

APPENDIX 2

GENERAL NOTES ON SITE WORKS

A2.1 SITE WORK

A2.1.1 Light Cable Percussion Boring

For routine soil exploration to depths in excess of 3m, the light cable percussion rig is generally employed for boring through soils and weak rocks. It consists of a powered winch and tripod frame, with running wheels that are permanently attached so that the rig may be towed behind a suitable vehicle. The rig is towed into position and set up using its own winching system.

The locations of services are checked to make sure the borehole is not situated unacceptably near any services. Regardless of the proximity of services, a CAT scan is undertaken at the borehole location and a trial hole dug to 1.20m by hand.

Boreholes are advanced in soil by the percussive action of the cable tool. The force of the cylindrical tool as it is dropped a short distance cuts a plug of cohesive soil that is removed by the tool.

In non-cohesive soils, the borehole is advanced by a 'shell', otherwise known as a 'bailer' or 'sand pump', which incorporates a clack valve. Material is transferred into the shell and retained by the clack valve. The water level in a borehole is maintained above that in the surrounding granular soil to allow for temporary reductions in the head of water as the shell is withdrawn from the borehole. Water should flow from the borehole into the surrounding soil at all times to prevent 'piping' and loosening the soil at the base of the hole. The casing is always advanced with the borehole in granular soil so that material is drawn from the base rather than the borehole sides.

Obstructions to boring are overcome by fitting a serrated chiselling ring to the base of the percussion tool. For large obstructions, a heavy chisel with a hardened cutting edge may have to be used.

Disturbed samples are taken in polythene bags, jars or tubs that are sealed against air or water loss.

Undisturbed samples are generally taken in cohesive materials at changes in strata and at one metre intervals to 5 metres then at 1.5 metre intervals to the full depths of the borehole. The general purpose open-tube sampler is suitable for firm to stiff clays, but is often used to retrieve disturbed samples of weak rocks, soft or hard clay and also clayey sand or silts. This has been adopted for routine use, and usually consists of a 100mm internal diameter tube (U100), which is capable of taking soil samples up to 450mm in length. The undisturbed samples are sealed at each end using micro-crystalline wax to prevent drying.

Standard penetration tests are generally carried out in non-cohesive soils but also in stiff clays and soft rocks at frequencies similar to that of undisturbed sampling.

A2.1.2 Trial Pits

Shallow trial pits are usually dug using a hydraulic back-hoe excavator. This method of excavation is used in ground that can temporarily stand unsupported. For practical reasons the depth of excavation is limited to 4 – 5m. Where personnel are required to enter pits the sides must be made safe by sheet metal frames. Alternatively it may be possible to excavate the sides to a safe profile by means of a series of benches.

Entry by personnel into pits deeper than 1.20m with unsupported sides is not permitted for health and safety reasons.

Trial pits provide access for the taking samples, carrying out insitu tests (e.g. CBR, hand vane tests, soakaway tests) and allow for a more detailed examination of discontinuities within shallow ground conditions. The engineering field record can include diagrams of lateral variations and photographic evidence of the pit and spoil can be taken.

Pits can also be extended into trial trenches in order to trace particular underground features.

A2.1.3 Drive-in Window Sampler

The drive-in window sampler consists of a series of cylindrical sample tubes, generally varying in diameter from 80mm to 35mm. A cutting shoe is fitted to the bottom of each tube, while a window, representing about a quarter of the circumference, is cut along the length of the tube.

The largest diameter tube is driven into the ground using a small vibrating breaker. The sample tube is extracted by means of a ratchet or hydraulic extraction system.

The borehole is extended by using progressively smaller diameter tubes.

Soil samples are extracted through the window of the tube.

A2.2 IN-SITU TESTS

A2.2.1 Standard Penetration Test

The Standard Penetration Test is carried out in accordance with the proposals recommended by BS 1377, Part 9, 1990, ref 5.3.

The standard penetration test, **SPT**, covers the determination of the resistance of soils to the penetration of a split barrel sampler. A 50mm diameter split barrel sampler is driven 450mm into the soil using a 65kg hammer with a 760mm drop. The penetration resistance is expressed as the number of blows required to obtain 300mm penetration below an initial seating drive of 150mm through any disturbed ground at the bottom of the borehole. The number of blows to achieve the standard penetration of 300mm is reported as the 'N' value.

The test is generally carried out in fine soils, however, it may also be carried out in coarse granular soils, weak rocks and glacial tills using the same procedure as for the SPT but with a 50mm diameter, 60° apex solid cone replacing the split spoon sampler, **CPT**.

When attempting the standard penetration test in very dense material or weathered rocks it may be necessary to terminate the test before completion to prevent damage to the equipment. In these circumstances it is important to distinguish how the blow count relates to the penetration of the sampler. This may be achieved in the following manner:

- Where the seating drive has been completed, the test drive is terminated if 50 blows are reached before the full penetration of 300mm is achieved. The penetration for 50 blows is recorded and an approximate N value obtained by linear extrapolation of the number of blows for the partial test drive.
- If the seating drive of 150mm is not achieved within the first 25 blows, the penetration after 25 blows is recorded and the test drive then commenced.
- For tests in soft rocks, the test drive should be terminated after 100 blows where the penetration of 300mm has not been achieved.

The N-value obtained from the Standard Penetration Test may be used to assess the relative density of sands and gravels as follows:

Term	SPT N-Value : Blows/300mm Penetration
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Over 50

A2.3 SAMPLES

- U(x) represents undisturbed 100mm diameter sample with (x) being the number of blows required to obtain sample.
- U fail indicates undisturbed sample not recovered
- HV represents Hand Vane test with equivalent undrained shear strength
- PP represents Pocket Penetrometer test with equivalent undrained shear strength
- CBR represents California Bearing Ratio test
- B represents large bulk disturbed samples
- D represents small disturbed sample
- W represents water sample
- ▽ represents water strike
- ▼ represents level to which water rose

A2.4 DESCRIPTION OF SOILS

A2.4.1 General

The procedures and principles given in Section 6 of BS 5930, ref. 5.2 have been used in the soil descriptions contained within this report.

A2.4.2 Predominantly Coarse Soils

A coarse soil (omitting any boulders or cobbles) contains about 65% or more coarse material and is described as a SAND or GRAVEL depending on which of the constituents predominates. The secondary constituents of coarse soils should precede the main soil type e.g. 'Medium dense brown very gravelly coarse SAND. Gravel is subangular fine and medium of sandstone and mudstone'.

A2.4.3 Deposits containing silt-sized and clay-sized particles

Most soils are mixtures of clay and silt sized particles. Fine soil should be described as either a clay or a silt, depending on the plastic properties. If ambiguous, the term CLAY/SILT should be used.

A2.4.4 Deposits containing mixtures of fine and coarse soil.

The appropriate quantified terms should be used before the principal soil type. It is recommended that the dominant secondary fraction come immediately before the principal soil term. Additional detail can be added in a separate sentence thus, 'Gravelly very clayey SAND. Gravel (10%) is fine of rounded quartz. Clay is firm'.

The terms 'silty' and 'clayey' are mutually exclusive as in a coarse soil and based on the plastic properties of the fine fraction.

Table 1 Deposits containing boulder-size and cobble-size particles

Term	Composition
BOULDERS (or COBBLES) with a little finer material	Up to 5% finer material
BOULDERS (or COBBLES) with some finer material	5 to 20% finer material
BOULDERS (or COBBLES) with much finer material	20 to 50% finer material
FINER MATERIAL with many boulders (or cobbles)	50 to 20% boulders (or cobbles)
FINER MATERIAL with some boulders (or cobbles)	20 to 5% boulders (or cobbles)
FINER MATERIAL with occasional boulders (or cobbles)	up to 5% boulders (or cobbles)

Term	Principal Soil Type	Approximate proportion of secondary constituent
Slightly sandy or gravelly	SAND or	Up to 5%

Sandy or gravelly	GRAVEL	5 to 20%
Very sandy or gravelly		over 20%
	SAND and GRAVEL	about equal proportions

Table 2 Mixtures of coarse and fine fractions.

Term Before	Principal Term	Proportion of secondary Coarse soil	constituent Coarse and/or fine soil
Slightly clayey or silty and/or sandy gravelly	SAND and/or		< 5
Clayey or silty and/or sandy or gravelly	GRAVEL		5 - 20 %
Very clayey or silty and/or sandy or gravelly			20 %
Very sandy or gravelly	SILT or CLAY	< 65%	
Sandy and/or gravelly		35 - 65 %	
Slightly sandy an/or gravelly		<35 %	

For clays the strength scale is used as follows:

Term	Field Identification	Undrained shear strength (KN/m ²)
Very Soft	Exudes between fingers when squeezed in hand	< 20
Soft	Moulded by light finger pressure	20 - 40
Firm	Can be moulded by strong finger pressure	40 - 75
Stiff	Cannot be moulded by finger. Can be indented by thumb.	75 - 150
Very Stiff	Can be indented by thumbnail.	150 - 300
Hard (or very weak mudstone)		> 300

A2.4.5 Man Made Soils

Man made soils (Made Ground or Fill) have been placed by man and can be divided into those composed of natural reworked soils and those composed of man-made materials. Fills are placed in the ground in a controlled manner and soils defined as Made Ground are placed without any engineering control. For example:

'MADE GROUND comprising plastic bags, window frames, garden refuse and newspapers'.

'MADE GROUND dense brown sandy GRAVEL with occasional tiles, wire and glass'.

'Firm yellow brown slightly sandy CLAY with clods (up to 200mm) of firm to stiff orange CLAY (EMBANKMENT FILL)'.

A2.4.6 Organic Soils

Small quantities of dispersed organic matter can have a marked effect on plasticity and hence the engineering properties of the soil. The following quantifying terms are appropriate:

Term	Organic Content	Typical Colour
Slightly organic clay or silt	2 - 5	Grey
Slightly organic sand	1 - 3	As mineral
Organic clay or silt	5 - 10	Dark grey
Organic sand	3 - 5	Dark grey
Very organic clay or silt	>10	Black
Very organic sand	>5	Black

A2.5 GEOLOGICAL LOGGING

A2.5.1 General

The procedures and principles given in Section 6 of BS 5930, ref. 5.2 have been used in the rock descriptions contained within this report.

Open hole drilling (OH) was achieved with a tricone rock bit.

A core run is the length of rock drilled from the base of the hole each time the core barrel is run into the hole.

A2.5.2 Fracture State

Various criteria may be used for quantitative description of the Fracture State of rock cores. The standard terms are as follows.

TCR (%)	ratio of core recovered (solid and non intact) to length of core run.
SCR (%)	ratio of solid core recovered to length of core run.
RQD (%)	ratio of solid core pieces longer than 100mm to length of core run.

Fracture Index	a count of the number or spacing of fractures over an arbitrary length of core of similar intensity of fracturing. Commonly reported as either Fracture Index (FI, number of fractures per metre) or as Fracture Spacing (I, mm).
NR	indicates no core recovery.
NI	indicates intensely fractured rock which is not of sufficient quality to allow an assessment of fracture spacing to be made.



**IAN FARMER
ASSOCIATES**

Site
Bolton upon Dearne
Borehole Number
BH3

Boring Method Single Percussion	Casing Diameter	Ground Level (mOD) 24.05	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 116.07 E 499.75 N	Dates 06/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.20	B4					(0.30)	MADE GROUND Tarmac (drillers description).		
0.50	D1				23.75	0.30	MADE GROUND Grey clayey GRAVEL. Gravel is angular fine to coarse of sandstone.		
1.00	D2				23.25	0.80	Stiff orange brown occasional mottled grey sandy SILT/CLAY.		
1.00	A3				23.15	0.90			
1.20-1.65	SPT 25*/135 50/315			9.16/29.21		(0.50)	Yellow brown mottled grey brown SANDSTONE: Recovered as clayey very weak and weak fine to coarse gravel.(Possible Bedrock).		
1.20-1.45	D5			06/03/2006	22.65	1.40	Complete at 1.40m		

Remarks Inspection pit dug to 1.20m BGL. Standpipe installed to 1.40m BGL. Casing from 0.90m to 1.20m for 1.00 hour.	Scale (approx)	Logged By
	1:50	SM
	Figure No. 3914.BH3	

Boring Method Shallow Percussion	Casing Diameter	Ground Level (mOD) 24.14	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 219.89 E 501.73 N	Dates 08/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.20	B7					(0.30)	MADE GROUND: TARMAC (drillers description).		
					23.84	0.30	MADE GROUND Hardcore. (drillers description).		
0.50	D1				23.64	(0.20)			
					23.34	0.50	MADE GROUND Soft orange brown and grey slightly gravelly CLAY / SILT. Gravel is angular fine to coarse sandstone.		
						(0.30)			
						0.80			
1.00	D2					(1.00)	Soft brown sandy CLAY.		
1.00	A3								
1.00	A4								
1.20-1.65	SPT N=26			4.6/6.7,6.7					
1.00	A5								
1.00	A6								
1.20-1.70	B8				22.34	1.80	Soft yellow orange brown sandy CLAY with occasional angular fine gravel of sandstone.		
1.70	D9					(0.50)			
2.30-2.50	D10			08/03/2006	21.84	2.30	Yellow and orange brown SANDSTONE: Recovered as very weak gravel with firm sandy friable clay (Possible Bedrock).		
2.0-2.40	SPT 25*/80 50/15			19.6/50	21.64	(0.20)			
						2.50	Complete at 2.50m		

Remarks Inspection pit dug to 1.20m BGL. Standpipe installed to 2.30m BGL. Sampling from 1.80m to 2.30m for 1.00 hour.	Scale (approx)	Logged By
	1:50	SM
	Figure No. 3914 BH4	

Boring Method Shallow Percussion	Casing Diameter	Ground Level (mOD) 25.25	Client Horizon Residential Developments Ltd	Job Number 3914
	Location 207 15 E 304 54 N	Dates 06/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.20	B4				25.15	(0.10) 0.10	MADE GROUND Dark grey clayey sandy GRAVEL. Gravel is angular fine to coarse sandstone		
0.50	D1				24.45	(0.70) 0.80	Soft light yellow-brown sandy gravelly CLAY. Gravel is angular fine to coarse sandstone. (Possibly made ground)		
1.00 1.00 1.20-1.65 1.20-1.65 1.20-1.70	A3 D2 SPT N=12 S5 B6			2,3/3,2,3,4	23.45	(1.00) 1.80	Light brown sandy gravelly SILT with occasional gravel size pockets of soft light brown sandy clay. Gravel is subangular to angular fine to medium sandstone and siltstone. Slight organic odour noted (Possibly Made Ground)		
1.70	D7				22.75	(0.70) 2.50	Firm brown/mottled grey brown slightly gravelly sandy friable CLAY with occasional subangular to angular medium gravel of sandstone. (Possibly made ground)		
2.00 2.00-2.45	A8 U9				21.75	(1.00) 3.50	Stiff yellow/orange brown sandy slightly gravelly friable CLAY/SILT. Gravel is angular fine sandstone		
3.00-3.45 3.00 3.00-3.45 3.00-3.50 3.50	SPT N=17 A11 S12 B13 D14			3,3/4,4,4,5	21.25	(0.50) 4.00	Yellow brown SANDSTONE Recovered as weak gravel size fragments with sand		
4.00-4.50	D15				20.55	(0.70) 4.70	Very weak yellow brown and light grey brown SANDSTONE		
4.50-4.70 4.50-4.61	S16 SPT 25*/85 50/25			06/03/2006 20,5/50			Complete at 4.70m		

Remarks Inspection pit dug to 1.20m BGL Pneumatically installed standpipe installed to 4.50m BGL Chiselling from 3.70m to 4.00m for 0.50 hours. Chiselling from 4.20m to 4.50m for 1.00 hour	Scale (approx)	Logged By
	1.50	SM
Figure No. 3914 BH5		



Boring Method Double Percussion	Casing Diameter		Ground Level (mOD) 22.78	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 304.04 E 339.01 N		Dates 08/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1					(1.10)	Rough grass over soft light yellow brown gravelly CLAY. Gravel is angular fine to coarse sandstone.		
1.00	D2								
1.00	A6				21.68	1.10	Light orange brown very sandy very gravelly SILT. Gravel is angular fine to medium sandstone.		
1.00	A5								
1.00	A4								
1.00	A3								
1.20-1.65	U7								
1.70	D8								
2.00-2.45	SPT N=27			3,4/6,7,7,7		(1.80)			
2.00-2.45	D9								
2.00-2.50	B10								
3.00	D11								
3.00-3.10	D12				19.88	2.90 (0.50)	Very weak light yellow brown and light brown grey fine grained SANDSTONE.		
3.40-3.56	D13			08/03/2006	19.38	3.40			
3.40-3.56	SPT 25*/80 50/80			20.5/42,8					
							Complete at 4.00m		

Remarks Inspection pit dug to 1.20m BGL. Rotted standpipe installed to 3.40m BGL. Sealing from 3.10m to 3.40m for 1.00 hour.	Scale (approx)	Logged By
	1:50	SM
	Figure No. 3914 BH6	

Boring Method ● W ire Percussion	Casing Diameter	Ground Level (mOD) 19.61	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 298.99 E 259.63 N	Dates 07/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.20	B3				19.51	0.10	Rough grass over brown gravelly CLAY/SILT. Soft light brown sandy CLAY.		
0.50	D1					(0.90)			
1.00	A7				18.61	1.00	Soft light brown mottled orange brown and light grey slightly sandy CLAY.		
1.00	A6					(0.70)			
1.00	A5								
1.00	A4								
1.00	D2								
1.20-1.65	U8				17.91	1.70	Soft indistinctly laminated grey brown and black CLAY with occasional laminae of yellow brown silt.		▽1
1.70	D9								
2.00-2.45	SPT N=21			4,6/5,5,6,5		(0.80)			
2.00-2.45	D10				17.11	2.50	Firm indistinctly laminated blue grey mottled dark green brown CLAY.		
2.00-2.50	B11				17.01	2.60	Very weak dark grey laminated MUDSTONE.		
2.60	D12								
2.60-3.00	B13								
2.60-3.00	D14								
3.00-3.45	SPT N=23			3,4/6,6,5,6		(0.90)			
3.00-3.50	B15								
3.50	D16				16.11	3.50	Possibly inter-laminated soft blue grey CLAY and very weak dark grey MUDSTONE.		
						(0.50)			
4.00-4.45	D17			Water strike(1) at 4.00m, rose to 1.90m in 20 mins.	15.61	4.00	Weak grey silty MUDSTONE with laminae beds of weak bright black COAL.		▽1 ▽2
4.00-4.35	SPT 44/200			6,5/5,13,26		(1.10)			
				Water strike(2) at 5.10m, rose to 4.20m in 20 mins. 07/03/2006	14.51	5.10	Complete at 5.10m		▽2

Remarks Inspection pit dug to 1.20m BGL. Standpipe installed to 5.10m BGL. Pumping from 4.00m to 5.10m for 1.00 hour.	Scale (approx)	Logged By
	1:50	SM
	Figure No. 3914 BH7	

Excavation Method ● Pit	Dimensions 3.50 x 1.00 x 0.60m	Ground Level (mOD) 24.04	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 137.23 E 498.76 N	Dates 09/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.35 0.50	A1 B2		09/03/2006	23.99 23.74 23.59 23.44	0.05 (0.25) 0.30 0.45 (0.15) 0.60 (0.15)	<p>MADE GROUND: Tarmac.</p> <p>MADE GROUND: Brown angular GRAVEL.</p> <p>Orange brown slightly clayey gravelly fine SAND. Gravel is subangular fine to coarse of sandstone.</p> <p>Very weak yellow brown fine SANDSTONE, weathered to yellow brown fine sand and firm/stiff orange brown mottled grey sandy clay.</p> <p>Complete at 0.60m</p>		



Remarks
Trial pit stable and dry.

Scale (approx) 1:50	Logged By FK	Figure No. 3914.TP1
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Excavation Method Trial Pit	Dimensions 3.50 x 1.00 x 2.50m	Ground Level (mOD) 24.18	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 201.54 E 473.27 N	Dates 09/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B1		0.50m PID = 0.61ppm	23.88	(0.30)	MADE GROUND: Tarmac.		
0.50	A2			23.58	(0.30)	MADE GROUND: Orange brown silty gravelly fine SAND.		
1.00	B3				0.60	Orange brown slightly silty gravelly fine SAND. Gravel is tabular subangular fine to coarse of sandstone.		
2.00	B4				(1.60)			
				21.98	2.20 (0.30)	Very weak yellow brown SANDSTONE.		
			09/03/2006	21.68	2.50	Complete at 2.50m		

Plan

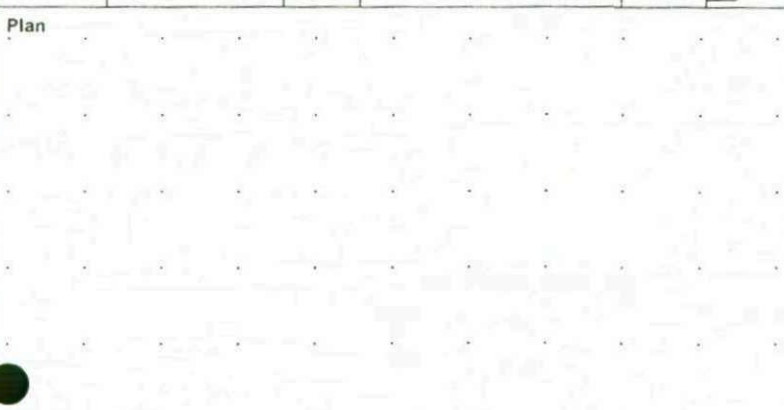
Remarks
Trial pit stable and dry.

Scale (approx) 1:50	Logged By FK	Figure No. 3914.TP3
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Excavation Method Pit	Dimensions 3.00 x 1.00 x 1.80m	Ground Level (mOD) 24.17	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 211.46 E 433.17 N	Dates 09/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B1		0.50m PID = 0.92 ppm	23.92	(0.25)	MADE GROUND: Tarmac		
0.50	A2			23.67	0.25 0.25 0.50	MADE GROUND: Orange-brown slightly silty gravelly fine SAND with some cobbles. Gravel is angular fine to coarse, sandstone.		
1.00	B3			22.97	(0.70)	Brown/grey sandy CLAY/SILT. (Possible Made Ground).		
1.00	A4				1.20	Orange-brown silty gravelly fine SAND. Gravel is tabular, angular to subangular fine to coarse of weak laminated sandstone. Frequent cobbles. (Possible Bedrock).		
1.50	B5		09/03/2006	22.37	(0.60)			
						Complete at 1.80m		



Remarks

Trial pit stable and dry.
Terminated on possible bedrock.

Scale (approx) 1:50	Logged By FK	Figure No. 3914.TP4
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Excavation Method 1 Pit	Dimensions 3.00 x 1.00 x 2.10m	Ground Level (mOD) 24.13	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 225.63 E 421.55 N	Dates 09/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.40	A1		0.50m PID = 0.81ppm	23.83	(0.30)	MADE GROUND: Brown silty fine SAND. Surface and near surface debris from burnt building in vicinity.		
0.50	B2			23.43	(0.40)	MADE GROUND: Brown silty fine SAND. Old clay drainpipe at 0.50.		
1.00	B3				0.70	Orange-brown silty gravelly SAND with occasional cobbles. Gravel is tabular angular to subangular fine to coarse sandstone.		
1.80	B4			(1.40)				
			09/03/2006	22.03	2.10	Complete at 2.10m		

Plan

Remarks

Trial pit stable and dry.
Terminated on competent rock.

Scale (approx) 1:50	Logged By FK	Figure No. 3914.TP5
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Excavation Method Trial Pit	Dimensions 4.00 x 1.00 x 3.70m	Ground Level (mOD) 25.39	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 252.44 E 410.25 N	Dates 09/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	A1			24.99	(0.40) 0.40	MADE GROUND: Dark brown/ black sandy SILT.		
1.00 1.00	B2 A3				(1.50)	MADE GROUND: Orange-brown silty gravelly SAND with some cobbles. Gravel is tabular angular to subangular, fine to coarse, of sandstone. Large block of concrete at 0.60.		
2.00 2.00	B4 A5			23.49 23.09	1.90 (0.40) 2.30	Dark brown/black silty fine to coarse SAND (Relic Topsoil).		
3.00	B6				(1.20)	Orange-brown silty gravelly SAND with some cobbles. Gravel is tabular angular to subangular, fine to coarse, of sandstone.		
3.70	B7		09/03/2006	21.89 21.69	3.50 3.70	Orange brown very gravelly SAND with some cobbles. Gravel is angular fine to coarse sandstone. (Possible Bedrock) Complete at 3.70m		

Plan

Remarks

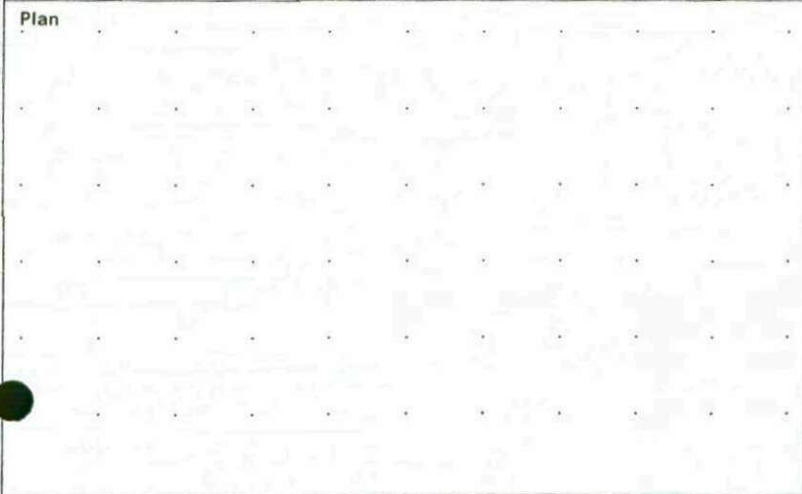
Trial pit stable and dry.
Terminated on possible bedrock at 3.70mBGL.

Scale (approx)	Logged By	Figure No.
1:50	FK	3914.TP6



Excavation Method Trial Pit	Dimensions 3.00 x 1.00 x 1.80m	Ground Level (mOD) 22.54	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 308.89 E 416 28 N	Dates 09/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	A1			22.24	(0.30) 0.30	MADE GROUND: Dark brown silty SAND.		
0.50	B2		0.50m PID = 0.78ppm	21.74	(0.50) 0.80	Orange-brown silty gravelly SAND. Gravel is tabular angular to subangular, fine to coarse, of sandstone, with frequent cobbles.		
1.00	B3				(1.00)	Orange brown SANDSTONE: Recovered as very gravelly cobbly sand.		
1.50	B4		09/03/2006	20.74	1.80	Complete at 1.80m		



Remarks
Trial pit stable and dry.
Terminated on possible bedrock.

Scale (approx) 1:50	Logged By FK	Figure No. 3914.TP7
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Excavation Method Trial Pit	Dimensions 4.00 x 1.00 x 3.70m	Ground Level (mOD) 25.39	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 269.35 E 406.27 N	Dates 09/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.40	A1		0.50m PID = 0.64ppm	24.89	(0.50)	MADE GROUND: Rough grass and saplings over dark brown and black silty fine SAND.		
1.00 1.00	B2 A3				0.50 (1.80)	MADE GROUND: Orange-brown silty gravelly SAND. Gravel is angular to rounded, fine to coarse, of sandstone and brick. Occasional large blocks of concrete with occasional plastic debris.		
2.00 2.00	B4 A5			23.09	2.30 (0.30)	Dark brown/black sandy SILT (Relic Topsoil).		
				22.79	2.60	Orange brown silty fine SAND.		
3.00	B6		09/03/2006	22.39	(0.40) 3.00	Complete at 3.00m		

Plan

Remarks

Scale (approx) 1:50	Logged By FK	Figure No. 3914.TP8
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Excavation Method Trial Pit	Dimensions 4.00 x 1.00 x 4.10m	Ground Level (mOD) 23.88	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 300.94 E 395.52 N	Dates 10/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	A1		0.50m PID = 0.51ppm	23.28	(0.60)	MADE GROUND: Dark brown and black silty SAND.		
1.00 1.00	B2 A3				22.38	(0.90)	MADE GROUND: Orange-brown silty gravelly SAND. Gravel is angular to rounded, fine to coarse, of concrete, brick, metal, plastic and sandstone. Frequent rootlets.	
2.00 2.00	B4 A5			21.38	(1.00)	MADE GROUND: Brown grey silty gravelly SAND. Gravel is angular to rounded, fine to coarse, of concrete, brick, metal, plastic debris and sandstone. Cobbles and boulders.		
3.00	B6			20.18	(1.20)	MADE GROUND: Orange brown silty gravelly SAND. Gravel is angular fine to coarse sandstone		
4.00	B7		10/03/2006	19.78	(0.40)	Orange-brown SANDSTONE: Recovered as weak angular fine to coarse gravel and cobbles.		
						Complete at 4.10m		

Plan

Remarks

Trial pit stable and dry.
Terminated on hard layer of rock. 4.00 x 1.00 x 4.10

Scale (approx)	Logged By	Figure No.
1:50	FK	3914.TP9

Excavation Method Hand Dug.	Dimensions 0.50 x 0.50 x 1.20m	Ground Level (mOD) 24.06	Client Horizon Residential Developments Ltd	Job Number 3914
	Location 226 59 E 503 15 N	Dates 14/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				24.01	(0.05)	MADE GROUND Tarmac.		
				23.66	(0.05)	MADE GROUND Off white sandy GRAVEL Gravel is angular fine to coarse limestone.		
				23.61	(0.05)			
					(0.05)	Firm dark grey sandy CLAY/SILT		
					(0.45)	Orange brown very clayey slightly gravelly SAND Gravel is angular fine to medium of sandstone.		
					(0.75)			
			14/03/2006	22.86	1.20	Complete at 1.20m		

Plan

Remarks

Scale (approx) 1:50	Logged By SM	Figure No. 3914 TPA
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Excavation Method Hand Dug.	Dimensions 0.40 x 2.50 x 0.25m	Ground Level (mOD) 24.15	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 231.27 E 414.71 N	Dates 14/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				24.10 23.95 23.90	0.05 0.20 (0.15) 0.25 (0.05)	Dark grey SAND and GRAVEL. Red brown sandy GRAVEL. Gravel is angular fine to coarse sandstone. Firm yellow brown and grey sandy slightly gravelly friable CLAY. Gravel is angular fine to medium of sandstone. Complete at 0.25m		

Plan

Remarks
Chased trench to discover differential in gravel (ie backfill) none found.

Scale (approx) 1:50	Logged By SM	Figure No. 3914 TPB
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**IAN FARMER
ASSOCIATES**

Site
Bolton upon Dearne

**Trial Pit
Number**
TPC

Excavation Method Hand Dug.	Dimensions	Ground Level (mOD) 23.55	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 210.49 E 387.76 N	Dates 14/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				23.35	0.20 (0.30)	MADE GROUND: Reinforced concrete.		
				23.05	0.50	Yellow brown sandy GRAVEL. Gravel is angular fine to coarse limestone. (Possible Made Ground).		
						Complete at 0.50m		

Plan

Remarks

Scale (approx) 1:50	Logged By SM	Figure No. 3914.TPC
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Excavation Method Hand Dug.	Dimensions	Ground Level (mOD) 19.67	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 235.83 E 233.17 N	Dates 14/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				19.47	0.20	MADE GROUND: Rough grass over dark grey brown sandy gravelly SILT. Gravel is angular fine to medium sandstone, brick, glass and timber.		
					(1.00)	MADE GROUND: Firm brown sandy slightly gravelly friable CLAY. Gravel is angular of sandstone and occasional concrete.		
				18.47	1.20	Complete at 1.20m		

Plan

Remarks

Scale (approx)
1:50

Logged By
SM

Figure No.
3914.TPF



Excavation Method Trial Pit	Dimensions 3.50 x 1.00 x 2.70m	Ground Level (mOD) 23.19	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 267.14 E 391.69 N	Dates 09/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B2		0.50m PID = 0.64ppm	23.09	0.10	MADE GROUND: Dark brown silty gravelly SAND. Gravel is angular to rounded, fine to coarse, of brick, mudstone and sandstone.		
0.50	A1			22.89	0.30 (0.20)			
1.00	B4			22.69	0.50 (0.20)	MADE GROUND: Orange sandy GRAVEL. Gravel is angular to subrounded, medium to coarse, brick and concrete.		
1.00	A3					MADE GROUND: Brown silty SAND.		
					(1.60)	Orange-brown silty gravelly SAND. Gravel is tabular angular to subangular, fine to coarse, of sandstone.		
2.00	B5			21.09	2.10 (0.60)	Very weak laminated yellow-brown SANDSTONE.		
			09/03/2006	20.49	2.70	Complete at 2.70m		

Plan

Remarks

Trial pit stable and dry.
Terminated on competent rock.

Scale (approx) 1:50	Logged By FK	Figure No. 3914 TP10
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Excavation Method 1 Pit	Dimensions 3.50 x 1.00 x 3.50m	Ground Level (mOD) 24.96	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 216.94 E 340.98 N	Dates 09/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50 0.50	B2 A1		0.50m PID = 0.53ppm		(1.00)	MADE GROUND: Orange-brown silty gravelly SAND with some cobbles. Gravel is angular, fine to coarse, of sandstone, plastic and metal.		
1.00 1.00	B4 A3			23.96 23.66	1.00 (0.30) 1.30	Dark brown and black fine silty SAND (relic of topsoil).		
2.00	B5				(2.10)	Orange brown mottled grey silty gravelly SAND. Gravel is angular to subangular fine to coarse of sandstone.		
3.00	B6		09/03/2006	21.56 21.46	3.40 3.50	Orange-brown/mottled grey silty SAND.		
						Complete at 3.50m		

Plan

Remarks

Trial pit stable and dry.
Terminated on hard rock.

Scale (approx) 1:50	Logged By FK	Figure No. 3914 TP11
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Excavation Method Pit	Dimensions 2.50 x 1.00 x 2.60m	Ground Level (mOD) 22.65	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 261.29 E 333.87 N	Dates 10/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	A1		0.50m PID = 0.72ppm	22.35	(0.30) 0.30	MADE GROUND: Rough grass over dark brown and black silty SAND.		
1.00	B2			21.55	(0.80) 1.10	Orange-brown silty slightly gravelly SAND. Gravel is tabular angular to subangular, fine to coarse sandstone.		
2.00	B3			20.05	(1.50) 2.60	Orange-grey SANDSTONE with siltstone laminations: Recovered as sand and gravel.		
			10/03/2006			Complete at 2.60m		

Plan

Remarks

Stable, dry, terminated on hard layer.

Scale (approx) 1:50	Logged By FK	Figure No. 3914.TP13
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Excavation Method Trial Pit	Dimensions 4.00 x 1.00 x 3.40m	Ground Level (mOD) 23.00	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 262.99 E 304.96 N	Dates 10/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	A1		0.50m PID = 0.34ppm		(1.30)	MADE GROUND: Orange brown silty gravelly cobbly fine SAND. Gravel is angular to subangular fine to coarse of brick, sandstone and tarmac. Cobbles are whole bricks.		
1.00	A2			21.70	1.30	Dark brown/black silty fine SAND. (Relic Topsoil).		
1.50	B3			21.55	1.45	Orange brown silty gravelly fine SAND. Gravel is tabular angular to subangular fine to coarse of sandstone. Cobbles noted.		
	B4			20.50	2.50	Orange brown SANDSTONE, inter-bedded with siltstone.		
			10/03/2006	19.60	3.40	Complete at 3.40m		

Plan

Remarks

Trial pit stable and dry.
Terminated on hard layer.

Scale (approx) 1:50	Logged By FK	Figure No. 3914.TP14
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Excavation Method Trial Pit	Dimensions 3.50 x 1.00 x 3.90m	Ground Level (mOD) 21.41	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 296.9 E 308.53 N	Dates 10/03/2006	Engineer Halcrow	Sheet 1/1






Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.70	A1		0.50m PID = 0.34ppm	20.31 20.11	(1.10) 1.10 1.30	MADE GROUND: Rough grass over orange brown silty gravelly fine SAND. Gravel is angular to subangular fine to coarse of fine sandstone. Cobbles noted. Dark brown/black silty fine SAND (Relic Topsoil).		
2.00	B2			18.81	(1.30) 2.60 (1.30)	Orange brown silty gravelly fine SAND. Gravel is angular to subangular fine to coarse of fine sandstone. Cobbles noted. Orange brown SANDSTONE. Recovered as tabular cobbles.	 	
			10/03/2006	17.51	3.90	Complete at 3.90m		

Plan

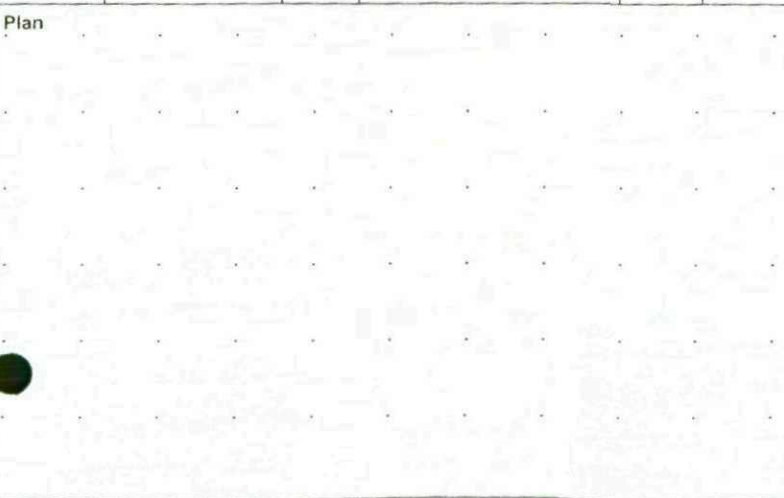
Remarks
Trial pit stable and dry.

Scale (approx) 1:50	Logged By FK	Figure No. 3914.TP15
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Excavation Method Trial Pit	Dimensions 4.00 x 1.00 x 3.50m	Ground Level (mOD) 25.21	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 180.25 E 329.82 N	Dates 10/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
1.00	A1		1.00m PID = 0.38ppm	25.11	0.10	MADE GROUND: Red grey very sandy angular to subangular, fine to coarse GRAVEL of brick, concrete, sandstone.		
1.20	B2			24.91	0.30 (0.20)	MADE GROUND: Pale orange grey very sandy angular to subangular fine to coarse GRAVEL of concrete and limestone.		
				24.11	1.10 (0.30)	MADE GROUND: Firm friable orange brown sandy gravelly CLAY. Gravel is angular to subangular fine to coarse of brick, concrete, sandstone.		
				23.81	1.40 (0.70)	Stiff friable dark brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded of sandstone and occasional coal.		
				23.11	2.10	Orange brown clayey slightly gravelly fine SAND. Gravel is tabular subangular to subrounded fine to coarse of sandstone.		
3.00	B3				(1.40)	Orange brown SANDSTONE. Recovered as weak and very weak tabular angular fine to coarse gravel and cobbles		
		10/03/2006		21.71	3.50	Complete at 3.50m		

Plan



Remarks
Trial pit stable and dry.

Scale (approx) 1:50	Logged By FK	Figure No. 3914 TP17
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Excavation Method Trial Pit	Dimensions 5.00 x 1.00 x 5.50m	Ground Level (mOD) 25.38	Client Horizon Residential Developments Ltd	Job Number 3914
	Location 169.6 E 256.48 N	Dates 13/03/2006	Engineer Halcrow	Sheet 1/1

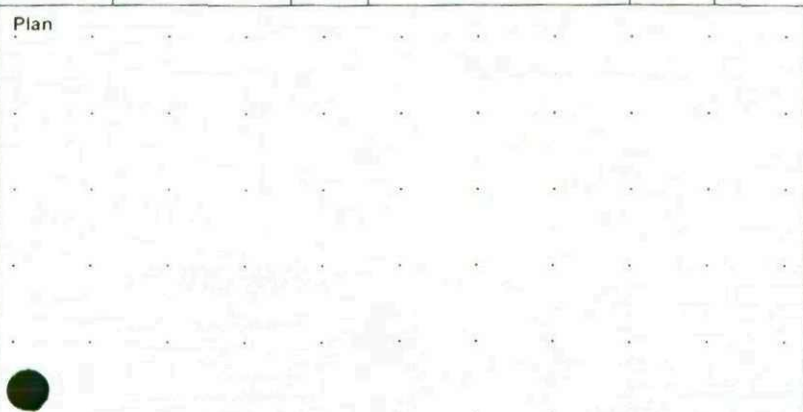
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
1.00	A1		1.00m PID 0.54ppm	24.38 24.18	(1.00) 1.00 1.20	MADE GROUND: Rough grass over firm friable orange brown, grey and black sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of brick, sandstone and mudstone. MADE GROUND: Dark brown and black sandy TOPSOIL. MADE GROUND: Orange brown grey clayey slightly gravelly SAND. Gravel is tabular angular to subangular fine to coarse of fine sandstone.		
2.00	B2							
3.00	B3				(4.10)			
4.00	B4							
5.30	A5		13/03/2006	20.08 19.88	5.30 (0.20) 5.50	MADE GROUND: Soft and firm friable grey black sandy gravelly CLAY. Gravel is angular to subangular fine to coarse of concrete, brick, bitumen. Complete at 5.50m		

Plan	Remarks Trial pit stable and dry.		
	<table border="1"> <tr> <td>Scale (approx) 1:50</td> <td>Logged By FK</td> <td>Figure No. 3914.TP18</td> </tr> </table>	Scale (approx) 1:50	Logged By FK
Scale (approx) 1:50	Logged By FK	Figure No. 3914.TP18	



Excavation Method ● Pit	Dimensions 4.00 x 1.00 x 5.50m	Ground Level (mOD) 26.51	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 167.96 E 269.92 N	Dates 13/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
1.00	A1		1.00m PID = 0.49ppm	25.31	(1.20) 1.20	MADE GROUND: Rough grass over brown grey fine to coarse SAND and angular to subrounded fine to coarse GRAVEL of tarmac and concrete. Frequent cobbles and boulders of concrete.		
2.00 2.00	B2 A3					MADE GROUND: Orange brown clayey gravelly fine SAND. Gravel is angular to subangular fine to coarse of sandstone and occasional cobbles. (Possible natural at base of pit)		
3.00 3.00	B4 A5				(4.30)			
4.00	B6							
			13/03/2006	21.01	5.50	Complete at 5.50m		



Remarks
Trial pit stable and dry.

Scale (approx) 1:50	Logged By FK	Figure No. 3914 TP19
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Excavation Method Trial Pit	Dimensions 4.00 x 1.00 x 5.30m	Ground Level (mOD)	Client Horizon Residential Developments Ltd	Job Number 3914
	Location	Dates 13/03/2006	Engineer Halcrow	Sheet 1/1




Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
1.00	A1		1.00m PID = 0.43ppm		(1.00)	MADE GROUND: Rough grass over firm friable brown grey sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of sandstone with occasional tarmac and concrete. Occasional cobbles of tarmac.		
1.50	B2				1.00 1.20 (0.50)	MADE GROUND: Dark brown black slightly clayey fine SAND.		
2.00 2.00	B3 A4				1.70	MADE GROUND: Brown clayey gravelly fine SAND. Gravel is angular to subangular fine to coarse of fine sandstone.		
3.00 3.00	B5 A6				(2.10)	MADE GROUND: Brown clayey gravelly fine SAND.		
4.00	B7				3.80	Possible Relic Topsoil over orange brown clayey slightly gravelly fine SAND. Gravel is tabular angular to subangular fine sandstone		
					(1.50)			
					5.30	Complete at 5.30m		

Plan

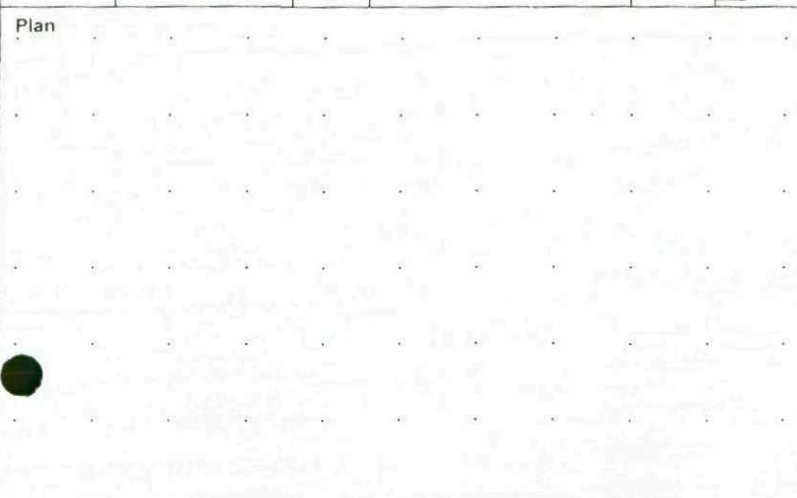
Remarks
Trial pit stable and dry.

Scale (approx) 1:50	Logged By FK	Figure No. 3914 TP20
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Excavation Method Pit	Dimensions 5.00 x 1.00 x 4.50m	Ground Level (mOD) 26.90	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 200.31 E 278.06 N	Dates 13/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
1.00	A1				(1.90)	MADE GROUND: Rough grass over firm friable orange brown and dark brown sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of sandstone and clay pipe.		
2.00	A2			25.00	1.90 (0.70)	MADE GROUND: Pale orange brown grey clayey gravelly SAND. Gravel is angular to subrounded fine to coarse of brick, tarmac, limestone, plastic. Frequent cobbles.		
3.00	A3			24.30	2.60 (1.90)	MADE GROUND: Firm and stiff orange brown sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of concrete, sandstone, plastic and burnt shale.		
4.00 4.00	W5 A4		13/03/2006	22.40	4.50	Complete at 4.50m		

Plan



Remarks

Trial pit stable. Water at about 4.00m.

Scale (approx) 1:50	Logged By FK	Figure No. 3914 TP21
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Excavation Method Trial Pit	Dimensions 5.00 x 1.00 x 5.00m	Ground Level (mOD) 20.80	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 260.36 E 279.33 N	Dates 10/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	A1			20.20	0.60	Rough grass over dark brown and black sandy SILT. Frequent rootlets.		
1.00	B2			19.60	1.20	Firm friable orange brown sandy CLAY/SILT.		
2.00	B3			18.40	2.40	Grey mottled orange CLAY/SILT		
3.00	B4			15.80	5.00	Very weak blue grey MUDSTONE Recovered as tabular gravel and cobbles.		
		10/03/2006				Complete at 5.00m		

Plan

Remarks

Trial pit slightly unstable and saturated/wet.

Scale (approx) 1:50	Logged By FK	Figure No. 3914 TP22
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Excavation Method Trial Pit	Dimensions 5.00 x 1.00 x 5.20m	Ground Level (mOD) 19.33	Client Horizon Residential Developments Ltd	Job Number 3914
	Location 271.91 E 256.34 N	Dates 10/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	A1			18.73	0.60	Rough grass over dark brown/black sandy SILT. Frequent rootlets.	[Dotted pattern]	
1.00	B2		1.00m PID 0.61ppm	17.83	0.90	Firm friable orange brown and grey sandy CLAY.	[Horizontal lines]	
				17.83	1.50	Orange fine SAND.	[Dotted pattern]	
				17.33	2.00	Very weak green grey fine SANDSTONE.	[Cross-hatch pattern]	
				16.83	2.50	Very weak laminated blue grey SILTSTONE.	[Vertical lines]	
3.00	B3			16.03	3.30	Very weak blue grey MUDSTONE. Recovered as tabular clayey gravel and cobbles.	[Horizontal lines]	
				14.33	5.00	Very weak blue grey MUDSTONE. Recovered as tabular clayey gravel and cobbles.	[Horizontal lines]	
				14.13	5.20	Complete at 5.20m		
			10/03/2006					

Plan

Remarks

Trial pit unstable in mudstone. Saturated from 2.00m. Groundwater encountered at 2.00MBGL.

Scale (approx) 1:50	Logged By FK	Figure No. 3914 TP23
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Excavation Method Trial Pit	Dimensions 3.50 x 1.00 x 4.00m	Ground Level (mOD) 19.89	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 303.42 E 276.78 N	Dates 10/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	A1				(0.40)	MADE GROUND: Rough grass dark brown and black sandy SILT.		
0.50	B2		0.50m PID 0.39ppm	19.49	0.40	Firm orange brown mottled grey sandy CLAY.		
					(0.80)			
1.50	B3			18.69	1.20	Stiff friable grey mottled orange sandy CLAY/SILT.		
					(1.00)			
	B4			17.69	2.20	Grey laminated SANDSTONE Recovered as tabular angular and subangular fine to coarse gravel and cobbles.		
					(1.80)			
		10/03/2006		15.89	4.00	Complete at 4.00m		

Plan

Remarks
Trial pit stable and dry.

Scale (approx) 1:50	Logged By FK	Figure No. 3914.TP24
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Excavation Method Trial Pit	Dimensions 5.00 x 2.00 x 4.50m	Ground Level (mOD) 25.05	Client Horizon Residential Developments Ltd	Job Number 3914
	Location 220.4 E 250.82 N	Dates 13/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
1.00	A1		1.00m PID 0.61ppm		(4.00)	MADE GROUND: Rough grass over firm friable dark brown sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of brick, glass, sandstone and mudstone. Large pieces of metal and wood.		
3.00	A2							
4.00	A3			21.05	4.00	Orange brown clayey fine SAND.		
				20.55	4.50	Complete at 4.50m		

Plan

Remarks

Trial pit unstable, collapse in made ground, dry
Layers undulating, natural much shallower at north end

Scale (approx) 1:50	Logged By FK	Figure No. 3914.TP25
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Excavation Method Trial Pit	Dimensions 5.00 x 1.00 x 4.50m	Ground Level (mOD) 25.22	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 198.94 E 250.72 N	Dates 13/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
1.00	A1		1.00m PID 0.88ppm	24.22	1.00	MADE GROUND: Rough grass over dark brown clayey gravelly fine to medium SAND. Gravel is angular to rounded fine to coarse of brick, concrete, mudstone, plastic. Frequent cobbles of brick.		
2.00	A2				(1.90)	MADE GROUND: Stiff friable grey and black sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of brick, coal, limestone, plastic and metal. Frequent cobbles, becoming soft and moist.		
3.00	B3			22.32	2.90	Orange brown clayey fine SAND. Becoming orange grey and silty.		
4.00	B4				(1.60)			
			13/03/2006	20.72	4.50	Complete at 4.50m		

Plan

Remarks

Trial pit unstable and moist.
Clay, collapse between 1.00 and 3.00m otherwise dry.

Scale (approx)	Logged By	Figure No.
1:50	FK	3914.TP27

Excavation Method 1 Pit	Dimensions 4.50 x 1.00 x 3.60m	Ground Level (mOD) 19.56	Client Horizon Residential Developments Ltd	Job Number 3914
	Location 258.05 E 241.19 N	Dates 10/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	A1			19.26	(0.30) 0.30	Rough grass over dark brown/black sandy SILT. Frequent rootlets.		
1.00	B2		1.00m PID = 0.58ppm		(1.20)	Dark brown sandy SILT.		
2.00	B3			18.06	1.50 (1.30)	Firm orange brown mottled grey sandy CLAY/SILT. Becoming stiff and friable with depth.		
3.00	B4			16.76	2.80 (0.80)	Grey brown SANDSTONE. Recovered as very weak tabular angular fine to coarse gravel and cobbles.		
			10/03/2006	15.96	3.60	Complete at 3.60m		

Plan



Remarks

Trial pit stable and dry.




Scale (approx) 1:50	Logged By FK	Figure No. 3914.TP29
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Excavation Method Drive-in Window Sampler	Dimensions 80mm to 1.00m	Ground Level (mOD) 25.03	Client Horizon Residential Developments Ltd	Job Number 3914
	Location 150 44 E 349.27 N	Dates 07/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1		PID at 0.20 is 0.6 ppm	24.86	0.17 (0.17)	MADE GROUND. Concrete. Clear polythene sheet at 0.17m		
					0.23 (0.23)	Light grey, slightly clayey, very sandy GRAVEL. Gravel is angular, fine to coarse limestone with some brown sandy clay at 0.35		
0.50	D2				0.40 (0.30)	Light orange-brown occasionally mottled grey clayey slightly gravelly SAND. Gravel is angular fine to medium sandstone.		
0.50	A3.1							
0.50	A3.2							
0.50	A3.3			24.33	0.70 (0.20)	Yellow brown gravelly SAND. Gravel is angular to subangular sandstone.		
0.50	A3.4							
0.90	D4			24.13	0.90 (0.10)	Weak light yellow/orange-brown fine-grained SANDSTONE with some fine sand		
				24.03	1.00	Complete at 1.00m		

Remarks Inspection pit dug	Scale (approx) 1:20	Logged By SM
	Figure No. 3914 WS1	

Excavation Method Drive-in Window Sampler		Dimensions		Ground Level (mOD) 25.02		Client Horizon Residential Developments Ltd.		Job Number 3914	
		Location 126.21 E 383.6 N		Dates 08/03/2006		Engineer Halcrow		Sheet 1/1	

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.40-0.55 0.40	SPT D1		20,30/	24.89	0.13	MADE GROUND: Concrete		
					0.13	Light yellow-brown, clayey, sandy GRAVEL. Gravel is fine to coarse limestone and sandstone.		
					0.25	Inter laminated very weak light yellow-brown SANDSTONE and fine SAND.		
					0.15			
				24.62	0.40	Complete at 0.40m		

Remarks Inspection pit dug. SPT at 0.2: 0.2 ppm SPT at 0.4: 20/30/NR	Scale (approx) 1:20	Logged By SM
	Figure No. 3914.WS2	







Excavation Method Core-in Window Sampler	Dimensions	Ground Level (mOD) 25.05	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 177.51 E 380 82 N	Dates 07/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						MADE GROUND: Concrete		
				24.88	(0.17)			
					0.17			
					(0.13)	Light yellow grey sandy GRAVEL. Gravel is angular fine to coarse limestone.		
0.30	A1.4			24.75	0.30	Firm friable brown occasional mottled orange brown sandy CLAY.		
0.30	A1.3							
0.30	A1.2							
0.30	A1.1				(0.45)			
0.75	D2			24.30	0.75	Grey sandy angular fine to medium GRAVEL of sandstone. (Possible Bedrock).		
0.90	D3			24.15	(0.15)			
			07/03/2006		0.90			
					(0.10)	Orange brown sandy angular fine to medium GRAVEL of sandstone. (Possible Bedrock).		
				24.05	1.00			
						Complete at 1.00m		




Remarks Inspection pit dug.	Scale (approx)	Logged By
	1:20	SM
	Figure No. 3914 WS3	

Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 25.04	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 151.01 E 414.26 N	Dates 07/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						MADE GROUND: Concrete		
0.30	D1			24.79	0.25 (0.25)	Light grey slightly clayey sandy GRAVEL. Gravel is angular fine to coarse limestone.		
0.40	A2.4			24.64	0.40 (0.15)	Light grey to grey SAND and GRAVEL. Gravel is angular fine sandstone.		
0.40	A2.3			24.54	0.10 (0.10)			
0.40	A2.2				0.50 (0.20)	Very weak orange brown and grey thinly laminated fine grained SANDSTONE with some to much fine sand.		
0.40	A2.1							
0.70	D3			24.34	0.70	Complete at 0.70m		

Remarks	Scale (approx)	Logged By
	1:20	SM
	Figure No. 3914 WS4	

Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 25.02	Client Horizon Residential Developments Ltd	Job Number 3914
	Location 127.8 E 451.7 N	Dates 08/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water		
0.40	D1		PID reading at 0.40m = 0.38ppm 08/03/2006	24.52	0.50	MADE GROUND: Concrete				
						(0.17)				
						24.85	0.17	Light yellow brown COBBLE of sandstone.		
						24.77	0.08			
					0.25	Very weak inter-laminated orange brown and grey SANDSTONE and orange brown silty fine SAND (Possible Bedrock).				
						Complete at 0.50m				

Remarks Inspection pit dug.	Scale (approx)	Logged By
	1:20	SM
	Figure No. 3914.WS5	

Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 24.96	Client Horizon Residential Developments Ltd	Job Number 3914
	Location 178.55 E 446.54 N	Dates 07/03/2006- 08/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
						MADE GROUND Concrete			
0.20	A1.4		PID reading at 0.30m = 0.36ppm	24.76	0.20	Dark grey coarse SAND and fine GRAVEL of ash and clinker.			
0.20	A1.3				0.20				
0.20	A1.2				24.56	0.40	Light yellow brown sandy GRAVEL Gravel is angular fine to coarse sandstone.		
0.20	A1.1					0.20			
0.50	D2			24.36	0.60	Stiff orange brown mottled light grey sandy friable CLAY			
					0.40				
0.70	D3								
			07/03/2006	23.96	1.00	Complete at 1.00m			

Remarks Inspection pit dug usual at 1.00m	Scale (approx)	1:20	Logged By	SM
	Figure No.	3914 WS6		

Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 25.03	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 117.07 E 478.9 N	Dates 08/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	A1.1			24.85	(0.18)	MADE GROUND: Concrete.		
0.30	A1.2				0.18	Stiff friable orange brown and yellow brown sandy gravelly CLAY/SILT. Gravel is angular fine to coarse sandstone, limestone and chalk. (Possible Made Ground).		
0.30	A1.3				(0.72)			
0.30	A1.4							
0.90	D2		PID reading at 0.90m = 0.30ppm	24.13	0.90	Very weak poorly inter laminated orange brown and grey SANDSTONE and soft orange/yellow brown sandy friable CLAY.		
0.90-1.30	SPT 70/150 D3		8,20/20,50		(0.40)			
1.00			08/03/2006	23.73	1.30	Complete at 1.30m		

Remarks Inspection pit dug to 1.20m BGL.	Scale (approx)	Logged By
	1:20	SM
	Figure No. 3914.WS7	



Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 27.94	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 156.42 E 466.61 N	Dates 07/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1			27.76	(0.18)	MADE GROUND: Concrete		
0.40	A2.3			27.59	(0.17)	Yellow brown/orange brown clayey sandy GRAVEL. Gravel is angular fine to coarse sandstone.		
0.40	A2.2				0.35	Firm yellow brown to orange brown mottled grey sandy friable CLAY.		
0.40	A2.1				(0.45)			
0.50	D3			27.14	0.80	Stiff thinly laminated brown and grey very fine sandy SILT with some horizontally aligned flat angular fine gravel of very weak silty sandstone.		
0.60	D4		07/03/2006	26.94	1.00	Complete at 1.00m		

Remarks Inspection pit dug.	Scale (approx)	Logged By
	1:20	SM
Figure No. 3914.WS8		

Excavation Method Core-in Window Sampler	Dimensions	Ground Level (mOD) 26.01	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 85.33 E 492.44 N	Dates 10/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	A1		PID reading at 0.50m = 0.99ppm	10/03/2006		Soft brown sandy gravelly CLAY and dark grey sandy gravelly SILT. Gravel is angular fine to medium sandstone. (possible made ground).			
					25.61	0.40	Orange brown silty gravelly fine SAND. Gravel is angular fine to medium sandstone.		
					25.11	0.90 (0.10)	Weak grey SANDSTONE.		
					25.01	1.00	Complete at 1.00m		

Remarks
Inspection pit dug.

Scale (approx)
1:20

Logged By
SM

Figure No.
3914.WS9

Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 28.03	Client Horizon Residential Developments Ltd	Job Number 3914
	Location 139 59 E 51 1 N	Dates 10/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1			27.83	0.20	Rough grass over orange brown gravelly CLAY Gravel is angular fine mudstone		
1.00	A2 1							
1.00	A2 2							
1.00	A2 3							
1.00	A2 4							
2.00	D3		10/03/2006	26.03	2.00	Complete at 2.00m		

Remarks Inspection pit dug to 1.20m BGL cessal at 2.00m	Scale (approx)	1:20	Logged By	SM
	Figure No.	3914 WS10		



Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 24.31	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 217.33 E 485.97 N	Dates 07/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1		PID reading at 0.20m = 4.5ppm	24.21	(0.10) 0.10	MADE GROUND: Concrete reinforced. Light yellow brown very sandy GRAVEL. Gravel is angular fine to coarse limestone.		
1.00	A2.1			23.61	(0.60)	Soft to firm dark orange brown sandy CLAY.		
1.00	A2.2			23.31	1.00	Orange brown silty fine SAND.		
1.00	A2.3				(0.50)			
1.50	D4			22.81	1.50	Light green brown silty fine SAND. Weakly cemented.		
					(0.70)			
2.00	D3			22.11	2.20	Light green brown mottled orange brown and light grey very fine sandy SILT with some fine gravel sized lithorlics.		
2.30	D5				(0.30)			
2.50	D6		07/03/2006	21.81	2.50	Very weak light green grey stained, orange orange brown thinly laminated <2mm fine grained SANDSTONE		
				21.71	(0.10) 2.60	Complete at 2.60m		

Remarks Inspection pit dug to 1.20m BGL.	Scale (approx) 1:20	Logged By SM
	Figure No. 3914 WS11	

Excavation Method Core-in Window Sampler	Dimensions	Ground Level (mOD) 24.36	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 217.18 E 455.33 N	Dates 07/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1			24.26	(0.10)	MADE GROUND: Concrete reinforced.		
					0.10	Light yellow grey very sandy GRAVEL. Gravel is angular coarse sandstone.		
				23.76	(0.50)			
					0.60	Orange brown silty fine SAND with some fine angular gravel of weak sandstone.		
1.00 1.00 1.00 1.20	A2.1 A2.4 A2.3 A2.2 D3		PID reading at 1.20m = 0.5ppm	23.26	1.10	Light brown silty fine SAND with occasional angular fine to medium gravel of weak sandstone.		
					(0.70)			
1.50	D4			22.56	1.80	Orange brown silty fine SAND with occasional to some angular fine to medium gravel of weak sandstone.		
					(0.10)			
2.00	D5		07/03/2006	22.46	1.90	Very weak orange brown, fine grained SANDSTONE.		
				22.36	(0.10)			
					2.00	Complete at 2.00m		

Remarks
Inspection pit dug to 1.20m BGL.

Scale (approx)	Logged By
1:20	SM
Figure No. 3914.WS12	

Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 25.05	Client Horizon Residential Developments Ltd	Job Number 3914
	Location 105 61 E 410 46 N	Dates 07/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.40	A1.4		PID reading at 0.40m = 1.11ppm 10/03/2006	24.95	(0.10)	Moss over brown gravelly sandy CLAY/SILT.		
0.40	A1.3				0.10	Stiff friable poorly inter laminated orange brown CLAY and orange/yellow brown sand. Below 0.30m with some flat angular gravel.		
0.40	A1.2				(0.40)			
0.40	A1.1				24.55	0.50	Complete at 0.50m	

Remarks Inspection pit dug Final at 0.50m	Scale (approx)	1:20	Logged By	SM
	Figure No.	3914 WS13		

Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 25.04	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 133.05 E 330.83 N	Dates 07/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	A1			24.91	(0.13) 0.13	MADE GROUND: Concrete.		
0.20	A2				(0.17)	Firm brown sandy slightly gravelly CLAY. Gravel is angular fine to medium sandstone and occasional coal.		
0.20	A3			24.74	0.30	Light orange brown occasionally mottled grey and light yellow brown silty very gravelly fine SAND. Gravel is aligned flat angular fine to medium very weak sandstone.		
0.20	A4				(0.50)			
0.60	D5		PID at 0.60m = 0.34ppm	24.24	0.80	Very weak light yellow/orange brown fine grained SANDSTONE with a little to some gravel.		
			07/03/2006	24.04	1.00	Complete at 1.00m		

Remarks Inspection pit dug.	Scale (approx)	Logged By
	1:20	SM
	Figure No. 3914 WS14	



Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 24.49	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 199.95 E 370.23 N	Dates 07/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	A1.4			24.34	(0.15)	Grass over brown slightly sandy CLAY/SILT.	[Symbol]	
0.20	A1.3				0.15	Light yellow brown occasionally light orange brown mottled light grey clayey silty fine SAND with some angular medium gravel of weak sandstone.	[Symbol]	
0.20	A1.2						[Symbol]	
0.20	A1.1						[Symbol]	
0.50	D2		PID at 0.50m = 0.23ppm		(0.75)		[Symbol]	
1.00	D3			23.59	0.90	Weak light yellow orange fine grained SANDSTONE, with some fine sand.	[Symbol]	
				23.49	(0.10)		[Symbol]	
					1.00	Complete at 1.00m	[Symbol]	

Remarks Inspection pit dug	Scale (approx) 1:20	Logged By SM
	Figure No. 3914.WS15	



Excavation Method
Drive-in Window Sampler

Dimensions

Ground Level (mOD)
22.54

Client
Horizon Residential Developments Ltd.

Job Number
3914

Location
240.45 E 360.01 N

Dates
08/03/2006

Engineer
Halcrow

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.40	D1		PID at 0.40m = 28ppm	22.04	0.19	MADE GROUND Concrete. At 0.19m black visqueen - thick polythene sheet.		
					0.11	Light yellow brown to off white sandy GRAVEL. Gravel is a fine to coarse limestone.		
					0.20	Poorly inter-laminated weak yellow brown SANDSTONE and yellow brown fine SAND.		
					0.50	Complete at 0.50m		

Remarks
Inspection pit dug.

Scale (approx)
1:20

Logged By
SM

Figure No.
3914.WS16

Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 22.53	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 272.01 E 376.32 N	Dates 08/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.40	D1		PID at 0.40m = 0.5ppm		22.36	(0.17)	MADE GROUND: Concrete. At 0.17m blue visqueen thick polythene sheet.		
						0.17			
						(0.23)	Light yellow brown to off white slightly clayey sandy GRAVEL. Gravel is angular fine to coarse limestone.		
					22.13	0.40	Stiff friable brown SILT/CLAY with occasional angular fine to medium grained sandstone.		
					(0.40)				
			08/03/2006	21.73	0.80	Complete at 0.80m			

Remarks Inspection pit dug.	Scale (approx)	Logged By
	1:20	SM
Figure No. 3914.WS17		

Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 22.51	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 303.16 E 360.17 N	Dates 08/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						MADE GROUND: Concrete. At 0.17m blue visqueen - polythene sheet.		
				22.34	(0.17)			
					(0.18)	Light yellow brown to off white slightly clayey sandy GRAVEL. Gravel is angular fine to coarse limestone. (possible made ground).		
				22.16	0.35			
					(0.85)	Firm friable brown sandy gravelly SILT/CLAY. Gravel is angular fine to coarse sandstone. (Possible Made Ground). At 0.90m becoming orange brown.		
0.50	A1.4							
0.50	A1.3							
0.50	A1.2							
0.50	A1.1							
1.00	D2		PID at 1.00m = 0.18ppm					
1.30	D3			21.31	1.20	Stiff friable light orange brown mottled light grey and orange brown sandy CLAY/SILT with occasional angular fine grained sandstone.		
					(0.60)			
1.80	D4			20.71	1.80	Light yellow brown occasional, mottled orange brown very silty fine SAND with some angular fine to coarse gravel of weak sandstone. At 2.30m becoming orange brown and grey.		
					(0.60)			
2.40	D5			20.11	2.40			
		08/03/2006		20.01	(0.10)	Poorly inter-laminated very weak orange/yellow brown fine grained SANDSTONE and stiff orange brown sandy friable CLAY.		
					2.50			
						Complete at 2.50m		

Remarks Inspection pit dug to 1.20m BGL.	Scale (approx)	Logged By
	1:20	SM
	Figure No. 3914.WS18	



Excavation Method Core-in Window Sampler	Dimensions	Ground Level (mOD) 25.14	Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 86.84 E 491.06 N	Dates 10/03/2006	Engineer Halcrow	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	A1				(0.50)	Orange brown silty gravelly fine SAND. Gravel is angular fine to medium weak sandstone.		
			10/03/2006	24.64	0.50	Complete at 0.50m		

Remarks Inspection pit dug How sample terminated as no contamination was encountered.	Scale (approx)	Logged By
	1:20	SM
	Figure No. 3914 WS9A	



Installation Type
Single Installation

Dimensions

Client
Horizon Residential Developments Ltd.

Job Number
3914

Location
116.07 E 499.75 N

Ground Level (mOD)
24.05

Engineer
Halcrow

Sheet
1/1

Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description	Groundwater Strikes During Drilling														
						Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)					
					Concrete															
			23.85	0.20	Bentonite Seal															
			23.75	0.30	Gravel Filter	Groundwater Observations During Drilling														
			23.65	0.40	Gravel Filter	Start of Shift					End of Shift									
						Date	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)				
						06/03/06						1.45								
					Slotted Standpipe	Instrument Groundwater Observations														
						Inst. [A] Type : Slotted Standpipe														
						Instrument [A]			Remarks											
					Date	Time	Depth (m)	Level (mOD)												
			22.65	1.40																

Remarks

Installation Type
Single Installation

Dimensions

Client
Horizon Residential Developments Ltd.

Job Number
3914

Location
219.89 E 501.73 N

Ground Level (mOD)
24.14

Engineer
Halcrow

Sheet
1/1

Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description	Groundwater Strikes During Drilling														
						Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)					
			23.84	0.30	Concrete															
					Bentonite Seal	Groundwater Observations During Drilling														
			23.44	0.70	Slotted Standpipe	Start of Shift					End of Shift									
						Date	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)				
						08/03/06						2.30								
			23.14	1.00	Gravel Filter	Instrument Groundwater Observations														
						Inst. [A] Type : Slotted Standpipe														
					Date	Instrument [A]			Remarks											
					Time	Depth (m)	Level (mOD)													
			21.84	2.30																

Remarks

Installation Type Single Installation	Dimensions		Client Horizon Residential Developments Ltd.	Job Number 3914
	Location 207.15 E 304.54 N	Ground Level (mOD) 25.25	Engineer Halcrow	Sheet 1/1

Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description	Groundwater Strikes During Drilling																	
						Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)								
5 min	10 min	15 min	20 min																				
			24.85	0.40	Concrete																		
			24.55	0.70	Bentonite Seal																		
			24.25	1.00	Slotted Standpipe																		
Groundwater Observations During Drilling																							
							Start of Shift					End of Shift											
		Date		Time		Depth Hole (m)		Casing Depth (m)		Water Depth (m)		Water Level (mOD)		Time		Depth Hole (m)		Casing Depth (m)		Water Depth (m)		Water Level (mOD)	
		06/03/06														4.50							
Instrument Groundwater Observations																							
Inst. [A] Type : Slotted Standpipe																							
		Date		Time		Depth (m)		Level (mOD)		Remarks													
			20.75	4.50	Gravel Filter																		

Remarks

Installation Type
Single Installation

Dimensions

Client
Horizon Residential Developments Ltd.

Job Number
3914

Location
304.04 E 339.01 N

Ground Level (mOD)
22.78

Engineer
Halcrow

Sheet
1/1

Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description	Groundwater Strikes During Drilling														
						Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)					
			22.41	0.37	Concrete															
			22.08	0.70	Bentonite Seal															
			21.78	1.00	Slotted Standpipe	Groundwater Observations During Drilling														
						Start of Shift					End of Shift									
						Date	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)				
						08/03/06							3.40							
						Instrument Groundwater Observations														
						Inst. [A] Type : Slotted Standpipe														
						Instrument [A]				Remarks										
						Date	Time	Depth (m)	Level (mOD)											
			19.38	3.40	Gravel Filter															

Remarks



Site
Bolton upon Dearne

Borehole Number
BH7

Installation Type
Single Installation

Dimensions

Client
Horizon Residential Developments Ltd

Job Number
3914

Location
298.99 E 259.63 N

Ground Level (mOD)
19.61

Engineer
Halcrow

Sheet
1/1

Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description	Groundwater Strikes During Drilling											
						Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)		
					Concrete						5 min	10 min	15 min	20 min			
			19.21	0.40		07/03/06		4.00			3.40	2.60	2.20	1.90			
					Bentonite Seal			5.10						4.20			
						Groundwater Observations During Drilling											
						Start of Shift					End of Shift						
			18.31	1.30	Slotted Standpipe	Date	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	
			18.11	1.50		07/03/06								5.10			
						Instrument Groundwater Observations											
						Inst. [A] Type : Slotted Standpipe											
					Gravel Filter	Date	Instrument [A]			Remarks							
						Time	Depth (m)	Level (mOD)									
			15.11	4.50													
					Bentonite Seal												
			14.51	5.10													

Remarks



Site : Bolton upon Dearne

Client : Horizon Residential Developments Ltd

Engineer: Halcrow

Job Number

3914

Sheet

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Borehole Number	Base of Borehole (m)	End of Seating Drive (m)	End of Test Drive (m)	Test Type	Seating Blows per 75mm		Blows for each 75mm penetration				Result	Comments
					1	2	1	2	3	4		
BH3	1.20	1.34	1.65	SPT	9	16	29	21			25*/135mm 50/315mm	
BH4	1.20	1.35	1.65	SPT	4	6	6	7	6	7	N=26	
BH4	2.30	2.38	2.40	SPT	19	6	50				25*/80mm 50/15mm	
BH5	1.20	1.35	1.65	SPT	2	3	3	2	3	4	N=12	
BH5	3.00	3.15	3.45	SPT	3	3	4	4	4	5	N=17	
BH5	4.50	4.59	4.61	SPT	20	5	50				25*/85mm 50/25mm	
BH6	2.00	2.15	2.45	SPT	3	4	6	7	7	7	N=27	
BH6	3.40	3.48	3.56	SPT	20	5	42	8			25*/80mm 50/80mm	
BH7	2.00	2.15	2.45	SPT	4	6	5	5	6	5	N=21	
BH7	3.00	3.15	3.45	SPT	3	4	6	6	5	6	N=23	
BH7	4.00	4.15	4.35	SPT	6	5	5	13	26		44/200mm	
WS2	0.40	0.55		SPT	20	30						
WS7	1.00	1.15	1.30	SPT	8	20	20	50			70/150mm	