

# ***APPENDIX F***



**ROBERT E. FRY & ASSOCIATES LTD.**  
**45 Bridgeman Terrace,**  
**Wigan, WN1 1TT**

Site  
 Liverpool Road, Hutton

Number  
**WS01**

Excavation Method  
 Drive-in Windowless Sampler

Dimensions  
 Location

Ground Level (mOD)  
 Dates  
 06/01/2025

Client  
 Lancashire County Council

Job Number  
 24182

Engineer

Sheet  
 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D				0.20	Soft dark grey slightly gravelly CLAY with occasional rootlets. Gravel is angular to subrounded fine to medium of sandstone (topsoil)		
0.20	ES							
1.00-1.45	SPT N=16		3,3/3,4,4,5		(1.20)	Soft orangish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of sandstone ...Becoming firm from 0.70m		
1.40	D				1.40	Stiff dark brown mottled grey slightly gravelly slightly sandy CLAY with occasional pockets of fine to medium grey sand. Gravel is subangular to subrounded fine to coarse of sandstone		
2.00-2.45	SPT N=27		4,5/5,7,7,8		(1.60)			
3.00-3.45	SPT N=37		7,8/8,9,9,11		3.00	Very stiff dark brown slightly gravelly CLAY. Gravel is subangular to subrounded fine of sandstone with occasional pockets of grey fine sand		
4.00-4.45	SPT N=40		6,8/10,10,10,10		(1.10)			
					4.10	...Slight increase in sand content from 4.00m		
					(0.80)	Very stiff dark brown slightly sandy slightly gravelly CLAY with occasional pockets of brown fine to medium sand. Gravel is subangular to subrounded fine to medium sandstone		
5.00-5.45	SPT N=23		4,5/4,7,6,6		4.90	Medium dense dark brown slightly gravelly sandy SILT. Gravel is subangular to subrounded fine to medium siltstone and sandstone		
5.10	D				(0.55)			
					5.45	Complete at 5.45m		

Remarks  
 Vertical and stable. No groundwater encountered

Scale (approx)  
 1:50

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 RM

Figure No.  
 24182.WS01



**ROBERT E. FRY & ASSOCIATES LTD.**  
**45 Bridgeman Terrace,**  
**Wigan, WN1 1TT**

Site  
 Liverpool Road, Hutton

Number  
**WS02**

Excavation Method  
 Drive-in Windowless Sampler

Dimensions

Ground Level (mOD)

Client  
 Lancashire County Council

Job Number  
 24182

Location

Dates  
 06/01/2025

Engineer

Sheet  
 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.15 0.15	D ES				(0.25) 0.25 (0.35) 0.60	Soft dark grey slightly gravelly CLAY with frequent rootlets. Gravel is subangular to subrounded fine to medium of sandstone and mudstone (topsoil)		
1.00-1.45	SPT N=16		3,3/3,4,4,5		(0.40) 1.00	Soft greyish dark brown slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to medium sandstone and mudstone		
1.80 2.00-2.45	D SPT N=24		4,4/5,6,6,7		(2.10)	Firm orangish brown mottled grey slightly sandy slightly gravelly CLAY with occasional orange fie to coarse sand pockets. Gravel is subangular to subrounded fine to medium sandstone and mudstone  Firm to stiff dark brown mottled grey slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse sandstone and mudstone ...Becoming stiff from 1.50m		
3.00-3.45	SPT N=22		4,4/4,6,6,6		3.10	Stiff dark brown slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of sandstone and mudstone		
4.00-4.45	SPT N=24		5,6/5,6,6,7		(1.50) 4.60			
5.00-5.45 5.20	SPT N=27 D		4,5/6,7,7,7		(0.85) 5.45	Stiff dark brown slightly sandy slightly gravelly silty CLAY. Gravel is subangular to subrounded fine of sandstone and mudstone.		
						Complete at 5.45m		

Remarks  
 Vertical and stable. No groundwater encountered

Scale (approx)  
 1:50

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 RM

Figure No.  
 24182.WS02



**ROBERT E. FRY & ASSOCIATES LTD.**  
**45 Bridgeman Terrace,**  
**Wigan, WN1 1TT**

Site  
 Liverpool Road, Hutton

Number  
**WS03**

Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Lancashire County Council	Job Number 24182
	Location	Dates 06/01/2025	Engineer	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.15 0.15	D ES				0.20 0.20	Soft dark grey slightly gravelly CLAY with frequent rootlets. Gravel is subangular to subrounded fine to medium of sandstone and mudstone (topsoil)		
					0.45			
					0.65 (0.25) 0.90	Soft reddish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone		
1.00-1.45	SPT N=27		4,4/6,7,6,8			Firm orangish dark brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium sandstone		
1.60	D				(1.20)	Stiff dark brown mottled grey slightly sandy slightly gravelly CLAY with occasional grey fine to coarse sand pockets. Gravel is subangular to rounded fine to medium sandstone and mudstone		
2.00-2.45	SPT N=38		6,7/7,10,9,12		2.10	Very stiff dark brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine to medium of sandstone and mudstone		
3.00-3.45	SPT N=32		5,7/6,8,8,10		(1.80)			
4.00-4.45	SPT N=32		5,6/7,8,8,9		3.90	Stiff dark brown slightly sandy slightly gravelly silty CLAY with occasional brown fine to coarse sand pockets. Gravel is subangular to subrounded fine to medium sandstone and mudstone.		
					(1.55)			
5.00-5.45	SPT N=27		5,6/6,7,7,7		5.45	Complete at 5.45m		

Remarks Vertical and stable. No groundwater encountered	Scale (approx)	Logged By
	1:50	RM
	Figure No. 24182.WS03	



**ROBERT E. FRY & ASSOCIATES LTD.**  
**45 Bridgeman Terrace,**  
**Wigan, WN1 1TT**

Site  
 Liverpool Road, Hutton

Number  
**WS04**

Excavation Method  
 Drive-in Windowless Sampler

Dimensions

Ground Level (mOD)

Client  
 Lancashire County Council

Job Number  
 24182

Location

Dates  
 06/01/2025

Engineer

Sheet  
 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10 0.10	D ES				(0.35) 0.35 (0.20) 0.55	Soft dark grey slightly gravelly CLAY with frequent rootlets. Gravel is subangular to subrounded fine to medium sandstone (topsoil)		
1.00-1.45	SPT N=17		3,3/3,4,5,5		(0.55) 1.10	Soft greyish dark brown slightly sandy slightly gravelly CLAY. Gravel is subangular to rounded fine to coarse of sandstone		
1.70 2.00-2.45	D SPT N=31		5,5/6,7,8,10		(2.70)	Firm orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional greyish green fine to medium sand pockets. Gravel is subangular to subrounded fine to medium of sandstone		
3.00-3.45	SPT N=28		5,5/6,7,7,8			Firm to stiff dark brown grey slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of sandstone and mudstone ...Becoming stiff from 1.30m		
4.00-4.45	SPT N=38		6,7/8,9,9,12		3.80 (1.65)	Stiff dark brown slightly gravelly silty CLAY with occasional lithorelic roots. Gravel is subangular to rounded fine to medium of sandstone and mudstone		
5.00-5.45	SPT N=19		3,3/4,5,5,5		5.45	Complete at 5.45m		

**Remarks**  
 Vertical and stable. No groundwater encountered

Scale (approx)  
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Figure No.  
 24182.WS04



**ROBERT E. FRY & ASSOCIATES LTD.**  
**45 Bridgeman Terrace,**  
**Wigan, WN1 1TT**

Site  
 Liverpool Road, Hutton

Number  
**WS05**

Excavation Method  
 Drive-in Windowless Sampler

Dimensions  
 Location

Ground Level (mOD)  
 Dates  
 06/01/2025

Client  
 Lancashire County Council

Job Number  
 24182

Engineer  
 Sheet  
 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D				(0.30)	Dark brown slightly gravelly CLAY with frequent rootlets. Gravel is subangular to subrounded fine to medium of sandstone (topsoil)		
0.20	ES				0.30			
					(0.40)	Soft greyish dark brown slightly gravelly CLAY. Gravel is subangular to rounded fine of sandstone		
					0.70			
1.00-1.45	SPT N=21		3,3/3,5,6,7		(1.50)	Stiff brown mottled grey slightly gravelly CLAY with occasional grey fine to medium sand pockets. Gravel is subangular to rounded fine to medium of mudstone and sandstone		
1.20	D							
2.00-2.45	SPT N=23		4,4/4,5,7,7		2.20	Stiff dark brown slightly sandy slightly gravelly CLAY with occasional multicoloured fine gravelly pockets. Gravel is subangular to subrounded fine to medium of sandstone and mudstone		
					(0.40)			
					2.60			
3.00-3.45	SPT N=39		7,8/9,10,10,10		(1.40)	Very stiff reddish brown mottled grey slightly sandy slightly gravelly CLAY with orangish grey fine to coarse sand pockets. Gravel is angular to subrounded fine to coarse of sandstone and mudstone		
4.00-4.45	SPT N=17		4,4/4,4,4,5		4.00	Firm brown slightly gravelly CLAY. Gravel is subangular to rounded fine to medium of sandstone and mudstone		
					(0.70)			
					4.70	Stiff dark brown slightly sandy slightly gravelly silty CLAY. Gravel is subangular to subrounded fine of sandstone and mudstone		
5.00-5.45	SPT N=26		4,4/6,7,6,7		(0.75)			
5.20	D				5.45	Complete at 5.45m		

Remarks  
 Vertical and stable. No groundwater encountered

Scale (approx)  
 1:50

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 RM

Figure No.  
 24182.WS05