water struck at	15.8	m (depth below datum - mbd)	
		m (depth below datum - mbd)	
Rest water level on completion	5.75	m (depth below datum - mbd)	

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Name of site

Simonwood Moss, Kirkby.

Bn 10 of 11

W R B No.

SD 40/134D

Owner <u>White Moss Peat Co.</u>		Licence no.		Nat. grid ref. <u>SD 4386 0060</u>	
Occupier <u>Drilled by Merseyside CC</u>		Appn no.		Status <u>Site Throats (waste disposal)</u>	
		Cancelled			
		IGS ref. no.			
Ground level	m OD	ft. OD	Aquifer	<u>Liverpool & Ormskirk.</u>	
Level of well top	m OD	ft. OD	Code	<u>118.05</u>	
Rest water level	m bwt	ft. bwt	Summary of geological section		Thickness
(Date)	m OD	ft. OD	Soil		Depth
Construction: Method		Date		Sand	
Depth bwt	Dia.	Linings (below well top)		Clay	
		From	To	Dia.	Type
10.5m	150mm	GL	1.6	19mm	Reps up
Abstraction rates		Type of pump			
gph PWL		Chem./bact. anal.		YES/NO	
gpd		Well driller <u>Quint Case</u>			

If insufficient space has been allowed, continue in 'Notes' overleaf.

1/5/79/207

FORM WR-38 (cont.)

GROUNDWATER

(Please type)

DATE RECEIVED 26. 2. 96

NRA
No.

SD40/145

D. STRATA LOG

Geological Classification (BGS only)	Description of strata	Thickness m	Depth m
Till (undiff.)	HARD CORE + FILL	1	1
Shredded Sst. Cap. (undiff.)	BOULDER CLAY	2	3
At Howard 1/12/97.	RED SANDSTONE	59	62
[continue on separate page if necessary]			
Other Comments (eg gas encountered, saline water intercepted, etc)			

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FILE CONSENT NO BGS REF NO

LICENCE NO USE OF RH NGR

FORM WR-38

SD 40 SW
SS

National Rivers Authority

North West Region

BOREHOLE RECORD

GROUNDWATER

DATE RECEIVED 26.2.96

NRA
No.

SD 40 / 145

(Please type)

A. SITE DETAILS

Borehole drilled for SLOYAN BOYLE DEMOLITION 813.

Location SIMONSWOOD, SIKELMERSDALE, LIVERPOOL

NGR (8 fig.) SD 4382 0095 Please attach site plan

Ground Level (If known) ..

Drilling Company DAUGS WATER SERVICES LTD

Date of drilling Commenced: Completed:

B. CONSTRUCTION DETAILS

Borehole datum (If not ground level)..... EDGE OF MANHOLE RIM ^{above} m below GL
 (Point from which all measurements of depth are taken eg flange, edge of chamber, etc)

Borehole drilled diameter 200 mm from GL to 62 m/depth

..... mm from to m/depth

..... mm from to m/depth

Casing material PLAIN STEEL diameter 200 mm from GL to 23 m/depth
 and type (eg plain steel, plastic slotted)

..... diameter mm from to m/depth

..... diameter mm from to m/depth

..... diameter mm from to m/depth

Grouting details

Water struck at 18 m (depth below datum - mbd)

..... 24 m (depth below datum - mbd)

Rest water Level on completion 10 mbd

C. TEST PUMPING SUMMARY (Please supply full details on Form WR-S2)

Test Pumping Datum ^{above} m below borehole datum (mbd)
 (If different from borehole datum)

Pump Suction Depth 36 mbd

Water Level (Start of Test) 9.99 mbd

Water Level (End of Test) 9.74 mbd

Pumping rate 488.25 m³/d

for 2 days/hours

Recovery to 9.74 mbd in 24 Hrs 15 MINS

(from end of pumping)

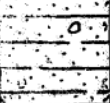
Date(s) of measurements 3/2/96 To 10/2/96.

Please Supply Chemical Analysis If Available

BOREHOLE RECORDContract No. 5557/96Client DENHOLM SHIPPING SERVICES LTD

Ground Level _____

Location STOPGATE LANE, SIMONSWOOD, LIVERPOOLBOREHOLE No. TP 1Date APRIL 1996

Depth	Thick- ness	Legend	Description of Strata	Type of Sample	C kN/m ²	M %	Ø	Density kg/m ³	N
0.800	0.800		Made up ground. Brick rubble and concrete with reinforcements						
1.200	0.400		Brown sandy, gravelly clay						
			*Seepage 0.800m.						
TRIAL PIT 2									
0.600	0.600		Made up ground. Brick rubble fill with concrete (Reinforced)						
2.000	1.400		Made up ground. Loose crushed concrete with rubble fill						

Water Struck at _____

Standing Water Level _____

Undisturbed Sample
Disturbed Sample
Penetration Test
Cohesion
Angle of Internal Friction
Moisture Content %
Standard Penetration Value

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J. T. HYMAS (Site Investigation) LTD.

12 Yarm Road, Stockton-on-Tees,
Cleveland TS18 3NE
Tel. 01642 607083 Fax. 01642 612355



BOREHOLE RECORD

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British Geological Survey

Contract No. 5557/96

Client DENHOLM SHIPPING SERVICES LTD

Ground Level

Location STOPGATE LANE, SIMONSWOOD, LIVERPOOL

BOREHOLE No. TP 3

Date APRIL 1996

Depth	Thick- ness	Legend	Description of Strata	Type of Sample	C kN/m ²	M %	Ø	Density kg/m ³	N
0.250	0.250		Made up ground. Hardcore						
0.450	0.200		Made up ground. Brick rubble						
1.100	0.550		Brown slight silty sandy, gravelly clay						
TRIAL PIT 4									
0.100	0.100		Made up ground. Hardcore						
0.350	0.250		Made up ground. Brick rubble fill						
1.000	0.650		Brown sandy, gravelly clay						
TRIAL PIT 5									
0.400	0.400		Made up ground. Soil						
0.700	0.300		Made up ground. Ash and brick rubble fill						
0.900	0.200		Brown sand						
1.300	0.400		Brown clay with sand partings						

Water Struck at

Standing Water Level

Undisturbed Sample
Disturbed Sample
Penetration Test
Cohesion
Angle of Internal Friction
Moisture Content %
Standard Penetration Value

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BOREHOLE RECORD

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Contract No. 5557/96

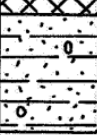
Client DENHOLM SHIPPING SERVICES LTD

Ground Level

Location STOPGATE LANE, SIMONSWOOD, LIVERPOOL

BOREHOLE No. TP 6

Date

Depth	Thick- ness	Legend	Description of Strata	Type of Sample	C kN/m ²	M %	Ø	Density kg/m ³	N
0.500	0.500		Made up ground. Ash and brick rubble fill						
0.750	0.250		Grey brown clayey sand						
1.100	0.350		Brown sandy sand parted clay						
TRIAL PIT 7									
0.550	0.550		Made up ground. Soil over brick rubble fill						
1.600	1.050		Grey brown sandy, gravelly, stoney clay						
TRIAL PIT 8									
0.450	0.450		Made up ground. Brick rubble fill						
0.600	0.150		Made up ground. Soil						
1.000	0.400		Grey brown sand parted clay						

Water Struck at

Standing Water Level

Undisturbed Sample
Disturbed Sample
Penetration Test
Cohesion
Angle of Internal Friction
Moisture Content %
Standard Penetration Value

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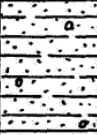
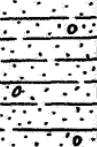
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British Geological Survey BOREHOLE RECORD British Geological Survey									
Contract No. <u>5557/96</u>		Client <u>DENHOLM SHIPPING SERVICES LTD</u>							
Ground Level _____		Location <u>STOPGATE LANE, SIMONSWOOD, LIVERPOOL</u>							
BOREHOLE No. <u>TP 9</u>		Date <u>APRIL 1996</u>							
Depth	Thick-ness	Legend	Description of Strata	Type of Sample	C kN/m ²	M %	Ø	Density kg/m ³	N
0.500	0.500		Made up ground. Brick rubble fill						
0.800	0.300		Made up ground. Soil ash fill						
1.100	0.300		Brown sand parted clay						
TRIAL PIT 10									
0.100	0.100		Made up ground. Hardcore						
0.500	0.400		Made up ground. Brick rubble fill						
0.900	0.400		Brown sandy clay with sand bands						
TRIAL PIT 11									
0.400	0.400		Made up ground. Ash with brick rubble fill						
1.000	0.600		Brown gravelly sand parted clay						
Water Struck at _____					Standing Water Level _____				
Undisturbed Sample Disturbed Sample Penetration Test Cohesion Angle of Internal Friction Moisture Content % Standard Penetration Value			U O P C Ø M N <b style="font-size: 1.2em;">J. T. HYMAS (Site Investigation) LTD. 12 Yarm Road, Stockton-on-Tees, Cleveland TS18 3NE Tel. 01642 607083 Fax. 01642 612355						

BOREHOLE RECORD

Contract No. 5557/96 Client DENHOLM SHIPPING SERVICES LTD
 Ground Level _____ Location STOPGATE LANE, SIMONSWOOD, LIVERPOOL
 BOREHOLE No. TP 12 Date APRIL 1996

Depth	Thick- ness	Legend	Description of Strata	Type of Sample	C kN/m ²	M %	Ø	Density kg/m ³	N
0.500	0.500		Made up ground. Ash with brick rubble fill						
1.000	0.500		Brown sandy, gravelly clay						
TRIAL PIT 13									
0.100	0.100		Made up ground. Hardcore						
0.400	0.300		Made up ground. Brick rubble fill						
1.000	0.600		Brown sandy, gravelly clay						

Water Struck at _____ Standing Water Level _____

Undisturbed Sample
 Disturbed Sample
 Penetration Test
 Cohesion
 Angle of Internal Friction
 Moisture Content %
 Standard Penetration Value

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 Cleveland TS18 3NE
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Machine BOYLES B.B.S.						Date	25/07/90-26/07/90		Site NWEF	
Flush AIR Bit size (mm) 76						Coords	346154E 401812N			
Method Open Hole						Ground Level	42.67 m OD		Client SCUK/BECHTEL	
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (m OD)	Depth (m)	Strata Description (thickness in metres)	Legend	
					25/07/90	0.32	42.35	Sandy TOPSOIL (0.32)		
								SAND (3.26)		
						3.58	39.09	Sandy boulder CLAY (6.83)		
Remarks Casing size Hx from ground level to 18.50m Casing size Px from 18.50m to 38.00m						Logged by JC		Scale 1:50	Job No. 901235	
						Sample/Test Key				
						TCR Total Core Recovery %		RQD Rock Quality Designation %		
						SCR Solid Core Recovery %		FI Fracture Index		

SD 40 SE 14 S

Machine		BOYLES B.B.S.		Date		25/07/90-26/07/90		Site		NWEF	
Flush		AIR		Bit size (mm)		76		Coords		346154E 401812N	
Method		Open Hole		Ground Level		42.67 m OD		Client		SCUK/BECHTEL	
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (m OD)	Depth (m)	Strata Description (thickness in metres)		Legend	
						10.41	32.26	Sandy boulder CLAY		-	
								SAND and GRAVEL (1.22)		.	
						11.63	31.04	Firm sandy boulder CLAY (6.13)		x	
										-	
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SD 40 SE 14S

FUGRO - McCLELLAND LIMITED								ROTARY LOG Borehole R170/14J Sheet 3 of 5	
Name BOYLES B.B.S.						Date 25/07/90-26/07/90		Site NWEF	
Flush AIR Bit size (mm) 76						Coords 346154E 401812N		Client SCUUK/BECHTEL	
Method Open Hole						Ground Level 42.67 m OD			
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (m OD)	Depth (m)	Strata Description (thickness in metres)	Legend
								Firm sandy boulder CLAY with sand and gravel bands	
					25/07/90 26/07/90	24.00	18.67	Firm sandy boulder CLAY with bands of sand and gravel (13.32)	
Remarks Casing size Hx from ground level to 18.50m Casing size Px from 18.50m to 38.00m						Logged by JC		Scale 1:50	Job No. 901235
						Sample/Test Key			
						TCR Total Core Recovery %		RQD Rock Quality Designation %	
						SCR Solid Core Recovery %		FI Fracture Index	

[illegible]

FUGRO - McCLELLAND LIMITED								ROTARY LOG	
								Borehole	R171/05J
								Sheet 1 of 4	
Machine BOYLES B.B.S.						Date	29/06/90-29/06/90		
Flush AIR Bit size (mm) 76						Coords	346537E 401993N		
Method Open Hole						Ground Level	41.24 m OD		
						Site	NWEP		
						Client	SCUK/BECHEL		
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (m OD)	Depth (m)	Strata Description (thickness in metres)	
					29/06/90	0.39	40.85	Sandy TOPSOIL (0.39)	
								SAND (5.04)	
						5.43	35.81	Sandy boulder CLAY, bands of sand (wet) (15.42)	
Casing size Px to 23.10m						Logged by DG	Scale 1:50	Job No. 9901235	
						Sample/Test Key			
						TCR Total Core Recovery % RQD Rock Quality Designation %			
						SCR Solid Core Recovery % FI Fracture Index			

[illegible]

British Geological Survey British Geological Survey British Geological Survey

Borehole R171/05J

Sheet 3 of 4

Date 29/06/90-29/06/90

Coords 346537E 401993N

Ground Level	41.24 m OD
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Site	NWEP
------	------

Client	SCUK/BECHTEL
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R. S. Casing size P x to 23.10m

Logged by **dg**

Scale	1:50
-------	------

Job No. 901235 British Geological Survey

Sample/Test Key

TCR Total Core Recovery %

RQD Rock Quality Designation %

SCR Solid Core Recovery %

FI Fracture Index

SD 40 SE 151

British Geological Survey										FUGRO - McCLELLAND LIMITED										British Geological Survey										ROTARY LOG	
Borehole										R171/07J										Sheet 1 of 5											
Name BOYLES B.B.S.					Date 28/06/90-29/06/90					Site NWEF																					
Flush AIR Bit size (mm) 76					Coords 346682E 402055N																										
Method Open Hole					Ground Level 41.67 m OD					Client SCU/BECHTEL																					
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (m OD)	Depth (m)	Strata Description (thickness in metres)										Legend													
					28/06/90	0.34	41.33	Sandy TOPSOIL (0.34)																							
								SAND (4.50)																							
						4.84	36.83	Sandy boulder CLAY, bands of sand (5.79)																							
Remarks Casing size Px to 14.50m																															
Logged by DG					Scale 1:50					Job No. 901235																					
Sample/Test Key TCR Total Core Recovery % RQD Rock Quality Designation % SCR Solid Core Recovery % FI Fracture Index																															

British Geological Survey

Sheet 2 of 5

Client	SCUK/BECHTEL
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British Geological Survey

Job No. British Geol
901235

51. $f(x) = x^2 + 2x - 3$

SD4056 151

British Geological Survey										British Geological Survey										British Geological Survey										ROTARY LOG									
FUGRO - McCLELLAND LIMITED																				Borehole R171/07J																			
																				Sheet 3 of 5																			
Machine BOYLES B.B.S.					Date 28/06/90-29/06/90					Site NWEP																													
Flush AIR Bit size (mm) 76					Coords 346682E 402055N																																		
Method Open Hole					Ground Level 41.67 m OD					Client SCUUK/BECHTEL																													
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (m OD)	Depth (m)	Strata Description (thickness in metres)	Legend																														
						20.37	21.30	Grey MUDSTONE, sandstone bands																															
								Grey SANDSTONE (0.80)																															
						21.17	20.50	Dark grey MUDSTONE (1.15)																															
						22.32	19.35	Grey MUDSTONE, sandstone bands (1.49)																															
						23.81	17.86	Grey SANDSTONE (1.29)																															
						25.10	16.57	Black MUDSTONE coaly (2.35)																															
						27.45	14.22	Grey MUDSTONE (1.55)																															
					28/06/90 29/06/90	29.00	12.67	Grey MUDSTONE, sandstone bands (7.16)																															
Remarks Casing size Px to 14.50m																																							
Logged by DG					Scale 1:50					Job No. 901235																													
Sample/Test Key																																							
TCR Total Core Recovery %					RQD Rock Quality Designation %																																		
SCR Solid Core Recovery %					FI Fracture Index																																		

SD 40 SE 152

British Geological Survey							ROTARY LOG					
FUGRO - McCLELLAND LIMITED							Borehole R171/08J					
							Sheet 1 of 3					
Name BOYLES B.B.S.					Date 28/06/90-28/06/90		Site NWEF					
Flush AIR Bit size (mm) 76					Coords 346781E 402070N							
Method Open Hole					Ground Level 42.14 m OD		Client SCUUK/BECYTEL					
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (m OD)	Depth (m)	Strata Description (thickness in metres)				Legend
					28/06/90	0.38	41.76	Sandy TOPSOIL (0.38)				
								SAND (2.63)				
						3.01	39.13	Sandy boulder CLAY (wet) (4.65)				
						7.66	34.48	GRAVEL (0.42)				
						8.08	34.06	Sandy boulder CLAY (dry) (3.63)				
Remarks Casing size Px to 12.00m							Logged by DG		Scale 1:50		Job No. 901235	
							Sample/Test Key					
							TCR Total Core Recovery %		RQD Rock Quality Designation %			
							SCR Solid Core Recovery %		FI Fracture Index			

SD 40 SE 152

British Geological Survey FUGRO - McCLELLAND LIMITED British Geological Survey								ROTARY LOG	
								Borehole R171/08J	
								Sheet 2 of 3	
Well BOYLES B.B.S. Flush AIR Bit size (mm) 76 Method Open Hole				Date 28/06/90-28/06/90 Coords 346781E 402070N Ground Level 42.14 m OD		Site NWEP Client SCUK/BECHTEL			
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (m OD)	Depth (m)	Strata Description (thickness in metres)	Legend
						11.71	30.43	Sandy boulder CLAY	---
						13.20	28.94	Grey SANDSTONE (wet) (1.49)	•••••
						15.94	26.20	Grey MUDSTONE, sandstone bands (2.74)	
						18.68	23.46	Grey MUDSTONE (dry) (2.74)	
								Dark grey MUDSTONE (1.68)	
Remarks Casing size Px to 12.00m 								Logged by DG Scale 1:50 Job No. 901235	
								Sample/Test Key TCR Total Core Recovery % RQD Rock Quality Designation % SCR Solid Core Recovery % FI Fracture Index	

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FUGRO - McCLELLAND LIMITED

BOREHOLE LOG

Borehole B170/03M

Sheet 2 of 2

Method Shell & Auger.		Date 06/06/90 - 06/06/90		Site NWEP											
Dia mm 200		Coord 345992mE, 401819mN		Ground Level m.00 41.18											
Soil Samples/Tests		Water & Progress		Client SCUK/BECHTEL											
Type/Test	Depth m.		00 Level m.	Depth m.	Description of Strata										
					i. Chiselling from 0.00 to 1.50 for 1.0 hour. ii. Install standpipe to 3.00. iii. Water added from 0.00 to 3.00.										
GROUNDWATER OBSERVATIONS <table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Borehole Depth</th> <th>Casing Depth</th> <th>Water Level</th> </tr> </thead> <tbody> <tr> <td>06/06/90</td> <td>1500</td> <td>3.65</td> <td>3.00</td> <td>DRY</td> </tr> </tbody> </table>						Date	Time	Borehole Depth	Casing Depth	Water Level	06/06/90	1500	3.65	3.00	DRY
Date	Time	Borehole Depth	Casing Depth	Water Level											
06/06/90	1500	3.65	3.00	DRY											
Remarks No ground-water encountered Moving and setting up 2.5 hours															
Logged by AT		Scale 1:25		End Casing Depth m. 3.00											
Job No. 901235															
Sample/Test key: U () U100 sample (blows) D Disturbed sample B Bulk sample W Water sample - Progress & Day															
Penetration Tests S () Standard (N value) C () Cone (N value) * Blows and penetration when 300mm not achieved															

FORM WR - 38

Consent No:

BGS No:

BOREHOLE RECORD**A. SITE DETAILS**

Borehole drilled for: T. WILSON & SONS LTD

Location: HAGGOLD NOOK FM - RAINFORD - SHELTONS WAY 876

NGR (8 fig):

Please attach site plan

Ground Level (if known):

Drilling Company: BLAIR DRILLING LTD

Date drilling Commenced: 10-8-08

Completed:

B. CONSTRUCTION DETAILSBorehole datum (if not ground level) m below GL
(point from which all measurements of depth are taken eg flange, edge of chamber, etc)

Borehole drilled diameter

300 diameter mm from 6/4 to 12 m/depth
 200 diameter mm from 12 to 11.5 m/depth
 diameter mm from to m/depth

Casing material and type (eg plain steel, plastic slotted)

..... diameter mm from to m/depth
 diameter mm from to m/depth
 diameter mm from to m/depth
 diameter mm from to m/depth

Grouting details:

0.25 8" steel casing 0-12 m

Water struck at:

18 m (depth below datum - mbd)

6.6 m (depth below datum - mbd)

Rest water level on completion

..... m (depth below datum - mbd)

C. TEST PUMPING SUMMARY (Please supply fully details on Form WR-39)

Test Pumping Datum

..... m (depth below datum - mbd)

(if different from borehole datum)

Pump Suction Depth

..... mbd

Water Level (Start of Test)

..... mbd

Water Level (End of Test)

..... mbd

Pumping rate

..... m³/d:1/s

Recovery to

..... for days/hours

(from end of pumping)

..... mbd in mins : hrs : days

Date(s) of measurements

Please Supply Chemical Analysis if Available

FORM WR - 38

Consent No:

BGS No:

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D. STRATA LOG

Geological Classification	Description of Strata	Thickness	Depth
(BGS only)		m	m
	SOIL	1.5	0
	BOULDER CLAY	8.00	1.5
	MUDSTONE/SILTSTONE	89.5	9.5
	HARD SANDSTONE	16.00	99
	TOTAL DEPTH 115 m.		
	[continue on separate page if necessary]		
	Other Comments (eg gas encountered, saline water intercepted, etc)		

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British Geological Survey

FILE CONSENT NO

BGS REF NO

LICENCE NO USE OF BH

NGR.....

SD 40 SE 8

Drawn up 7

SECTION OF No. 9 Pit at Holland Colliery

Maps: One-inch 84 Six-inch Q 25E County Lancashire

Height above O.D. Latitude Longitude

Communicated by Copied from Book of Sections belonging Date of Sinking 1 in 3.

Made by The White Moss Coal Co. Book seen at Holland Colliery. Dip of Strata

	Thickness.			Depth from Surface.		
	m			m		
Bog	2.8956	9	6	2.8956	9	6
Sand	1.9363	6	4	4.8259	15	10
Bog	0.1016	-	4	4.9274	16	2
Gravel	1.4222	4	8	6.3499	20	10
Sand & loam	0.9906	3	3	7.3406	24	1
Gravel	0.1778	-	7	7.4929	24	7
Sand & loam	1.3208	4	4	8.8138	28	11
White rock	24.4348	80	2	33.2486	109	1
Rubby rock	1.1174	3	8	34.3662	112	9
Blue loam	0.4572	1	6	34.8234	114	3
Black metal	1.4478	4	9	36.2712	119	-
Coal	0.3302	1	1	36.6014	120	1
Warrant	1.2192	4	-	37.8206	124	1
Blue metal	0.3048	1	-	38.1254	125	1
Lin & wool	1.524	5	-	39.6494	130	1
Dark metal	2.286	7	6	41.9354	137	7
White rock	1.0922	3	7	43.0274	141	2
Lin & wool	0.2539	-	10	43.2816	142	-
White rock	0.5079	1	8	43.7894	143	8
Blue metal with stone bands	3.2509	10	8	47.0404	154	4
Bar Coal & No. Cannel	1.143	3	9	48.1838	158	1
Warrant	0.6604	2	2	48.8442	160	3
Grey rock	3.6576	12	-	52.5018	172	3
Blue metal	6.8326	22	5	59.3342	194	8
Coal	0.6858	2	3	60.0202	196	11
Warrant	1.015	3	4	61.0362	200	3
Coal	0.4572	1	6	61.4934	201	9
Warrant	0.3302	1	1	61.8235	202	10

Fault comes in see note on next page.

KING MINE
OR
EARTHY DELF

Coal
Warrant
Coal
Warrant

40

Holland No. 35

70

52

56

Drawn up.

(B.1337) W.L. 17852-3154-5,000 12/26 Op. 160. O.A.

SECTION OF

No. 35 Borehole

at

the field called "Holland" on
Valentine's Farm. [130 yds WSW. of No. 67.]

Maps: One-inch

84

Six-inch

925E⁴

County

Lancashire

Height above O.D.

Latitude

Longitude

Communicated by

Copied from Holland Colliery's

Date of Sinking

Made by

Book of Sections Site identified
on mine plans & marked on field slip

Thickness.

Depth from Surface.

Bog

Blue loam

Clay

Stony mud

Gravel

mud

Sand & gravel

mud & loam

Blue metal

Grey rock

Dark lin. mud

Blue metal

Dark metal with small specks of coal

Coal

Warren

Sand

Coal & Bass

Sand

Dark metal with small specks of coal

Coal

Dark metal with sand & coal

Warren

Flaggy rock

Lin. & mud

Blue metal with brown stone bands

Dark metal

Blue metal with grey bands

Thickness.	Depth from Surface.
3.2004 10 6	3.2004 10 6
0.5588 1 10	3.7591 12 4
0.7874 2 7	4.5466 14 11
1.4986 4 11	6.0452 19 10
0.1778 - 7	6.2229 20 5
0.2029 - 8	6.4262 21 1
0.3302 1 1	6.7562 22 2
4.1402 13 7	10.8766 35 9
2.0574 6 9	12.934 42 6
1.4986 4 11	14.4326 47 5
2.0828 6 10	16.5354 54 3
5.1308 16 10	21.6662 71 1
0.7112 2 4	22.3774 73 5
0.7112 2 4	23.0886 75 9
0.1778 - 7	23.2663 76 4
0.0762 - 3	23.3426 76 7
0.0762 - 3	23.4188 76 10
0.0508 - 2	23.4696 77 -
0.5834 1 9	24.003 78 9
0.4318 1 5	24.4348 80 2
0.4064 1 4	24.8412 81 6
1.2192 4 -	26.0604 85 6
0.6604 2 2	26.7206 87 8
3.2258 10 7	29.9466 98 3
1.6256 5 4	31.5722 103 7
0.2029 - 8	31.7754 104 3
2.0574 6 9	33.8328 111 -

SD No. 40 SE 7

SECTION OF No. 6 Pit at Holland Colliery,

Maps: One-inch 84 Six-inch Q2 SE^E County Lancashire

Height above O.D. Latitude Longitude

Communicated by Copied from Book of Sections belonging Date of Sinking

Made by Little White Moss Coal Co. Book seen Dip of Strata 1 in 4
at Holland Colliery

	Thickness.			Depth from Surface.		
	m			m		
Bog	2.7432	9	-	2.7432	9	-
Sand	0.9144	3	-	3.6576	12	-
Blue loam	0.0762	-	3	3.7338	12	3
Gravel	3.6642	18	7	7.3979	30	10
Grey rock	4.3179	14	2	11.716	45	-
Hard stone	0.3302	1	1	12.0462	46	1
Blue metal	0.4572	1	6	12.5034	47	7
Light metal	2.4384	8	-	14.9418	55	7
Grey rock	1.0922	3	7	16.0339	59	2
Dark metal	4.2672	14	-	20.3012	73	2
Dark metal with seams of Coal	6.4516	21	2	26.7528	94	4
Coal	0.2667	-	10½	27.0195	95	2½
Eng metal + Coal	0.4318	1	5	27.4513	96	7½
metal	0.4826	1	7	27.9339	98	2½
Coal	0.2159	-	8½	28.1498	99	11
metal	6.8834	22	7	34.338	122	6
Rock	0.6858	2	3	35.0238	124	9
metal	2.4129	7	11	37.4366	132	8
Rock	2.0066	6	7	39.4434	139	3
Brown stone	0.4063	1	4	40.8498	140	7
metal	1.3969	4	7	42.2466	145	2
Flaggy rock	2.0574	6	9	44.3042	151	11
metal	0.5842	1	11	44.8884	153	10
Grey rock	0.8636	2	10	45.7518	156	8
metal	1.5748	5	2	47.3268	161	10
Coal	0.5079	1	8	47.8348	163	6
Warren earth	0.3048	1	-	48.1396	164	6
metal	3.8354	12	7	51.9749	177	1

SECTION OF

No 8 Boring

at

Valentine Moss near Holland Colliery
Upholland.

Maps: One-inch

84

Six-inch

925E¹⁶

County

Lancashire

Height above O.D.

Latitude

Longitude

Communicated by

Copied from Holland Colliery

Date of Sinking

Made by

Book of Sections. Site identified
on mine plans, & marked on field slip.

	Thickness.			Depth from Surface.		
	m			m		
Bog	2.7432	9	-	2.7432	9	-
Sand	0.9144	3	-	3.6576	12	-
Blue loam	0.0762	-	3	3.7338	12	3
Gravel	5.6642	18	7	9.3979	30	10
Grey rock	4.8178	14	2	13.716	45	-
Hard stone	0.3302	1	1	14.0462	46	1
Blue metal	0.4572	1	6	14.5034	47	7
Light metal	2.4384	8	-	16.9418	55	7
Grey rock	1.0922	3	7	18.0339	59	2
Dark metal	4.2672	14	-	22.3009	73	2
Dark metal with seams of coal	6.4514	21	2	28.7527	94	4
Coal	0.2667	-	10½	29.0195	95	2½
Light metal & coal	0.4318	1	5	29.4513	96	7½
metal	0.4826	1	7	29.9339	98	2½
Coal	0.2159	-	8½	30.1498	98	11
metal	6.8834	22	7	37.0332	121	6
Rock	0.6858	2	3	40.1622	123	9
metal	2.4109	7	11	40.1318	131	8
Rock	2.0066	6	7	42.1386	138	3
Brown stone	0.4064	1	4	42.5449	139	7
metal	1.3969	4	7	43.9418	144	2
Flaggy rock	2.0674	6	9	45.9994	150	11
metal	0.5842	1	11	46.5835	152	10
Dark Grey rock	0.8636	2	10	47.4469	155	8
Metal	1.5748	5	2	49.0219	160	10
Coal	0.5079	1	8	49.53	162	6
Warren earth	0.3048	1	-	49.8348	163	6
metal	3.8354	12	7	53.6702	176	1

HIGHWAY & FOUNDATION SURVEYS LTD.,
BROOK LANE, PEMBERTON, WIGAN, LANCs.

BOREHOLE RECORD SHEET

Date NOVEMBER 1974		Scale 1:50	Job No. 1443	Location WORTHINGTON NURSERIES.		Borehole 18		
Method SHELL & AUGER				Client SKELMERSDALE DEV. CORP.				
Drilling & Coding Program	Water Notes & Levels	Sample Type & Depths	S.P.T. 'N' value or Cohesion*	Description	O.D. Level	Legend	Depth	
1st	Slight 1.5 sea level 2.0	U 1.0 - 1.5	25.1	TOPSOIL	64.9		0.0	
					64.4		0.5	
		U 2.5 - 3.0	79.8	Brown, mottled CLAY				
				Moist, clayey SAND with stones	63.6		1.3	
				Firm, brown, sandy BOULDER CLAY with sand bands.	63.3		1.6	
				Firm, brown, sandy BOULDER CLAY with bands of SILT.	62.4		2.5	
Med 3.0 scale 4.5	U 3.5 - 4.0	9 (11)	Wet, brown SAND + GRAVEL	61.3	3.6			
			Stiff, brown, sandy, stony CLAY with occasional large boulders.	60.7	4.2			
3rd		U 5.5 - 6.0			58.0	6.0		
				END OF BORE				

Bore depth
 Cased depth
 U Undisturbed sample
 D Disturbed sample
 X Standard penetration test
 W Water sample

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British Geological Survey

SOUTH LANCs. BORING Co. LTD.

WINDY ARBOUR · WINSTANLEY · WIGAN

BOREHOLE RECORD SHEET

Job No. 465

British Geological Survey

Date 7. 12. 65

British Geological Survey

British Geological Survey

Location Pimbo EstateCarried out for Skelmersdale Development CorporationBorehole No. F17Diameter 6"

Ground Level.....

Scale 1/50

Description	M/C %	O.S.D.	Legend	Depth	Thickness	Sample	Water Levels
<u>Topsoil</u>				0'-0			
<u>Medium Fine grey SAND</u>				1'-0	1'-0	01'-0	▽ 1'-0 8.45 am.
<u>GRAVEL</u>				2'-6	1'-6	02'-6	6.12.65
						04'-0	✓ WATER ENTRY 2'-6
					4'-0	05'-6	
<u>Firm to Soft Silty CLAY wet</u>				6'-6	2'-0	06'-6	
						07'-0	
<u>Hard brown boulder CLAY</u>				8'-6		08'-6	
						10'-0	
					5'-6	10'-0	
<u>Grey SHALE</u>				14'-0		13'-6	
					2'-0	15'-0	
				16'-0		15'-0	
						End of bore.	

Undisturbed Sample ☐Disturbed Sample ☐Water Sample ☐Standard Penetration ☒

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SOUTH LANCs. BORING Co. LTD.

WINDY ARBOUR · WINSTANLEY · WIGAN

BOREHOLE RECORD SHEETJob No. 465Date 7. 12. 65Location Pimbo Estate.

British Geological Survey

British Geological Survey

Carried out for Skelmersdale Development Corporation.Borehole No. F18.Diameter 6"

Ground Level.....

Scale 1/80.

Description	M/C %	O.S.D.	Legend	Depth	Thickness	Sample	Water Levels
Topsoil				0' 0	1' 6		(WATER ENTRY 1' 6)
Wet clayey SAND				1' 6	3' 6	2' 6 4' 6	2' 0 4pm 7. 12. 65.
Firm brown sandy CLAY damp.				5' 0	1' 6	6' 6	
Hard brown boulder CLAY.				6' 6	5' 6	8' 0 10' 6 12' 0	
				12' 0	End of bore		

Undisturbed Sample ☐Disturbed Sample ☐Water Sample ☐Standard Penetration ☐

SOUTH LANCs. BORING Co. LTD.

WINDY ARBOUR · WINSTANLEY · WIGAN

BOREHOLE RECORD SHEETJob No. 465

British Geological Survey

Date 3. 12. 65

British Geological Survey

British Geological Survey

Location Pimbo EstateCarried out for Skelmersdale Development CorporationBorehole No. F19.Diameter 6"

Ground Level

Scale 1/50

Description	M/C %	O.S.D.	Legend	Depth	Thickness	Sample	Water Levels
TOPSOIL				0' 0			
Hard brown CLAY with pockets of medium brown SAND.				1' 0	1' 0	1' 0	
				2' 0	2' 0	2' 6	
Firm brown boulder CLAY, pockets of brown SAND.				3' 0		3' 6	
						5' 0	
						6' 0-76	
				9' 0			
						8' 6	
						10' 6	
				12' 0		0' 10-12' 0	
						End of bore	

Undisturbed Sample



Disturbed Sample



Water Sample



Standard Penetration



SOUTH LANCs. BORING Co. LTD.

WINDY ARBOUR · WINSTANLEY · WIGAN

BOREHOLE RECORD SHEET

Job No. 465

Date 2. 12. 66

Location Pimbo Estate

Carried out for SKelmiersdale Development Corporation

Borehole No. F20

Diameter 6"

Ground Level

Scale 1/50

Description	M/C %	O.S.D.	Legend	Depth	Thickness	Sample	Water Levels
Topsoil				0' 0	1' 6		
Shift to hard brown boulder CLAY, sandy				1' 6	1' 6	1' 6	
						3' 0	
						3' 0	
						6' 6	
					16' 0	5' 0	
						8' 0	
						11' 6	
						13' 0	
						13' 0	
Hard dark grey SHALE				17' 6	2' 6	0 17' 6	▽ 17' 0 4.30 pm 2. 12. 65
				20' 0	End of bore		

Undisturbed Sample



Disturbed Sample



Water Sample



Standard Penetration



BOREHOLE LOG — CONTRACT E8/64

Area: 4

Site: Limbo

Borehole No.: J15

Borehole Diam.: 6 in

Method of Boring: Percussion

Ground Level:

Date of Boring—From: 12/5/65

Water Level—Struck:

—To: 12/5/65

—Standing:

Scale: 1 in to 5 feet

DRY.

Description of Strata	Sample	Depth	B.H.	Depth	O.D.	Remarks
Topsoil	D	1'0"		0'9"		
Brown Sandy clay	D	3'0"				
	D	4'0"				
	D	5'0"				
	D	5'6"		4'3"		
Firm to stiff brown Sandy boulder clay.	U	9'0"				
	U	10'6"				
				12'0"		
End of borehole.						

Sheet No 4903
Bore Hole No 89

Information from D.P.I

Date carried out 14-6-65

Ground Level

Total depth of Bore 12'-0"

Dist. of B.H. 6'

Water Table Level

[illegible]

SKELMERSDALE DEVELOPMENT CORPORATION

BORE HOLE RECORD

D. H. GARSIDE.
a. m. i. c. e. a. m. i. m. u. e.

CHIEF ENGINEER.

W. B. C. LYDDON
h. a. [arch]

CHIEF ARCHITECT - PLANNER.
dip. l. e. a. m. l. e. i.

scales .drawn .
checked .
date .

SKELMERSDALE DEVELOPMENT CORPORATION

BOREHOLE LOG — CONTRACT E8/64

Area: 4

Site: Rimbo

Borehole No.: J 20

Borehole Diam.: 6 in

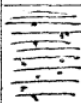
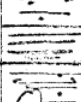
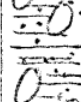
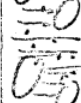
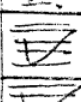
Method of Boring: Percussion

Ground Level:

Date of Boring—From: 18/5/65
—To: 28/5/65

Water Level—Struck: DRY.
—Standing:

Scale: 1 in to 5 feet.

Description of Strata	Sample	Depth	B.H.	Depth	O.D.	Remarks
Sandy CLAY	D	1'0"				
Yellow CLAY	D	4'0"		4'0"		
	D	5'0"		5'0"		
Firm to stiff brown Sandy boulder CLAY	D	9'0"				
	U	10'0"				
	U	15'0"				
Shale with some coal	U	16'6"		16'6"		
Grey SHALE	U	18'6"		18'6"		
	D	20'0"		20'0"		
End of borehole.						

U—Undisturbed : D—Disturbed : W—Water : B—Bulk Sample

Sheet No 4903
Bore Hole No 88

Information from D.P.I.

Date carried out 14-5-65

Ground Level

Total depth of Bore 20'-0"

Dia. of B.H. 6"

Water Table Level

[illegible]**SKELMERSDALE DEVELOPMENT CORPORATION**

BORE HOLE RECORD

D. H. GARSIDE.
a m. i. c. e. a m. i. mon. e.

CHIEF ENGINEER.

W. D. C. LYDDEN
h. a. [arch]

CHIEF ARCHITECT - PLANNER.
DIP. L.D. A.M.L.P.I.

scales

drawn
checked
date

D. Consultants Coal Mining Report, Network Rail Mining Report and Mining Plans

Consultants Coal Mining Report and Network Rail Mining Report provided below. Mining plans to be provided separately due to file size.