

Ground Technologies and Investigations Regatta House, Clippers Quay, Manchester, M50 3XP Tel. 0161 872 3223 Fax. 0161 872 3193 Borehole Number CP1

Sheet 1 of 1 Scale 1:50

Project : Leconfield, Cleator Moor Client: West Lakes Renaissance Co-ordinates: Ground Level Start Date : Finish Date 12/03/07 13/03/07 Method: Sample Test Reduced Level (mOD) **Description** Casing (m) nstallatior Backfill Legend Depth Type Notes MADE GROUND: Grass and moss over dark brown clayey TOPSOIL with many roots and rootlets. 0.30 В 0.50 MADE GROUND: Grey, red brown and black angular to 0.60 В sub-angular fine to coarse GRAVEL of slag and occasional brick. S D N=11 (3,2/2,1,3,5) N=9 (2,3/3,2,2,2) 35blows 2.50 S U 2.90 Firm to stiff orange brown sandy, slightly gravelly CLAY. Gravel is angular to sub-rounded fine to coarse D 3.00 of sandstone, mudstone, siltstone and coal. N=25 (7.5/6.6.6.7) S D 3.60 Becoming stiff from 3.6mbgl. В 4.60 5.50 D 6.00 S D 50 (5,7/8,14,18,10 for 70m D В 7.50 Cobble at 7.5-7.6mbgl (driller's description). 8.20 Grey LIMESTONE (recovered as chippings via chiselling). 9.10 Exploratory hole complete at 9.10 m

Remarks:

- 1. Inspection pit hand excavated to 0.5mbgl.
- 2. Groundwater not observed.
- 3. Chiselling: 7.5 to 7.7mbgl took 0.5 hours, 7.75 to 8.0 mbgl took 0.75 hours, 8.0 8.35mbgl took 1 hour, 8.45-8.80mbgl took 1 hour.

Backfilled with arisings.

JOB NUMBER Logged By : E11683

Checked By :



Ground Technologies and Investigations Regatta House, Clippers Quay, Manchester, M50 3XP Tel. 0161 872 3223 Fax. 0161 872 3193 Borehole Number CP5

Sheet 1 of 1 Scale 1:50

Project : Leconfield, Cleator Moor Client: West Lakes Renaissance Co-ordinates: Ground Level Start Date : Finish Date 15/03/07 15/03/07 Method: Sample Test Reduced Level (mOD) **Description** Casing (m) Installation Backfill Legend Depth Type Notes 0.10 MADE GROUND: Grass over brown clayey TOPSOIL MADE GROUND: Stiff orange brown mottled grey, slightly sandy, slightly gravelly CLAY. Gravel is angular to sub-rounded, fine to coarse of sandstone, 0.60 0.60 В mudstone, siltstone and coal. Stiff brown sandy slightly gravelly CLAY. Gravel is sub-angular to rounded fine to coarse of sandstone, mudstone, siltstone and coal. 1.55 В From 3.8mbgl becoming very stiff to hard. ∇ At 6.50mbgl cobble of limestone noted. 6.50 Exploratory hole complete at 7.40 m

Remarks

- 1. Groundwater strike at 6.50mbgl.
- 2. Chiselling: from 2.10 to 2.30mbgl took 0.5 hours, 7.10-7.30mbgl took 2 hours, 7.30 to 7.40mbgl took 1.5 hours.
- 3. Borehole terminated at 7.40mbgl due to obstruction.

JOB NUMBER Logged By : E11683 **AC**

Checked By:



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Borehole CP7 Number

Sheet 1 of 1 Scale 1:50

Project: Leconfield, Cleator Moor Client: West Lakes Renaissance Start Date : 13/03/07

Method:		Co-ordin Ground	nates: Level :					Start Finish	Date: 13/03/07 Date:15/03/07
Description	Legend	Reduced Level (mOD)	Depth (m)	Casing (m)	Water Strike	Installation/ Backfill	Sample	e Test	
•	XXXX	(mOD)	(m)	(m)	(m)	Backilli	Depth (m)	Туре	Notes
MADE GROUND: Brown and grey sandy angular to sub-angular fine to coarse GRAVEL of limestone.			- 0.30 - 0.40				=		
MADE GROUND: Concrete.						iyê lita	0.50	В	
MADE GROUND: Grey angular to sub-angular fine to coarse GRAVEL of slag. Slag is very compact. Poor recovery due to chiselling from 0.8mbgl. Strong sulphurous odour noted between 0.4 and 2.0mbgl.			- - - - - - - - - - - - - - - - - - -				1.50 -	В	
MADE GROUND: Light grey angular to sub-angular fine to coarse GRAVEL of slag. Sulphurous odour noted between 2.0-4.5mbgl.							2.50 -	S D B	N=27 (2,4/6,7,7,7)
			- - - - - - - - - - - - - - - - - - -				3.50 -	S D B	46 (6,10/12,14,8,12 for 50r
Exploratory hole complete at 8.10 m			- - - - - - - - - - -				4.50 -	B D	N=3 (5,3/1)
						9	6.05 _	S D B	N=17 (8,3/3,5,5,4)
							7.50	S D B	N=50 (4,8/11,17,12,10)

Remarks:

1. Inspection pit hand excavated to 0.8mbgl

2. Groundwater not observed.

3. Chiselling: 0.8-1.15mbgl took 0.75 hours, 1.15-1.45mbgl took 1 hour, 1.45-2.0 took 1.75hours, 6.35-6.75mbgl took 0.75 hours, 775-8.10mbgl took 1 hour.
4.50mm standpipe installed to 6.0mbgl.

JOB NUMBER

E11683 AC

Logged By: Checked By:



Ground Technologies and Investigations

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Borehole BH1 Number

Sheet 1 of 3 Scale 1:50

Project Name: Leconfield, Cleator Moor Client: West Lakes Renaissance Co-ordinates 20/03/2007 to Method: Rotary and Cable Percussion. 26/03/2007 Ground Level: Samples & In Situ Testing Backfill / Water Stratum Description Depth (m) Hole Legend Depth Type Casing Results/Remarks evel (AOD) MADE GROUND: Grass and moss over brown clayey TOPSOIL MADE GROUND: Firm red brown slightly sandy, slightly gravelly CLAY. Gravel is angular to sub-angular fine to coarse of ash, slag, sandstone, mudstone, siltstone and coal. 0.70 MADE GROUND: Grey and blue grey GRAVEL of slag. 3 - 6.00 6 MADE GROUND: Brown sandy slightly gravelly CLAY. 6.50 150mm 6.50 Stiff red brown and brown sandy slightly gravelly CLAY. Gravel is angular to sub-rounded fine to coarse of sandstone, mudstone, 6.50-6.95 B siltstone and coal. 70 blows 7.10-7.55 7.65 D 7.70 Light brown sandy, slightly gravelly CLAY/ SILT with fine laminations of silt. Gravel is sub-angular to sub-rounded fine and medium grained ∇ 8 7.80-8.20 B of mudstone and siltstone. 8.80 Moderately weak, very thinly bedded grey LIMESTONE. Distinctly weathered to partially weathered. 9.70 Type Continued next sheet E11683 Job No: 1. Rotary Openhole from 0.0-6.5mbgl Remarks: 2. Cable Perdcussion Drilling from 6.50 to 9.90mbgl. Logged By: AC 3. Rotary Coring from 9.70mbgl. 4. Groundwater encountered at 8.0mbgl on 25/03/07 Checked By:



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Borehole BH1 Number

Sheet 2 of 3 Scale 1:50

Checked By:

Project Name: Leconfield , Cleator Moor	Client: West Lakes Renaissance									
Method: Rotary and Cable Percussion.	Co-ordinates - Ground Level: -					Dates		3/2007 t 3/2007	0	
Stratum Description	Legend Depth (m)	Depth (m)	TCR		RQD .	FI	Hole Casing	Water Strikes	Backfill / Installation	
Moderately weak grey with light brown staining LIMESTONE with thin laminations of dark grey mudstone. Distinctly weathered. Discontinuities where present are closely spaced horizontal, planar, undulating and smooth. Weak grey and dark grey MUDSTONE with thin laminations of grey limestone. Recovered non-intact as medium and coarse gravel in a clay matrix. Distinctly weathered.	111-	9.70 -11.30	53	0	0	NI	10.50 110mm			
Weak to moderately weak, dark grey and grey black MUDSTONE / SHALE. Partially weathered. Discontinuities where preset are very thinly to thinly spaced sub-horizontal (0-15degrees) planar, smooth, open. Light grey clay residue noted on some surfaces.	11.30	-								
		11.30 -13.50	100	23	0	NI				
Between 12.50 and 13.50 mbgl, recovered non-intact as a fine to coarse gravel in a clay matrix. In places, red brown clay residue was noted forming part of the matrix.	13-					NI				
Non-intact between 13.68 to 13.79mbgl At 13.8mbgl, small to medium gravel sized nodules of iron pyrite crystals noted in-between fracture surfaces and/or forming part of the matrix.	14-					NI				
From 14.5mbgl, fossil shell and plant impressions noted on surfaces. Between 14.7 and 15.20mbgl, small to medium gravel sized nodules of iron pyrite crystals noted in-between fracture surfaces and/or forming part of the matrix.	15-	13.50 -16.50	70	15	8	NI				
Between 16.30 and 16.5mbgl, thin bands of red brown clay residue (possibly haematite) noted on fracture surfaces.	16.50									
Strong light grey medium and coarse grained SANDSTONE. Slightly weathered. Discontinuities are widely spaced, horizontal and sub-vertical planar, irregular. Wide patches of iron pyrite and haematite crystals noted on surfaces. Many thin veins (5mm to 15mm) of white and yellow white to cream of dolomite and quartz noted running through the core and along fracture surfaces.	17-					9.090				
Strong light grey coarse grained SANDSTONE. Slightly weathered. Discontinuities are widely spaced sub-horizontal and sub-vertical planar, irregular. Wide dolomite crystallisation, reddish staining and patches of iron pyrite crystals present on most surfaces. Many thin to medium veins (5mm to 40mm) of white and yellow white to cream of dolomite and quartz noted running throughout the core. Between 17.85 to 18.05mbgl very thinly spaced sub-horizontal fractures note. Core is recovered non-intact. Iron pyrite crystallisation noted along all fracture surfaces and red-brown clay infill noted along 3 surfaces. Between 18.25 to 18.55mbgl: large amount of (up to 20mm) dolomite crystallisation noted along a sub-vertical fracture. In places, large dolomite crystals (5-10mm) visible. Iron pyrite	18-	16.50 -19.25	100	51	47					
crystallisation also present on top of the dolomite.						12.33				
Continued next sheet			TCR	SCR	RQD	FI			Y//33//33//	
Remarks: 1. Rotary Openhole from 0.0-6.5mbgl 2. Cable Perdcussion Drilling from 6.50 to 9.90mbgl. 3. Rotary Coring from 9.70mbgl. 4. Groundwater encountered at 8.0mbgl on 25/03/07					Log	ob N gged E ecked	Ву:	E11 ac	683	



3. Rotary Coring from 9.70mbgl.

4. Groundwater encountered at 8.0mbgl on 25/03/07

WHITE YOUNG GREEN **ENVIRONMENTAL**

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Borehole BH1 Number

Sheet 3 of 3 Scale 1:50

Logged By:

Checked By:

AC

Project Name: Leconfield, Cleator Moor Client: West Lakes Renaissance Co-ordinates 20/03/2007 to Method: Rotary and Cable Percussion. 26/03/2007 Ground Level: Backfill / Water Stratum Description Depth (m) Hole Legend Depth (m) TCR RQD FΙ Casing evel (AOD) Remaining Detail: 19.70m - 19.80m: Between 19.70-19.80mbgl: 2No large (40-60mm) circular partially filled cavities noted. Very dark red staining noted and some haematite crystallisation remains. Detail 19.80m - 19.80m : At 19.8mbgl: area of dolomite crystallisation missing. Red brown clay infill noted. 19.25 -22.25 98 62 46 At 20.55mbgl: large open horizontal fracture. Red staining and red clay infill noted on surfaces. At 21.0mbgl: Series of medium spaced sub-vertical fractures. Red staining noted on surfaces and red clay infill noted. Non-intact between 21 and 21.2mbgl 21.80 Strong grey with red and orange staining, coarse grained crystalline SANDSTONE. Slightly weathered. Recovered in places non-intact, but where present, discontinuities are widely spaced, sub-vertical plana irregular and wide. Orange and red staining noted on all surfaces. Non-intact between 21.85-21.95mbgl 22 25 100 11 11 NI Non intact between 23.15-23.40mbgl. At 23.40-23.5mbgl: thin vein (10-20mm) of very dark red haematite noted. 23.90 Strong grey stained red coarse grained crystalline SANDSTONE. Slightly weathered. Discontinuities are widely spaced sub-horizontal planar, smooth, and open. Infrequent thin (10-20mm) veins of white dolomite 23.45 -25.50 95 88 79 6.153 At 25.15mbgl, wide vertical fracture with rounded edges noted. 25.50 End of Borehole at 25.50 m TCR SCR RQD FI E11683 Job No: Remarks: 1. Rotary Openhole from 0.0-6.5mbgl 2. Cable Perdcussion Drilling from 6.50 to 9.90mbgl.



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Borehole BH2

Project Name: Leconfield , Cleator Moor	Client: West Lakes Renaissance										
Method: Rotary open hole.	Co-ord Groun			0E -	- 0N			Da	tes: 20/0	3/2007	
Stratum Description		gend	Dep	oth (m)	-	Samples Type	& In Situ Tes	sting ts/Remark	Hole Casing	Water Strikes	Backfill /
MADE GROUND: Grass over brown clayey sandy TOPSOIL.	X	**	Leve	0.10	(m)	туре	nesuit	5/nemark	.S Guome	000	otaliation
MADE GROUND: Grey and blue grey GRAVEL of slag.			1 -							\searrow	
MADE GROUND: Blue grey GRAVEL of slag.			2								
MADE GROUND: Dark grey GRAVEL of slag.			} [2.70							
Brown and red brown sandy, slightly gravelly CLAY.			3 -	3.00							
Firm to stiff red brown sandy slightly gravelly CLAY. Gravel is sub-angular to rounded fine to coarse of sandstone, mudstone, siltstone, coal, limestone.			5	7.20							
Boulder (Driller's Description)	0000			7.20							
BOULDERS	ि		1	8.30							
8.6-?? Brown fine to coarse SAND and medium and coarse grained GRAVEL of sandstone and limestone. ?? - 10.5 Grey LIMESTONE.			9	8.60		Tuno					683
Continued next sheet Remarks: 1. Groundwater encountered at 1 mbgl.			L			Type		Job	No.	E11	683
2. Boulder(s) encountered between7.2-8.6mbgl. 3. No further progress at 10.5mbgl on limestone, borehole abandoned	i.							Logged	d By:	AC	



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Borehole BH2 Number

Sheet 2 of 2 Scale 1:50

Checked By:

Project Name: Leconfield, Cleator Moor Client: West Lakes Renaissance Co-ordinates 0E - 0N Dates: 20/03/2007 Method: Rotary open hole. Ground Level: Water Backfill / Stratum Description Depth (m) Hole Legend Depth Type Results/Remarks Casing evel (AOD) 8.6-?? Brown fine to coarse SAND and medium and coarse grained GRAVEL of sandstone and limestone. ?? - 10.5 Grey LIMESTONE. 10.50 End of Borehole at 10.50 m 15 16 18 Type Job No: E11683 1. Groundwater encountered at 1mbgl. 2. Boulder(s) encountered between 7.2-8.6mbgl.
3. No further progress at 10.5mbgl on limestone, borehole abandoned. Logged By: AC



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Borehole BH3

Sheet 1 of 2 Scale 1:50

Project Name: Leconfield, Cleator Moor Client: West Lakes Renaissance Co-ordinates Dates: 13/03/2007 Method: Ground Level: Samples & In Situ Testing Water Backfill / Depth (m) Hole Stratum Description Legend Depth Type Casing Strikes Results/Remarks Level (AOD) MADE GROUND: Topsoil (driller's description) MADE GROUND: Foundry slag (driller's description). 1.30 Orange brown firm CLAY. (driller's description). 1.50 Stiff light sandy glacial till. (driller's description). 2 3 5 6 8 9.90 Type Continued next sheet Job No: E11683 Remarks: 1. Took 4 hours to advance casing from 10.30-12.80mbgl through gravels, casing shoe destroyed. Logged By: AC Checked By:



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01 10 10

Number

Borehole BH3

Sheet 2 of 2 Scale 1:50

Project Name: Leconfield , Cleator Moor	Client: West Lakes Renaissance											
Method:	Co-ordinates - Dates: 13/03/2007 Ground Level: -											
Stratum Description	Gr		VeI: - Depth (m)					Hole	Water	Backfill /		
		Logona	Level (AOD)	Depth (m)	Туре	Results	/Remarks	Casing	Strikes	Installation		
Very hard boulder (driller's description).			10.30									
Brown sand and gravel course (driller's description). End of Borehole at 12.80 m			11-12-12-12-80					10.50 115mm				
			14-									
			16-									
			18-									
Remarks: 1. Took 4 hours to advance casing from 10.30-12.80mbgl through grad	vels, c	asing sho	l oe destroye	ed.	Type		Job N Logged E	Зу:	E11 AC	683		



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Borehole Number BH3A

Project Name: Leconfield , Cleator Moor	Client: West Lakes Renaissance											
Method:		o-ordinate round Le					Date	s: 15/0	3/2007			
Stratum Description	<u>j</u> Gi	Legend	Depth (m) Depth	Samples	& In Situ Test		Hole	Water Strikes	Backfill /		
MADE GROUND: Topsoil (driller's description).		****	Level (AOI - 0.10		Туре	Results	s/Remarks	Casing	Strikes	Installation		
MADE GROUND: Very compact grey foundry slag. (driller's description).			1.90									
Red brown sandy CLAY (possibly fill) (driller's description).			2 -									
Grey boulder			3 - 3.60									
Stiff red brown sandy CLAY. (glacial till) (driller's description).			5-					6.40				
End of Borehole at 6.40 m			7 -					165mm				
			8 -									
			9							683		
					Туре		loh ^	 	E11	602		
Remarks: 1. Groundwater not observed.							Job N Logged Checked	Ву:	AC	0 03		



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Borehole Number BH5A

Project Name: Leconfield , Cleator Moor	Client: West Lakes Renaissance											
Method:	Co-ordinates - Dates: 22/0 Ground Level: -)3/2007										
Stratum Description	Depth (m) Samples & In Situ Testing Hole	Water Backfill / Strikes Installations										
MADE GROUND: TOPSOIL (driller's description).	Level (AOD)) (m) Type Results/Retitalits	, Juneo Installation										
MADE GROUND: Foundry SLAG (driller's description).	0.80											
MADE GROUND: Brown firm gravelly CLAY (driller's description).	2.60											
End of Borehole at 4.00 m	5 -											
	6 -											
	7 -											
	8-											
	9 -	E11683										
	Type Ich No:	F11600										
Remarks: 1. No groundwater observed.	Job No: Logged By: Checked By:	E11683 AC										



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Borehole BH7 Number

Project Name: Leconfield , Cleator Moor	Client: West Lakes Renaissance											
Method:	Co-ordinates - Dates: 22/03/2007 Ground Level: -											
Stratum Description			Depth (m Level (AOI	Depth	Samples & Type		sting ts/Remarks	Hole Casing	Water Strikes	Backfill /		
MADE GROUND: TOPSOIL (driller's description).		****	- 0.10		1,700	i iosuit	o, riomano	1				
MADE GROUND: Foundry SLAG (driller's description). Glacial Till. (driller's description) End of Borehole at 9.50 m			3 - 4		Type		John M.			683		
Remarks: 1. Groundwater encountered at 3.60mbgl.							Job N Logged		E11 AC	683		
							Checke	d By:				



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Borehole BH8

Sheet 1 of 1 Scale 1:50

Project Name: Leconfield, Cleator Moor Client: West Lakes Renaissance Co-ordinates Dates: 19/03/2007 Method: Ground Level: Samples & In Situ Testing Water Backfill / Depth (m) Stratum Description Hole Legend Depth Type Casing Strikes Results/Remarks Level (AOD) MADE GROUND: Grass over brown sandy TOPSOIL. 0.10 MADE GROUND: Concrete/ MADE GROUND: Grey GRAVEL of slag. 6.00 End of Borehole at 6.00 m Job No: E11683 Remarks: 1. Took 12 hours to progress from ground level to 6.0mbgl with 6" roller and to 5.0mbgl with 9" roller. 2. Groundwater was not observed. Logged By: AC Checked By:



Ground Technologies and Investigations Regatta House, Clippers Quay, Manchester M50 3XP. Tel. 0161 872 3223. Fax. 0161 872 3193 Borehole Number

Project Name: Leconfield , Cleator Moor	Client: West Lakes Renaissance											
Method:	Co-ordinat Ground Le					Date	s: 21/0	3/2007				
Stratum Description	Legend		Depth (m)	Samples 8	In Situ Tes	sting s/Remarks	Hole Casing	Water Strikes	Backfill / Installation			
Glacial Till (driller's description).		1 -	(111)	.,,,,,		S. 101101						
MADE GROUND: Foundry slag (driller's description).		3										
Brown glacial till (driller's description). End of Borehole at 7.00 m		7 - 7.00										
		8 -										
		9 -										
		L		Туре		lal- N	·					
Remarks:						Job N Logged Checked	Ву:	E11 AC	ზგვ			



Ground Technologies and Investigations

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Borehole R1 Number

Sheet 1 of 2 Scale 1:50

Project Name: Leconfield, Cleator Moor Client: West Lakes Renaissance Co-ordinates Dates: 15/03/2007 Method: Ground Level: Samples & In Situ Testing Water Backfill / Stratum Description Depth (m) Hole Legend Depth Type Casing Strikes Results/Remarks Level (AOD) 0.05 MADE GROUND: Grass and reeds over brown clayey TOPSOIL. MADE GROUND: Grey angular to sub-angular fine to coarse GRAVEL of 0.60 MADE GROUND: Firm red brown sandy, slightly gravelly CLAY. Gravel is angular to sub-angular, fine to coarse of sandstone, mudstone, siltstone, slag and ash. 3 00 Blue grey GRAVEL of slag and ash. 6 6.20 Brown sandy, slightly gravelly CLAY. 8 Type Continued next sheet Job No: E11683 Remarks: 1. Groundwater strike at 10.30mbgl with steady ingress. 2. Borehole terminated at 12mbgl as unable to advance casing through dense gravels. Logged By: AC Checked By:



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Borehole R1 Number

Sheet 2 of 2 Scale 1:50

Project Name: Leconfield , Cleator Moor	Client: West Lakes Renaissance											
Method:	Co-ordinates - Dates: 15/03/2007 Ground Level: -											
	Gr		vel: - Depth (m)					Hole	Water	Backfill /		
Stratum Description		Legend	Level (AOD)	Depth (m)	Туре	Results	/Remarks	Casing	Strikes	Installation		
Brown sandy, slightly gravelly CLAY.									∇			
Coarse GRAVEL with some cobbles and boulders of granite, sandstone and limestone.			11-									
End of Borehole at 12.00 m		**************************************	12-12.00									
			15-									
			16-									
			19-		Туре							
Remarks: 1. Groundwater strike at 10.30mbgl with steady ingress.		1	I .	1	туре		Job N	0:	E11	683		
Remarks: 1. Groundwater strike at 10.30mbgl with steady ingress. 2. Borehole terminated at 12mbgl as unable to advance casing through	h den	ise gravels	S.				Logged I	Зу:	AC	683		



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Borehole **WS1** Number

Sheet 1 of 1 Scale 1:50

Project: Leconfield, Cleator Moor Client: **West Lakes Renaissance** Start Date : Finish Date Co-ordinates: 21/03/07 : 21/03/07 Method: Ground Level Sample Test Reduced Level (mOD) **Description** Casing (m) Installation Backfill Depth Type Legend Notes MADE GROUND: Tarmac 0.20 С N=39 MADE GROUND: Grey sandy angular to subangular fine to (12,21/13,12,9,5) 0.48 coarse GRAVEL of slag. 0.60 -С 27 (16,9 for 30mm/19 for 23mm) MADE GROUND: Firm red brown gravelly CLAY. Gravel is 0.80 angular to subangular fine and medium grained of slag. MADE GROUND: Grey angular to subangular fine to coarse GRAVEL of slag. Window Sample hole completed at 0.80 m

1. Window sample hole cored from GL to 0.12mbgl.

2. Backfilled with grount.

JOB NUMBER Logged By:

E11683

Checked By:

AC



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Sheet 1 of 1 Scale 1:50

Project: Leconfield, Cleator Moor Client: **West Lakes Renaissance** Start Date : Finish Date Co-ordinates: 21/03/07 : 21/03/07 Method: Ground Level Sample Test Reduced Level (mOD) **Description** Casing (m) Installation Backfill Depth Type Legend Notes MADE GROUND: Tarmac 0.16 0.30 0.16 С (8,17/22,16,6,4) MADE GROUND: Grey sandy angular to subangular fine to 0.40 coarse GRAVEL of ash and slag. 0.65 С N=22 (3,6/5,6,7,4) Firm brown and red brown gravelly CLAY. Gravel is angular to sub-angular fine to coarse of ash, slag, sandstone, mudstone and siltstone. 1.20 С N=10 (2,3/2,4,2,2) 1.65 Window Sample hole completed at 1.65 m

Remarks:

1. Window sample hole cored from GL-0.16mbgl.

2. Groundwater seeoage at 0.3mbgl.

Backfilled with grout.

JOB NUMBER

E11683 **AC**

Logged By: Checked By:



Ground Technologies and Investigations Regatta House, Clippers Quay, Manchester. M50 3XP Tel. 0161 872 3223 Fax. 0161 872 3193 Borehole Number WS3

Sheet 1 of 1 Scale 1:50

Project: Leconfield, Cleator Moor Client: **West Lakes Renaissance** Start Date : Finish Date Co-ordinates: 21/03/07 : 21/03/07 Method: Window Sample Hole. **Ground Level** Sample Test Reduced Level (mOD) **Description** Casing (m) Installation Backfill Depth Type Legend Notes 0.10 MADE GROUND: Tarmac 0.10 С N=36 0.30 (8,11/9,9,10,8) MADE GROUND: Grey sandy angular to subangular fine to coarse GRAVEL of ash, brick and slag. 0.65 С (75 for 55mm) MADE GROUND: Firm brown gravelly CLAY. Gravel is angular to subangular fine to coarse of ash, slag, brick, sandstone, mudstone and siltstone. MADE GROUND: Grey angular to subangular fine to coarse GRAVEL of slag. Strong sulphurous odour noted between 0.55-0.65mbgl. Window Sample hole completed at 0.65 m

Remarks:

1. Window Sample Hole cored from GL - 0.1 mbgl

2. Backfilled with grout.

JOB NUMBER Logged By : E11683 **AC**

Checked By:



Ground Technologies and Investigations Regatta House, Clippers Quay, Manchester. M50 3XP Tel. 0161 872 3223 Fax. 0161 872 3193 Borehole Number WS4

Sheet 1 of 1 Scale 1:50

Project: Leconfield, Cleator Moor Client: **West Lakes Renaissance** Start Date : Finish Date Co-ordinates: 21/03/07 : 21/03/07 Method: Window Sample Hole. Ground Level Sample Test Reduced Level (mOD) **Description** Casing (m) Installation Backfill Depth Type Legend Notes MADE GROUND: Tarmac. Recovered non-intact as a coarse С N=46 (10,15 for 55mm/27,12,4,3) 0.60 MADE GROUND: Dark grey slightly clayey, slightly sandy 0.60 С angular to sub-angular fine to coarse GRAVEI of ash N=14 (2.2/2.3.5.4) and slag. 1.00 MADE GROUND: Firm red brown gravelly CLAY. Gravel is 1.10 -С N=13 (2,2/3,5,3,2) angular to sub-rounded fine to coarse of ash, slag, sandstone and mudstone. 1.55 Window Sample hole completed at 1.55 m

Remarks:

1. WS hole cored from ground level - 0.12mbgl

2. Groundwater seepage at 0.6mbgl

3. Backfilled with grout

JOB NUMBER Logged By : E11683 **AC**

Checked By:



Ground Technologies and Investigations Regatta House, Clippers Quay, Manchester. M50 3XP Tel. 0161 872 3223 Fax. 0161 872 3193 Borehole Number WS5

Sheet 1 of 1 Scale 1:50

Project: Leconfield, Cleator Moor Client: West Lakes Renaissance Start Date: 21/03/07 Finish Date: 21/03/07 Co-ordinates: Method: Window Sample Hole. Ground Level Sample Test Reduced Level (mOD) **Description** Casing (m) Installation Backfill Depth Type (m) Legend Notes 0.05 0.05 N=37 (10,10/11,12,8,6) MADE GROUND: Tarmac MADE GROUND: Grey angular to sub-angular fine to coarse GRAVEI of ash and slag. 0.60 0.60 С N=9 (4.2/2.2.2.3) MADE GROUND: Brown sandy angular to sub-angular fine to coarse GRAVEI of ash with occasional slag. 1.10 -С N=12 (3,2/3,3,3,3) 1.55 Window Sample hole completed at 1.55 m

Remarks:

1. Cored from 0.0 - 0.05mbgl.

2. Groundater seepage at 0.4mbgl.

3. Backfilled with grout.

JOB NUMBER Logged By :

Checked By:

E11683 **AC**



1. Cored from 0.0 - 0.12mbgl

2. Backfilled with grout.

WHITE YOUNG GREEN ENVIRONMENTAL

Ground Technologies and Investigations Regatta House, Clippers Quay, Manchester. M50 3XP Tel. 0161 872 3223 Fax. 0161 872 3193 Borehole Number WS6

Sheet 1 of 1 Scale 1:50

> Logged By: Checked By:

AC

Project: Leconfield, Cleator Moor Client: West Lakes Renaissance Start Date: 21/03/07 Finish Date: 21/03/07 Co-ordinates: Method: Window Sample Hole. Ground Level Sample Test Reduced Level (mOD) **Description** Casing (m) Installation Backfill Depth Type Legend Notes MADE GROUND: Tarmac С N=38 (9,10/9,12,11,6) MADE GROUND: Grey and brown angular to sub-angular 0.50 fine to coarse GRAVEL of ash and slag. 0.60 -С 50 (4,3/4,10,23,13 for 60mm) MADE GROUND: Light grey angular to sub-angular fine to coarse GRAVEL of slag. 1.05 Window Sample hole completed at 1.05 m JOB NUMBER E11683



Ground Technologies and Investigations Regatta House, Clippers Quay, Manchester. M50 3XP Tel. 0161 872 3223 Fax. 0161 872 3193 Borehole Number WS7

Sheet 1 of 1 Scale 1:50

Project: Leconfield, Cleator Moor Client: **West Lakes Renaissance** Start Date : Finish Date Co-ordinates: 21/03/07 : 21/03/07 Method: Window Sample Hole. **Ground Level** Sample Test Reduced Level (mOD) **Description** Casing (m) Installatior Backfill Depth Type Legend Notes 0.10 MADE GROUND: Grass over brown gravelly TOPSOIL MADE GROUND: Red brown and dark grey slightly clayey angular to sub-angular fine to coarse GRAVEL of ash 0.50 D and slag with occasional brick. 1.00-С N=9 (2.2/2.3.2.2) 1.40 MADE GROUND: Soft red brown gravelly CLAY. Gravel is 1.50 D angular to sub-angular fine to coarse of ash, slag and brick. S N=7 (1,1/2,1,2,2) Band of angular coarse gravel of slag with 2.50 D strong sulphurous odour noted between 2.3 and 2.4mbgl. 3.00-С N=6 (2,1/1,1,2,2) 3.45 Window Sample hole completed at 3.45 m JOB NUMBER E11683 1. Backfilled with arisings. Logged By: AC Checked By: 2. Grounwater not observed.



Ground Technologies and Investigations Regatta House, Clippers Quay, Manchester. M50 3XP Tel. 0161 872 3223 Fax. 0161 872 3193

Borehole WS8 Number

Sheet 1 of 1 Scale 1:50

Project: Leconfield, Cleator Moor Client: **West Lakes Renaissance** Start Date : Finish Date Co-ordinates: 21/03/07 : 21/03/07 Method: Window Sample Hole. Ground Level Sample Test Reduced Level (mOD) **Description** Casing (m) Installatior Backfill Depth Type Legend Notes MADE GROUND: Grass over brown sandy TOPSOIL. 0.20 MADE GROUND: Brown and grey clayey angular fine to coarse GRAVEL of ash, slag and sandstone with some 0.50 D 0.60 angular cobbles of slag. MADE GROUND: Soft red brown gravelly CLAY. Gravel is S D 1.00-N=7 (0.2/2.2.1.2) angular to sub-rounded fine to coarse of slag, ash, sandstone, mudstone and siltstone. 1.50 D S N=7 (1,1/2,2,1,2) 2.50 D 3.00-S D N=5 (1,1/1,1,2,1) 3.45 Window Sample hole completed at 3.45 m E11683

1. Backfilled with arisings.

2. Groundwater not observed.

JOB NUMBER Logged By:

AC

Checked By:



Trial Pit Number

TP1

Project : Leconfield, Cleator Moor	Client :									
Method: JCB Excavator	Co-ordin Ground I						Start D Finish D	ate: 05/03/07 Pate: 05/03/07		
Description	Legend	Reduced Level (mOD)	Depth (m)	Water Strike (m)	Backfill		th Type	Notes		
TOPSOIL	//////	(IIIOD) -	0.05	(111)		(m	1,700	140100		
MADE GROUND: White and grey, sub-angular and angular, fine to coarse GRAVEL of slag.						0.5	0 - D			
MADE GROUND: Grey brown very clayey SAND with little sub-angular, coarse gravel of slag.			3.00			1.5				
MADE GROUND: Brown very clayey gravelly SAND. Gravel is sub-angular and sub-rounded, fine to coarse mudstone and slag. with occasional sub-rounded cobbles of mudstone at 3.3mbgl			3.00			3.0				
Trial Pit completed at 4.10m bgl			4.10			4.0	0- D			
Stability: Groundwater Observations: Water seepage at 0.5mbgl Remarks:			L V	it Dimens ength: - Vidth: - Orientation	L	ogged	NUME I By : ed By :	BER AM		



Trial Pit TP2 Number

Project : Leconfield, Cleator Moor	Client :									
Method: JCB Excavator	Co-ordin Ground L	ates: _evel :				:	Start Dat Finish Dat	te: 05/03/07 te: 05/03/07		
		Reduced	Donth	Water		Samp	ole Test			
Description	Legend	Reduced Level (mOD)	Depth (m)	()	Backf	ill Depth (m)	Туре	Notes		
TOPSOIL: Topsoil with rootlets			0.05				}			
MADE GROUND: Brown sub-angular and sub-rounded, fine to coarse GRAVEL of slag with pockets of gravelly clay. with occasional sub-rounded and sub-angular cobbles of slag between 0.05 and 3.6mbgl.						0.40	D			
		-				1.70	D			
		-				2.50	D .			
		-	3.60			3.50] D			
Trial Pit completed at 3.60m bgl										
Stability: Groundwater Observations: Water seepage at ground level (0.0 mbgl) Remarks:				Pit Dimens Length: - Width: - Orientation		JOB N Logged I Checked	NUMBE By: I By:	ER AM		



Trial Pit Number

TP3

Project : Leconfield, Cleator Moor	Client :									
Method: JCB Excavator	Co-ordina Ground L	ates: .evel :					Start Da Finish Da	ate: 05/03/07 ate: 05/03/07		
	Legend	Reduced Level (mOD)	Depth (m)	Water Strike (m)	D14		ple Test			
Description	3	(mOD)	(m) 0.10	(m)	Backf	ill Depti (m)	¹ Type	Notes		
TOPSOIL MADE GROUND: Brown gravelly SAND. Gravel is sub-angular, fine to coarse slag. becoming clayey at 0.6mbgl			V. IV			0.70	D			
MADE OPOUND Dever consults along CAND Grand in			2.30			1.80	D D			
MADE GROUND: Brown gravelly clayey SAND. Gravel is sub-angular and angular, fine to coarse slag and brick.			2.60			2.60] D			
MADE GROUND: Brown sub-angular and angular, fine to coarse GRAVEL of ash, slag, brick and mudstone Trial Pit completed at 3.00m bgl			3.00							
Stability: Groundwater Observations: Water seepage at 1.8 mbgl. Remarks:			,	Pit Dimens Length: - Width: - Orientation		JOB N Logged Checked	By:	ER AM		



Number

TP4

Sheet 1 of 1 Scale 1:50

Trial Pit

Project : Leconfield, Cleator Moor	Client :						
Method: JCB Excavator	Co-ordinates: Start Date: 06/03 Ground Level: Finish Date: 06/03						
Description	Legend Reduced Level (mOD)	Depth (m)	Water Strike (m)	Backfil		nple Test th Type	Notes
TOPSOIL	XXXXI	0.05				-	
MADE GROUND: Brown sandy gravelly peaty CLAY. Gravel is sub-angular and sub-rounded, fine to coarse slag, mudstone and brick with some rootlets		0.60			0.5	0 D	
MADE GROUND: Grey sub-angular and angular, fine to coarse GRAVEL of slag with pockets of dark brown sand (with slight sulphuric odour)					1.3	5 D	
MADE GROUND: Light brown very soft to soft gravelly very sandy CLAY. Gravel is sub-angular and angular, fine to coarse slag, brick and mudstone		1.60			1.6	0 D	
becoming friable and soft to firm at 2.2mbgl		3.30			3.0	0- D	
Trial Pit completed at 3.30m bgl							
Stability: Groundwater Observations: No groundwater encountered. Remarks:			Pit Dimens Length: - Width: - Orientation	I	Logged	NUME d By : ed By :	BER AM



Trial Pit TP5 Number

Project : Leconfield, Cleator Moor	Client :								
Method: JCB Excavator	Co-ordinates: Start Date: 06/03/07 Ground Level: Finish Date: 06/03/07								
	Legend		Denth	Water		Sampl	le Test		
Description	Legend	Reduced Level (mOD)	Depth (m)	Water Strike (m)	Backfill	Depth (m)	Туре	Notes	
TOPSOIL			0.10			0.15	D		
MADE GROUND: Light grey white sub-angular and angular, fine to coarse GRAVEL of slag						0.40	В		
		-				-			
		† -				1.10 -	D		
Trial Pit completed at 1.50m bgl		-	1.50			-			
mai Pit completed at 1.50m bgi		-							
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Stability: Groundwater Observations: No groundwater encountered.			<u>P</u>	oit Dimens ength: -		IOB N ogged E	UMBE	ER AM	
Remarks:			V	Vidth: - Orientation	C	checked	By:	VIAI	
			- 1	, i e i ilali Ol	"				



Trial Pit Number

TP6

Project : Leconfield, Cleator Moor	Client	:						
Method: JCB Excavator	Ground Level: Finish Date: 06/03							Pate: 06/03/07 Pate: 06/03/07
Description	Legend	Reduced Level (mOD)	Depth (m)	Water Strike (m)	Backfil		nple Test	Notes
TOPSOIL		(IIIOD)	0.10	(111)		- (m	,,,,,	110.00
MADE GROUND: Light grey sub-angular and angular, fine to coarse GRAVEL of slag with slight sulphuric odour. with pockets of fine to coarse sand at 0.25m			1.00			1.0		
MADE GROUND: Black SAND and GRAVEL. Sand is fine to coarse grained. Gravel is sub-angular and angular, fine to coarse slag.						2.0	0- D	
		-	2.20				ĭ	
MADE GROUND: White sub-angular and angular, fine to coarse GRAVEL of slag with pockets of fine to coarse sand.						2.8	0 D	
Trial Pit completed at 3.00m bgl			3.00	4			1	
Stability: Groundwater Observations: No groundwater encountered. Remarks:			ļ	Pit Dimens Length: - Width: - Orientation	1	ogge	NUME d By : ed By :	BER AM



Trial Pit **TP7** Number

Project : Leconfield, Cleator Moor	Client :							
Method: JCB Excavator	Co-ordin Ground I	ates: _evel :		S F	Start Date: 06/03/07 Finish Date: 06/03/07			
Description	Legend	Reduced Level (mOD)	Depth (m)	Water Strike (m)	Backfill	Sampl Depth (m)		Notes
TOPSOIL			0.10			-		
MADE GROUND: Brown gravelly CLAY. Gravel is sub-angular and sub-rounded, fine to coarse slag, mudstone and brick		-	1.30			0.50	D	
MADE GROUND: Grey sub-angular and angular, fine to coarse GRAVEL of slag						1.40 -	D B	
Trial Pit completed at 2.50m bgl			2.50					
Stability: Groundwater Observations: No groundwater encountered. Remarks:			L V	it Dimens ength: - Vidth: - Orientation	Lo	OB N ogged B hecked	UMBEI By : By :	R AM



Trial Pit TP8 Number

Project : Leconfield, Cleator Moor	Client	:							
Method: JCB Excavator	Co-ordinates: Ground Level :						Start Date: 06/03/ Finish Date: 06/03/		
Description	Legend	Reduced Level (mOD)	Depth (m)	Water Strike (m)	Backfill	Sampl Depth (m)		Notes	
TOPSOIL			0.10			-			
MADE GROUND: Brown gravelly CLAY. Gravel is sub-angular and angular, fine to coarse slag and mudstone			0.50	_		0.40	D		
MADE GROUND: Grey angular and sub-angular, fine to coarse GRAVEL of slag		- - - - - - -	1.40			1.00	D		
MADE GROUND: Dark brown soft very sandy gravelly CLAY. Gravel is sub-angular, angular, fine to coarse slag, brick and mudstone						2.00	D		
becoming red brown at 2.2mbgl						3.20	D		
with occasional sub-rounded cobbles of slag at 3.5mbgl Trial Pit completed at 3.70m bgl			3.70						
Stability: Groundwater Observations: No groundwater encountered. Remarks:	ı	I	L V	rit Dimens ength: - Vidth: - Orientation	Lo C	OB N ogged B hecked	UMBE by : By :	R AM	