

Site Walkover Photographs:



25. Possible subsidence in road noted, which may be underlain by Alluvium deposits. Located away from the proposed warehouse.



26. Existing workshop in the north-western corner of Development Site.



27. Tarmac repair patch on the access road to the north.

Site Walkover Photographs:



28. Access road to the north with temporary storage units.



29. Access road and the overgrown area to the north, difference in levels and a gentle slope.



30. Overgrown area along the northern boundary of Development Site.

Site Walkover Photographs:



31. Watercourse along the northern and eastern boundary of the Site, observed dry during the site walkover.



32. Access road to between the northern boundary of the Site and the H-Pack warehouse.



33. Proposed new vehicle access from Rackery Lane

Site Walkover Photographs:



34. Change in levels and a gentle slope between the existing H-Pack car park and the north-eastern boundary.



35. A fence separating SHARP and H-Pack land, and trees along the proposed access from Rackery Lane.


APPENDIX 4

Historical Boreholes (British Geological Survey – BGS)

Historical Boreholes – source: British Geological Survey (BGS) Onshore GeoIndex.

SJ 35 NW/
~~374~~
364-375

British Geological Survey British Geological Survey British Geological Survey



REPORT No.
LS 1505

MARCH 1984

British Geological Survey British Geological Survey British Geological Survey

REPORT OF SOILS AND FOUNDATION CONDITIONS

PROPOSED NEW INDUSTRIAL DEVELOPMENT, LLAY INDUSTRIAL
ESTATE (PHASE II), MINERS ROAD, LLAY.
(Contract 299)

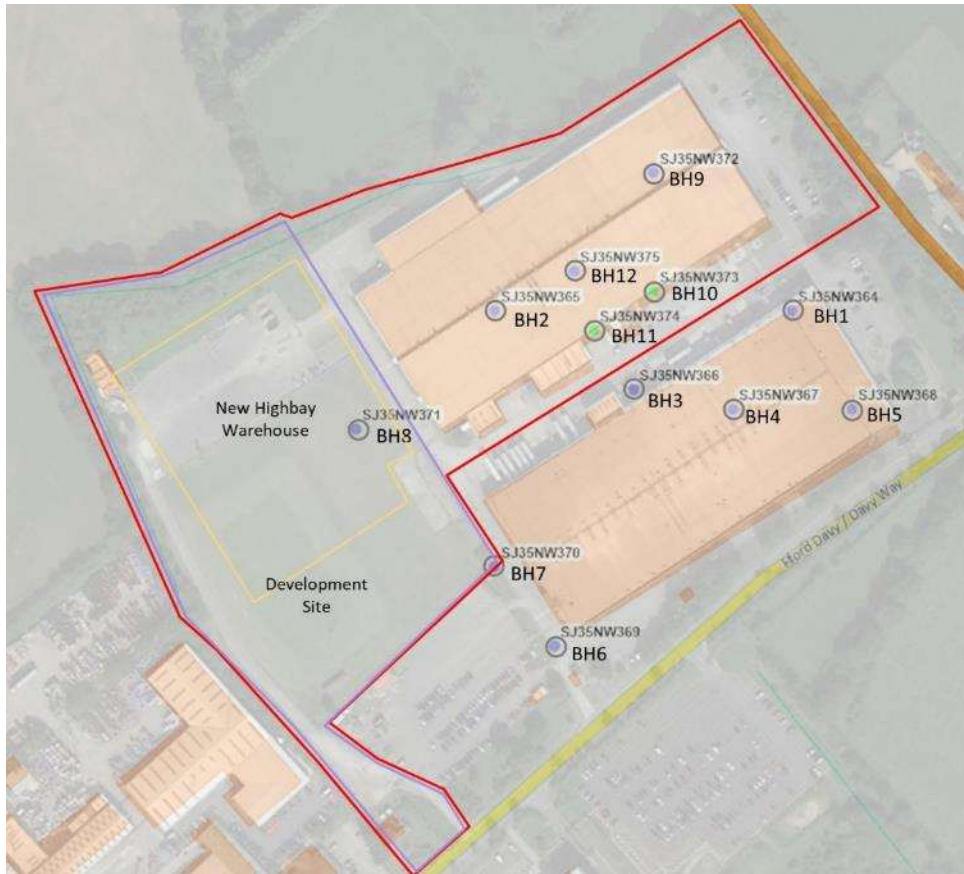
By
M. J. CHETTLEBURGH, B.Sc.
F.I.H.E., P.Eng. (Alberta), M.E.I.C.

Prepared for:
Technical Services Department,
Wrexham-Maelor Borough Council,
Rhostyllen House,
Rhostyllen,
Wrexham.

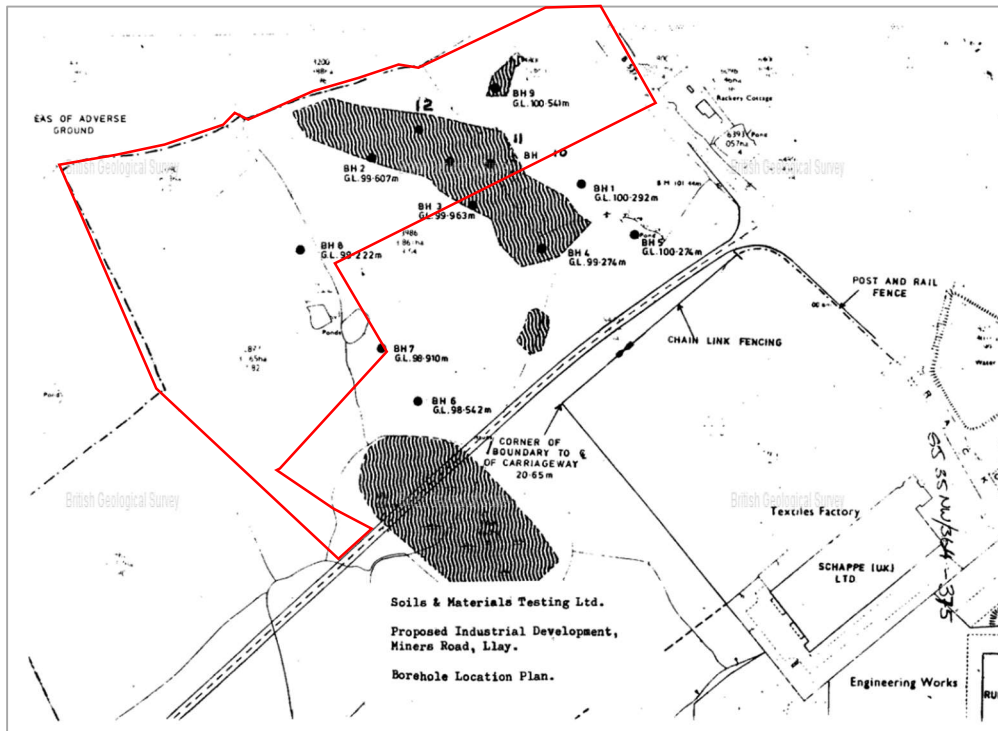
British Geological Survey British Geological Survey

SOILS & MATERIALS TESTING LTD.
LLANDDULAS
ABERGELE
CLWYD LL22 8HT
(0492) 517879

5473 Historical Boreholes



Borehole's locations according to BGS Onshore GeoIndex.

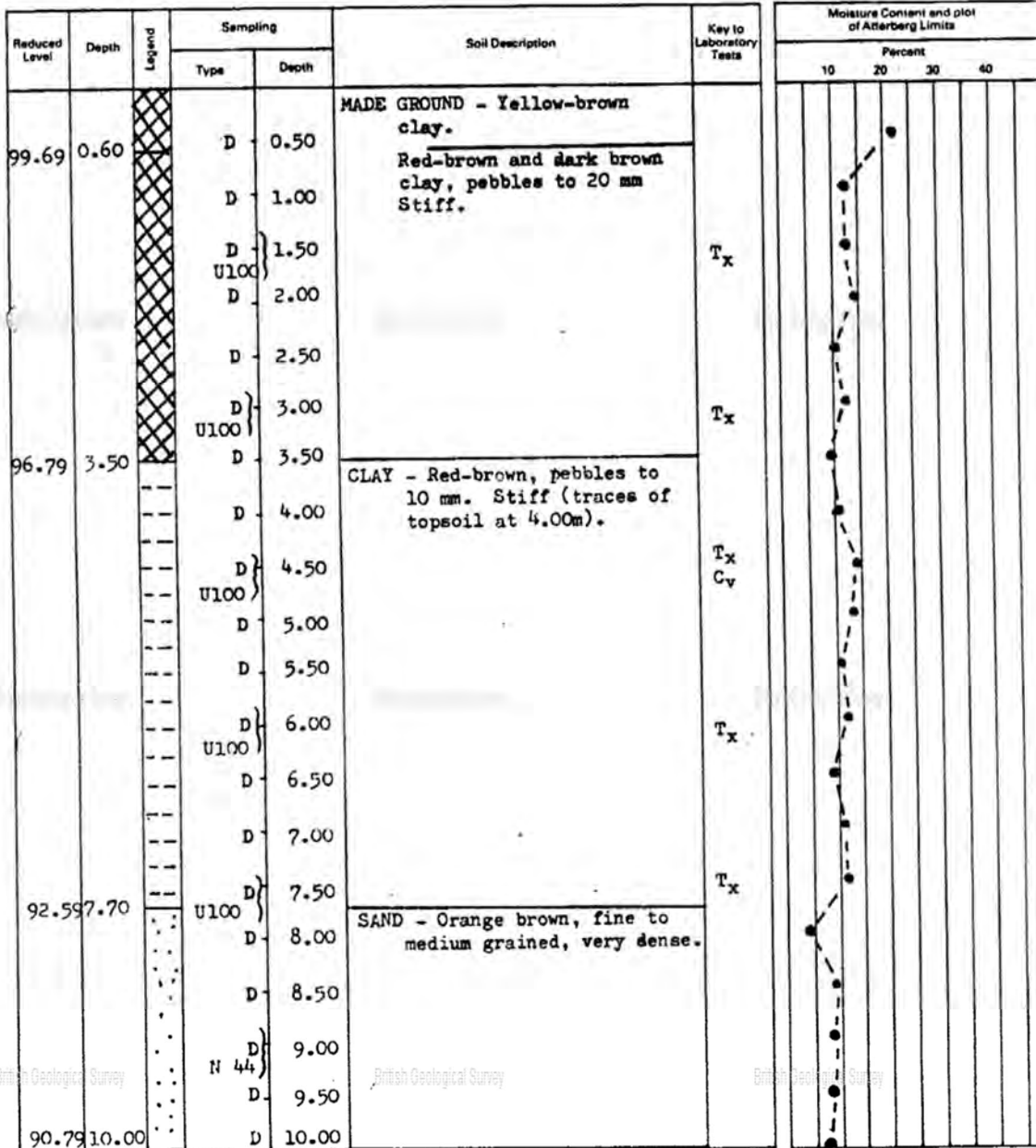


Location plan *Report of Soils and Foundation Conditions*, March 1984. Soils and Materials Testing Ltd.

SJ35NW364(BGS) – BH1

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT
LOCATION: MINERS ROAD, LLAY.
GROUND LEVEL: 100.29
TYPE OF BORING: PERCUSSION RIG.
SCALE OF LOG: 1 : 50

BOREHOLE NO.: 1
 SJ 35NW/364
DIA OF CASING: 154 mm.
DATE DRILLED: 8th February



Ground water

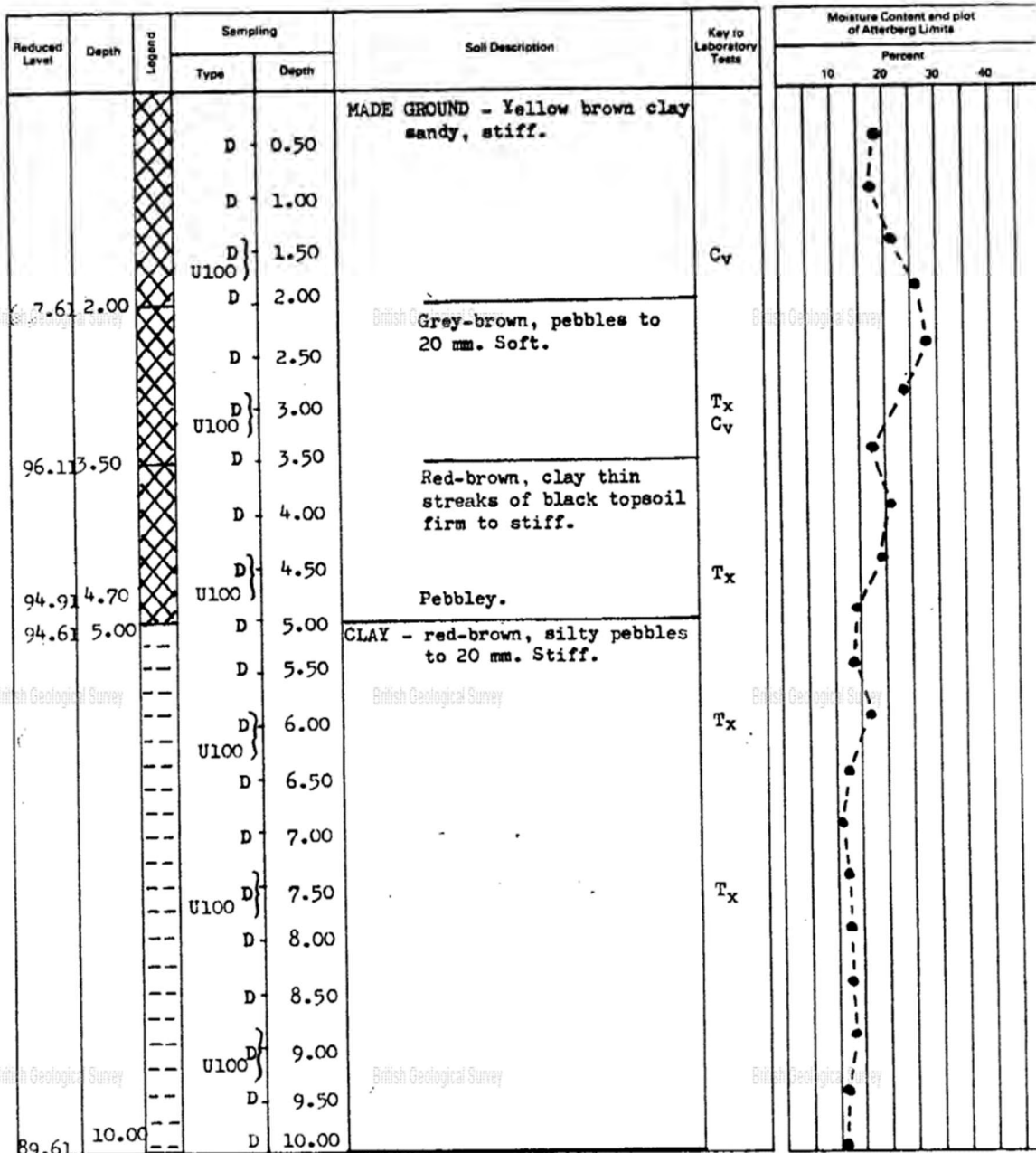
Encountered at Standing level	Nil		
Quantity			

SHEET 1 OF 1
 SHEET No.

SJ35NW365(BGS) – BH2

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT
LOCATION: MINERS ROAD, LLAY.
GROUND LEVEL: 99.61
TYPE OF BORING: PERCUSSION RIG.
SCALE OF LOG: 1 : 50

BOREHOLE NO.: 2
 SJ35NW/365
DIA OF CASING: 154 mm.
DATE DRILLED: 8/9th February



Ground water

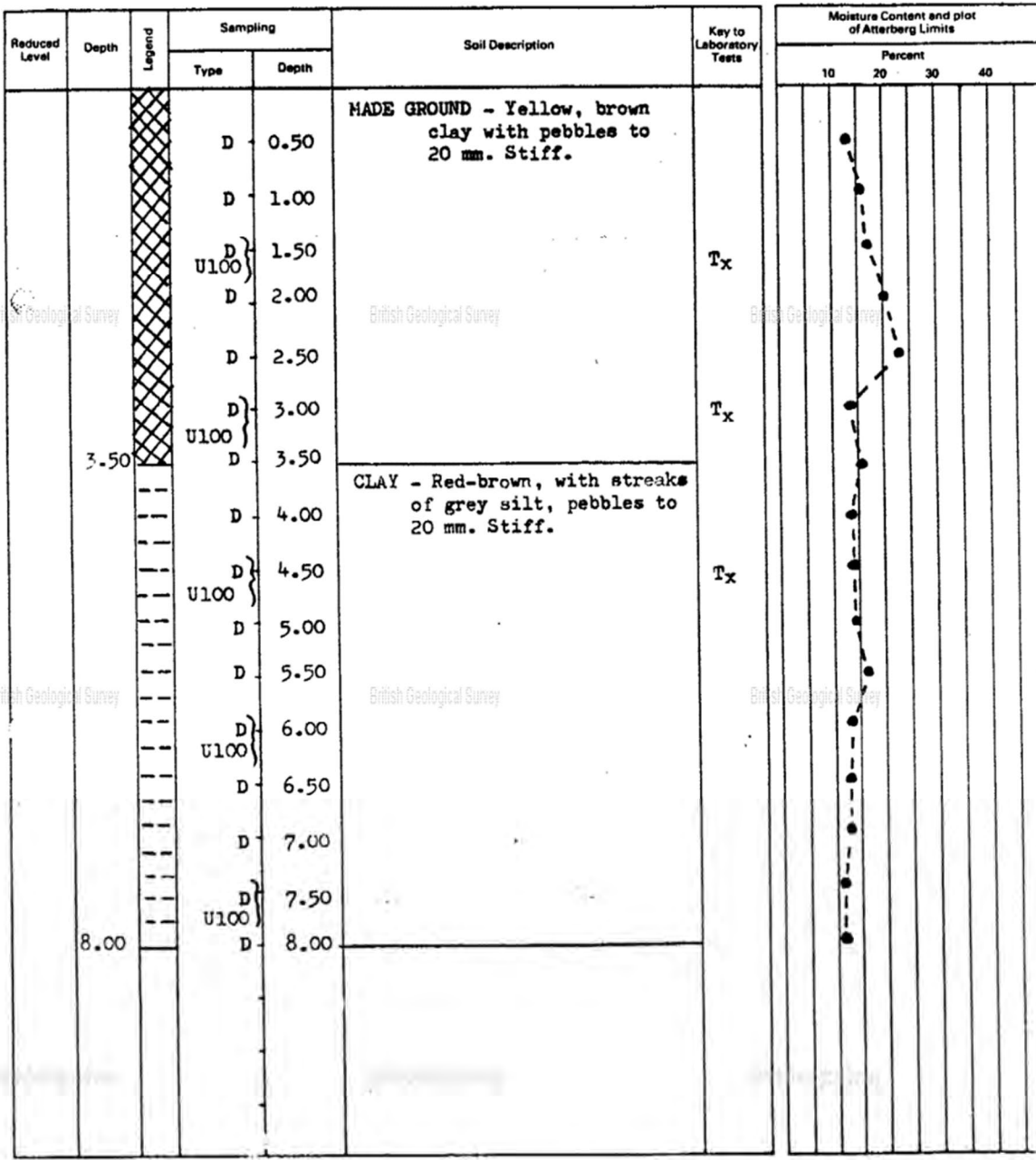
Encountered at Standing level	Nil		
Quantity			

SHEET 1 OF 1
 SHEET No.

SJ35NW366(BGS) – BH3

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT
LOCATION: MINERS ROAD, LLAY.
GROUND LEVEL:
TYPE OF BORING: PERCUSSION RIG.
SCALE OF LOG: 1 : 50

BOREHOLE NO.: 3
 SJ 35NW / 366
DIA OF CASING: 154 mm.
DATE DRILLED: 9th February ..



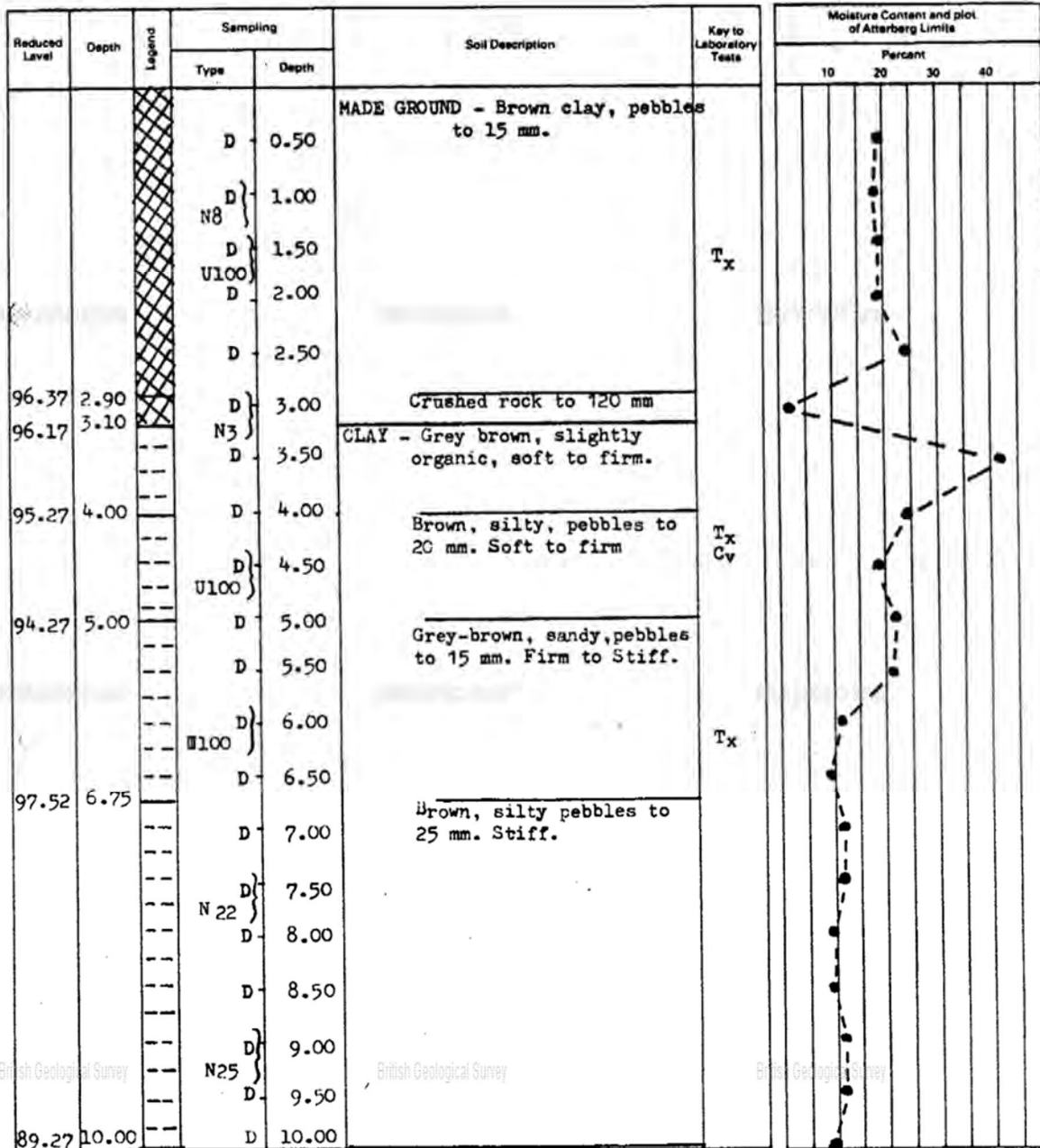
Ground water	Encountered at Standing level	Nil		
	Quantity			

SHEET 1 OF 1
 SHEET No.

SJ35NW367(BGS) – BH4

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT
LOCATION: MINERS ROAD, LLAY.
GROUND LEVEL: 99.27
TYPE OF BORING: PERCUSSION RIG.
SCALE OF LOG: 1 : 50

BOREHOLE NO.: 4
 SJ35NW/367
DIA OF CASING: 154 mm.
DATE DRILLED: 13th February



Ground water

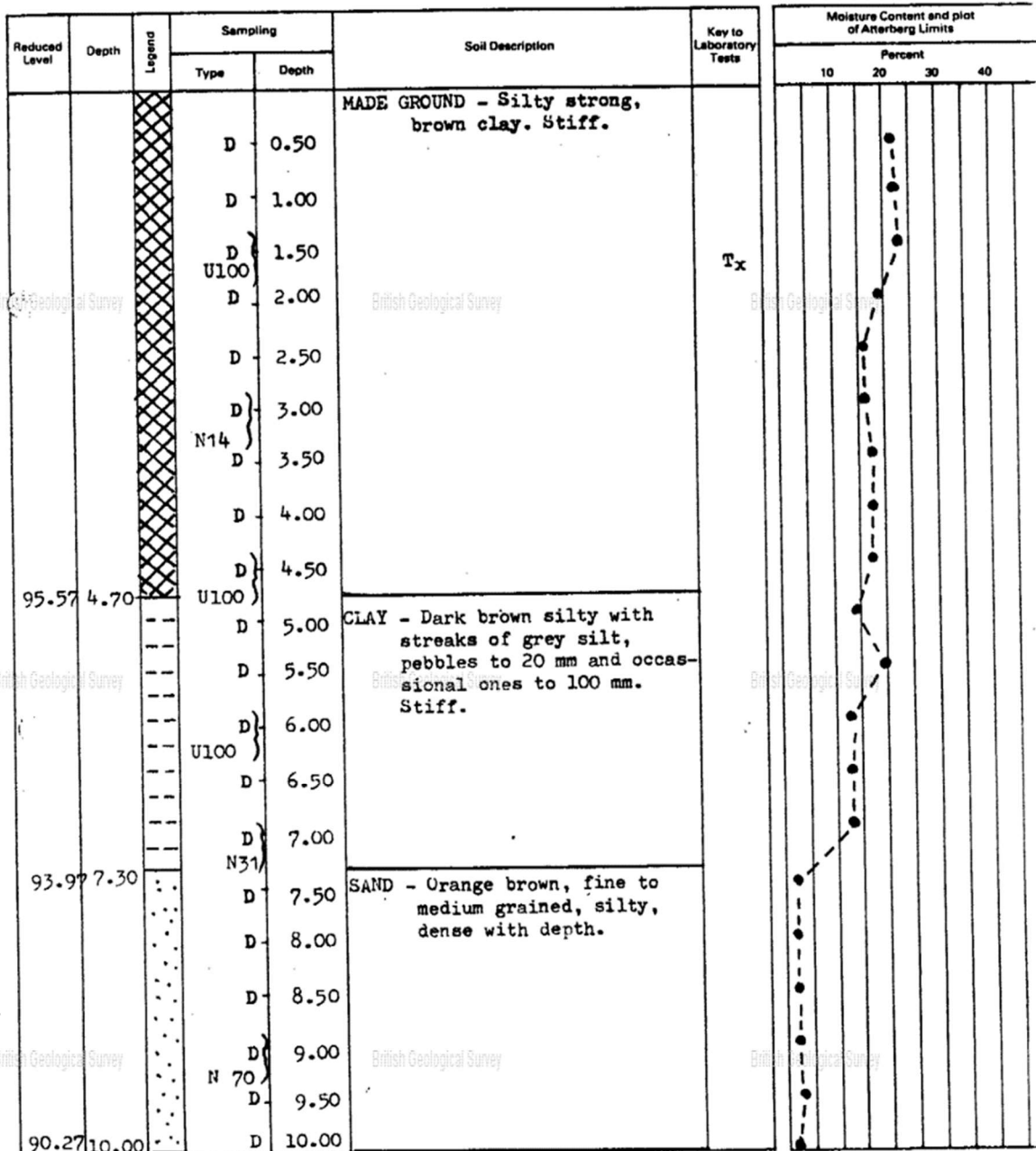
Encountered at Standing level	3.50	3.00
	2.25	2.20
Quantity	Trickle, BH dry at 4.00 metres	

SHEET 1 OF 1
 SHEET No.

SJ35NW368(BGS) – BH5

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT
LOCATION: MINERS ROAD, LLAY.
GROUND LEVEL: 100.77
TYPE OF BORING: PERCUSSION RIG.
SCALE OF LOG: 1 : 50

BOREHOLE NO.: 5
 SJ 35 NW/368
DIA OF CASING: 154 mm.
DATE DRILLED: 13th February



Ground water

Encountered at Standing level	NIL		
Quantity			

SHEET 1 OF 1
 SHEET No.

SJ35NW369(BGS) – BH6

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT
LOCATION: MINERS ROAD, LLAY.
GROUND LEVEL: 99.54
TYPE OF BORING: PERCUSSION RIG.
SCALE OF LOG: 1 : 50

BOREHOLE NO.: 6
 SJ35NW/369
DIA OF CASING: 154 mm.
DATE DRILLED: 9/10th February

Reduced Level	Depth	Legend	Sampling		Soil Description	Key to Laboratory Tests	Moisture Content and plot of Atterberg Limits				
			Type	Depth			Percent				
							10	20	30	40	
98.04	1.50	[Cross-hatched pattern]	D	0.50	MADE GROUND - Brown clay, silty a few pebbles to 15 mm. Soft top 150 mm, firm below						
			U100								
			D	1.00							
			D	1.50							
			U100								
			D	2.00							
			D	2.50							
			D	3.00							
			U100								
			D	3.50							
92.79	6.75	[Dashed pattern]	D	4.00	CLAY - Red-brown, streaks of grey silt, a few pebbles to 25 mm. Stiff.		Tx				
			D	4.50							
			U100								
			D	5.00							
			D	5.50							
			D	6.00							
			U100								
			D	6.50							
			D	7.00							
			D	7.50							
90.94	8.60	[Dotted pattern]	D	8.00	SANB - Orange brown, fine grained small pieces of angular limestone. Medium dense.						
			D	8.50							
			D	9.00							
89.54	10.00	[Dotted pattern]	D	9.50	Red-brown, coarse grained medium dense.						
			D	10.00							

Ground water	Encountered at Standing level	NIL		
	Quantity			

SHEET 1 OF 1
 SHEET No.

SJ35NW370(BGS) – BH7

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT
LOCATION: MINERS ROAD, LLAY.
GROUND LEVEL: 98.91
TYPE OF BORING: PERCUSSION RIG.
SCALE OF LOG: 1 : 50

BOREHOLE NO.: 7
 SJ 35 NW 370
DIA OF CASING: 154 mm.
DATE DRILLED: 10/11th February

Reduced Level	Depth	Legend	Sampling		Soil Description	Key to Laboratory Tests	Moisture Content and plot of Atterberg Limits																						
			Type	Depth			Percent																						
							10	20	30	40																			
96.91	2.00	[Cross-hatched pattern]	D	0.50	MADE GROUND - Brown clay, traces of coal. Stiff.																								
				N17								1.00																	
			D	1.50																									
				U100								2.00																	
			96.11	2.80								[Dashed pattern]	D	2.50	CLAY - Brown, with thin veins of grey silt, pebbles to 25 mm. Stiff.														
														D							3.00								
													D	3.50															
														U100							4.00								
													90.61	8.30							[Dotted pattern]	D	4.50	Dark brown, silty pebbles to 5 mm and occasional ones to 30 mm. Stiff.					
																							N26						
D	5.50																												
	D	6.00																											
D	6.50																												
	U100	7.00																											
D	7.50																												
	N32	8.00																											
D	8.50																												
	D	9.00																											
D	9.50																												
	N32	10.00																											
88.91	10.00				SAND - Orange-brown, fine grained, medium dense to dense.																								

Ground water

Encountered at Standing level	NIL		
Quantity			

SHEET 1 OF 1
 SHEET No.

SJ35NW371(BGS) – BH8

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT
LOCATION: MINERS ROAD, LLAY.
GROUND LEVEL: 99.22.
TYPE OF BORING: PERCUSSION RIG.
SCALE OF LOG: 1 : 50

BOREHOLE NO.: {}
 SJ35NW / 371
DIA OF CASING: 154 mm.
DATE DRILLED: 12th February

Reduced Level	Depth	Legend	Sampling		Soil Description	Key to Laboratory Tests	Moisture Content and plot of Atterberg Limits							
			Type	Depth			Percent							
							10	20	30	40				
98.72	0.50	[Cross-hatched]	D	0.50	MADE GROUND - Wet, brown clay (300mm) on brown-grey clay	Tx								
				N27										
			D	1.00	CLAY - Red-brown with veins of grey silt a few pebbles to 30 mm. Stiff.									
			D	1.50										
			U100	2.00										
			D	2.50										
			96.22	3.00	[Dashed]							D	3.00	Dark brown becoming grey with occasional boulders to 200 mm. Stiff.
												U100	3.50	
												D	4.00	
												D	4.50	
U100	5.00													
D	5.50													
90.22	9.00	[Dashed]				D	6.00							
						N31	6.50							
						D	7.00							
						U100	7.50							
89.22	10.00	[Dashed]	D	8.00										
			D	8.50										
			U100	9.00										
			D	9.50	Brown, sandy gravelly to 25 mm. Firm to stiff.									
			D	10.00										

Ground water

Encountered at Standing level	NIL		
Quantity			

SHEET 1 OF 1
 SHEET No.

SJ35NW372(BGS) – BH9

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT
LOCATION: MINERS ROAD, LLAY.
GROUND LEVEL: 100.54
TYPE OF BORING: PERCUSSION RIG.
SCALE OF LOG: 1 : 50

BOREHOLE NO.: 3
 SJ35NW/372
DIA OF CASING: 154 mm.
DATE DRILLED: 12th February

Reduced Level	Depth	Legend	Sampling		Soil Description	Key to Laboratory Tests	Moisture Content and plot of Atterberg Limits						
			Type	Depth			Percent						
							10	20	30	40			
		[Cross-hatched pattern]	D	0.50	MADE GROUND - Brown, silty clay, Soft.								
			D	1.00									
			D	1.50									
			U100	2.00									
			D	2.50									
97.64	2.90		D	3.00				Crushed stone.					
97.34	3.20		N2	3.50				PEAT Fibrous dark brown organic, silty, soft.				91	
97.04	3.50		D	4.00				Dark brown, clayey, silty organic, soft.				75	
			D	4.50					Tx Cv				72
			U100	5.00									
95.44	5.10	D	5.50		CLAY - Brown, silty, with a few pebbles mainly to 20 mm. Firm.								
		D	6.00										
		U100	6.50		Red-brown, silty, pebbles to 15 mm with occasional cobbles to 140 mm. Stiff.								
94.14	6.40	D	7.00										
		D	7.50										
		N15	8.00										
		D	8.50										
		D	9.00										
		U100	9.50										
90.54	10.00	D	10.00										

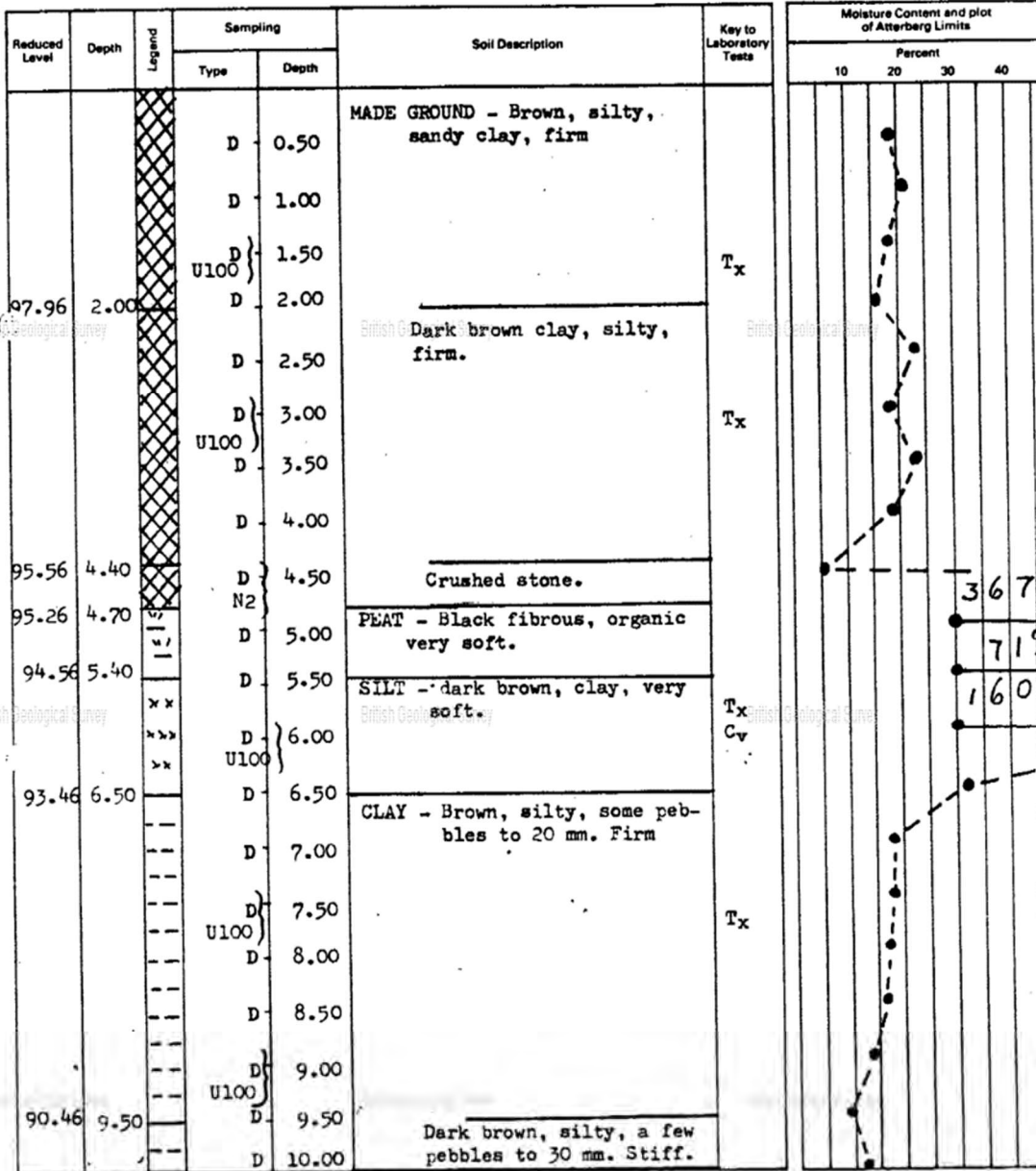
Ground water	Encountered at Standing level	2.90		
	Quantity	Large rate of inflow		

SHEET 1 OF 1
 SHEET No.

SJ35NW373(BGS) – BH10

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT
LOCATION: MINERS ROAD, LLAY.
GROUND LEVEL: 99.96
TYPE OF BORING: PERCUSSION RIG.
SCALE OF LOG: 1.: 50

BOREHOLE NO.: 1 ()
 SJ35NW/373
DIA OF CASING: 154 mm.
DATE DRILLED: 10th February



Ground water

Encountered at Standing level	4.40		
Quantity	Large rate of inflow.		

SHEET 1 OF 2
 SHEET No.

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT

LOCATION: MINEIS ROAD, LLAY

GROUND LEVEL: 99.96

TYPE OF BORING: PERCUSSION RIG British Geological Survey

SCALE OF LOG: 1:50

BOREHOLE NO.: 10
 SS 35 NW/373 ~~10~~

DIA OF CASING: 154 mm.

British Geological Survey

DATE DRILLED: 11th February

Reduced Level	Depth	Legend	Sampling		Soil Description	Key to Laboratory Tests	Moisture Content and plot of Atterberg Limits				
			Type	Depth			Percent				
							10	20	30	40	
			D	10.50	CLAY - Dark brown, silty a few pebbles to 30 mm. Stiff.						
			U100								
			D	11.00							
			D	11.50							
			D	12.00							
			U100								
			D	12.50							
			D	13.00							
			D	13.50							
			U100								
			D	14.00							
			D	14.50							
84.96	15.00		D	15.00							

Ground water

Encountered at Standing level	Dry once casing cut off water
	below 6.00 metres
Quantity	

SHEET 2 OF 2
 SHEET No.

SJ35NW374(BGS) – BH11

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT

BOREHOLE NO.: 11

LOCATION: MINERS ROAD, LLAY.

SS 35 NW / 374 ~~2784~~

GROUND LEVEL:

DIA OF CASING: 154 mm.

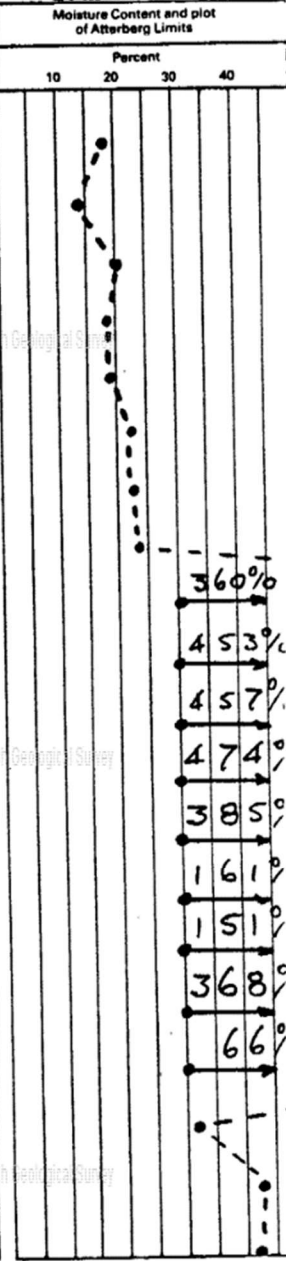
TYPE OF BORING: PERCUSSION RIG

DATE DRILLED:

SCALE OF LOG: 1 : 50

18th February - 3m
20th February.

Reduced Level	Depth	Legend	Sampling		Soil Description	Key to Laboratory Tests	Moisture Content and plot of Atterberg Limits					
			Type	Depth			Percent					
							10	20	30	40		
	1.00	[Cross-hatched pattern]	D	0.50	MADE GROUND Multi-coloured clay, firm, wet on top.							
	1.00			1.00								Red-brown clay, silty, stiff.
	2.20		D	1.50	Light brown, sandy, firm.							
				2.00								2.50
	4.30	[Vertical line pattern]	D	3.00	PEAT Black, highly organic, soft.	C _v						
				3.50								4.00
			6.80	D	4.50	SILT Dark grey, very soft.						
					5.00							
	8.00	[Vertical line pattern]	D	6.00	Grey with layers of peat, very soft.							
				6.50								7.00
			7.50	D	7.50	Brownish grey, saturated, soft.						
					8.00							
	9.00	[Vertical line pattern]	D	9.00								
				9.50								10.00



Ground water

Encountered at Standing level	4.00	6.50-10.50
Quantity	2.85	Trickle. Occasional small entries.

SHEET 1 OF 2
SHEET No.

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT.
LOCATION: MINERS ROAD, LLAY.
GROUND LEVEL:
TYPE OF BORING: PERCUSSION RIG.
SCALE OF LOG: 1 : 50

BOREHOLE NO.: 11
 SS 35 NW / ~~32/198~~
 DIA OF CASING: 154 mm.
 DATE DRILLED: 20th February 1984

Reduced Level	Depth	Legend	Sampling		Soil Description	Key to Laboratory Tests	Moisture Content and plot of Atterberg Limits				
			Type	Depth			Percent				
	10.20				SILT Brownish grey, saturated, soft						
			D } U100	10.50	CLAY Red-brown, silty, firm to stiff.	Tx					
			D	11.00							
			D	11.50							
			D	12.00							
	12.50		D	12.50							

Ground water

Encountered at Standing level			
Quantity			

SHEET 2 OF 2
 SHEET No.

SJ35NW375(BGS) – BH12

PROJECT: PROPOSED INDUSTRIAL DEVELOPMENT
LOCATION: MINERS ROAD, LLAY.
GROUND LEVEL:
TYPE OF BORING: PERCUSSION RIG.
SCALE OF LOG: 1 : 50

BOREHOLE NO.: 12
 SJ 35 NW 375
DIA OF CASING: 154 mm.
DATE DRILLED: 20th February

Reduced Level	Depth	Legend	Sampling		Soil Description	Key to Laboratory Tests	Moisture Content and plot of Atterberg Limits						
			Type	Depth			Percent						
							10	20	30	40			
		[Cross-hatched pattern]	N7	D	0.50	MADE GROUND Brown, silty clay Soft top 300mm Stiff below.							
			D		1.00								
	1.50		D		1.50								
			U100	D	2.00	Red brown, silty, sandy, clay. Stiff.	T _x						
			D		2.50								
			D		3.00		T _x						
			D		3.50								
	3.95		D		4.00	Lumps of limestone.							
	4.30		D		4.50	PEAT Black, highly organic, very soft.	T _x						
	5.00		D		5.00	Black with layers of silt. Soft.							
		U100	D	5.50									
		D		6.00		T _x							
		U100	D	6.50									
	6.65	D		7.00	CLAY. Brown, silt, soft.								
		D		7.50									
	7.70	U100	D	8.00	SAND. Brown, saturated.								
	8.10	D		8.00									
		N21	D	8.50	CLAY. Brown, silty, stiff.								
		D		9.00		T _x							
		U100	D	9.50									
	10.00	D		10.00									

270%
 96%
 105%
 128%

Ground water

Encountered at Standing level	3.20		
	2.70		
Quantity	Trickle.		

SHEET 1 OF 1
 SHEET No.

WWW.CAULMERT.COM



Registered Office: InTec, Menai, Bangor, Gwynedd, LL57 4FG

Tel: 01248 672666

Email: contact@caulmert.com

Web: www.caulmert.com