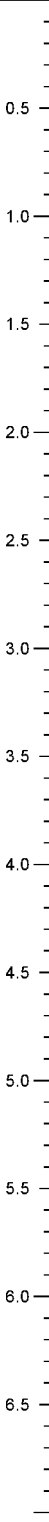
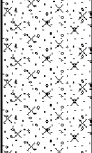
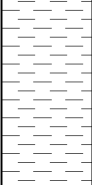
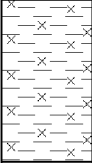


 Geo-Environmental Group				Borehole Log			Borehole No. WS05 Sheet 1 of 1			
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489673E - 99069N		Hole Type WS		
Location: Hook Lane, Pagham, PO21 3PD						Level:		Scale 1:36		
Client: Brookbanks / Hallam Land Management						Dates: 24/10/2019		Logged By NN		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
					0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
					0.30			(Firm) yellowish brown silty CLAY. (RIVER TERRACE DEPOSITS)	0.5	
		0.80						<i>0.60-2.00m Becoming very soft</i>		
		1.00	SPT	N=1 (0,0/0,0,1,0)					1.0	
		1.40			HVP=4				1.5	
		2.00	SPT	N=11 (1,0/1,3,3,4)	2.00			Medium dense yellowish brown silty gravelly SAND. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)	2.0	
					2.50			(Soft to firm) reddish brown silty CLAY. (RIVER TERRACE DEPOSITS)	2.5	
		3.00	SPT	N=11 (2,2/3,3,2,3)	3.00			Firm dark grey CLAY. (LONDON CLAY FORMATION)	3.0	
		4.00	SPT	N=14 (1,2/3,3,4,4)					4.0	
		5.00							5.0	
End of Borehole at 5.000m									5.0	
									5.5	
									6.0	
									6.5	

Remarks

1. No groundwater encountered. 2. HVP=Uncorrected Hand Vane Measurement. 3. 50mm standpipe installed 5m, response zone 5-1m, bentonite seal 1-0.3m, flush cover concreted 0.3-0m.


				Borehole Log				Borehole No. WS06 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489393E - 99068N		Hole Type WS	
Location: Hook Lane, Pagham, PO21 3PD						Level:		Scale 1:36	
Client: Brookbanks / Hallam Land Management						Dates: 24/10/2019		Logged By NN	
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)	
					0.30			(Firm) brown silty CLAY. (RIVER TERRACE DEPOSITS)	0.5
		0.60		HVP=18				<i>0.60-0.80m Becoming very soft</i>	
		1.00	SPT	N=15 (3,5/5,4,3,3)			<i>0.80-1.45m Becoming firm to stiff</i>	1.0	
					1.45			(Very soft to soft) sandy slightly gravelly silty CLAY with occasional lenses of sand. Gravel is fine chalk and flint. (RIVER TERRACE DEPOSITS)	1.5
		2.00	SPT	N=14 (3,4/5,4,3,2)	1.90			Medium dense yellowish brown silty SAND & GRAVEL of fine to medium flint, chalk and quartzite. (RIVER TERRACE DEPOSITS)	2.0
		3.00	SPT	N=20 (3,3/2,5,6,7)					2.5
					3.45				3.0
								End of Borehole at 3.450m	3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
Remarks 1. No groundwater encountered. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion borehole backfilled with arisings.									

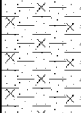
 Geo-Environmental Group				Borehole Log				Borehole No. WS07 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489349E - 98944N		Hole Type WS	
Location: Hook Lane, Pagham, PO21 3PD						Level:		Scale 1:36	
Client: Brookbanks / Hallam Land Management						Dates: 24/10/2019		Logged By NN	
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		1.00	SPT	N=35 (4,5/8,10,8,9)	0.00		 (Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
					0.40		 (Firm) brown silty CLAY. (RIVER TERRACE DEPOSITS)		
					0.80		 (Soft) brown sandy gravelly silty CLAY. Gravel is medium sub-rounded flint. (RIVER TERRACE DEPOSITS)		
		1.00	 Dense greyish brown silt gravelly SAND. Gravel is fine sub-angular chalk and flint. (RIVER TERRACE DEPOSITS)						
		1.80	 Soft pinkish brown CLAY. (NATURALLY REWORKED LONDON CLAY FORMATION)						
		2.00	SPT	N=6 (2,1/2,1,1,2)	2.70	 Firm dark grey silty CLAY. (LONDON CLAY FORMATION)			
		3.00	SPT	N=13 (2,2/3,3,3,4)	3.45	End of Borehole at 3.450m			
Remarks 1. No groundwater encountered. 2. Upon completion borehole backfilled with arisings.									

 Geo-Environmental Group				Borehole Log				Borehole No. WS08 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489560E - 98942N		Hole Type WS	
Location: Hook Lane, Pagham, PO21 3PD						Level:		Scale 1:36	
Client: Brookbanks / Hallam Land Management						Dates: 24/10/2019		Logged By NN	
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)	
					0.30			(Firm) orangish brown silty CLAY. (RIVER TERRACE DEPOSITS)	0.5
		1.00	SPT	N=14 (1,2/3,3,4,4)	1.00			0.80-1.00m Becoming (soft) Firm brown and grey clayey SILT. (RIVER TERRACE DEPOSITS)	1.0
					1.50			Medium dense brown and orangish brown silty SAND & GRAVEL of fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)	1.5
		2.00	SPT	N=27 (3,4/6,6,7,8)					2.0
		3.00	SPT	N=20 (2,3/3,4,6,7)					2.5
					3.70			(Stiff) dark grey silty CLAY. (LONDON CLAY FORMATION)	3.5
					4.00			End of Borehole at 4.000m	4.0
									4.5
									5.0
									5.5
									6.0
									6.5
Remarks 1. No groundwater encountered. 2. Upon completion borehole backfilled with arisings.									

				Borehole Log				Borehole No. WS09	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489419E - 98876N		Sheet 1 of 1	
Location: Hook Lane, Pagham, PO21 3PD						Level:		Hole Type WS	
Client: Brookbanks / Hallam Land Management						Dates:		Scale 1:36	
Client: Brookbanks / Hallam Land Management						Dates:		Logged By NN	

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.00		(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
		0.50 - 1.00	U		0.40		Firm orangish brown slightly gravelly silty CLAY. Gravel is medium sub-rounded flint. (RIVER TERRACE DEPOSITS)	0.5	
		1.00	SPT	N=17 (2,2/3,3,5,6)			0.50-1.00m QUT= 50 kPa	1.0	
							1.00-1.50m Becoming stiff		
					1.50		(Soft) yellowish brown sandy clayey SILT. (RIVER TERRACE DEPOSITS)	1.5	
					1.80				
		2.00	SPT	N=25 (5,7/8,6,6,5)			Medium dense yellowish brown silty gravelly SAND. Gravel is medium sub-rounded flint and quartzite. (RIVER TERRACE DEPOSITS)	2.0	
					2.5			2.5	
		3.00	SPT	N=17 (3,4/7,4,3,3)	2.80 2.90		(Stiff) greyish brown CLAY. (LONDON CLAY FORMATION) Stiff dark grey CLAY. (LONDON CLAY FORMATION)	3.0	
		4.00	SPT	N=28 (2,4/6,7,8,7)				4.0	
	4.50 - 5.00	U				4.50-5.00m QUT= 125 kPa	4.5		
				5.00		End of Borehole at 5.000m	5.0		
							5.5		
							6.0		
							6.5		

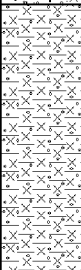
Remarks 1. No groundwater encountered. 2. 50mm standpipe installed 4m, response zone 4-1m, bentonite seal 1-0.3m, flush cover concreted 0.3-0m.								
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 GEG Environmental Group				Trial Pit Log			Trial Pit No IT41 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489619.17 - 99273.30 Level:		Date 23/10/2019
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.00		Scale 1:25
Client: Brookbanks / Hallam Land Management						Depth 2.00		Logged NN
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
▼				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)	
				0.40				
	1.00	HVP	30			1.00-1.50m Becoming soft		
	1.00	HVP	30					
	1.00	HVP	30					
			1.50			Loose slightly gravelly silty clayey fine to coarse SAND. Gravel is fine to medium. (RIVER TERRACE DEPOSITS)		
1.80	B		2.00					
			End of Pit at 2.000m					
Remarks: 1. Groundwater encountered at 2.00m as very slow flow. 2. Infiltration test undertaken in trial pit. 3. HVP=Uncorrected Hand Vane Measurement. 4. Upon completion trial pit backfilled with arisings.								
Stability: Sides Stable								



 GEG Environmental Group				Trial Pit Log			Trial Pit No IT42 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489565.39 - 99458.15 Level:		Date 23/10/2019
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.00 2.00		Scale 1:25
Client: Brookbanks / Hallam Land Management						Depth 1.80		Logged NN
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)	
				0.30			(Medium dense) orangish brown clayey silty sandy fine to coarse GRAVEL of sub-rounded quartzite and flint. (POSSIBLE RAISED BEACH DEPOSITS)	0.5
	0.60	LB		0.70			(Firm to stiff) pinkish brown mottled grey slightly gravelly CLAY with occasional boulder sized lenses of sand and gravel. Gravel is fine sub-angular mudstone nodules. (NATURALLY REWORKED LONDON CLAY FORMATION)	1.0
	1.50	HVP	120	1.50			Stiff greyish brown mottled grey slightly gravelly CLAY. Gravel is fine sub-angular mudstone nodules. (LONDON CLAY FORMATION)	1.5
	1.50	HVP	120					
				1.80			End of Pit at 1.800m	2.0
								2.5
								3.0
								3.5
								4.0
								4.5
Remarks: 1. Groundwater encountered at 1.50m as very slow flow. 2. Infiltration test undertaken in trial pit. 3. HVP=Uncorrected Hand Vane Measurement. 4. Upon completion trial pit backfilled with arisings.								
Stability: Sides Stable								



 GEG Environmental Group				Trial Pit Log			Trial Pit No IT43 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489600.47 - 99481.60 Level:		Date 23/10/2019
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.00 2.00		Scale 1:25
Client: Brookbanks / Hallam Land Management						Depth 2.00		Logged NN
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.80	LB		0.00			(Soft) dark brown slightly sandy silty CLAY. (TOPSOIL)	0.5 2.0
				0.30			(Soft to firm) greenish brown and brown sandy gravelly silty CLAY. (POSSIBLE RAISED BEACH DEPOSITS)	
				0.50			(Loose to medium dense) yellowish brown silty sandy fine to coarse GRAVEL of sub-rounded flint with occasional boulder-sized lenses of clay. (POSSIBLE RAISED BEACH DEPOSITS)	
				0.90			(Soft) pinkish brown sandy clayey SILT with numerous boulder-sized lenses of (very soft) silt and yellowish brown gravelly sand. Gravel is medium sub-rounded flint nodules. (REWORKED LONDON CLAY FORMATION)	
				1.80			(Stiff) greyish brown CLAY. (LONDON CLAY FORMATION)	
				2.00		End of Pit at 2.000m		
Remarks: 1. Groundwater encountered at 1.20m as slow flow. 2. Infiltration test undertaken in trial pit. 3. Upon completion trial pit backfilled with arisings.								
Stability: Sides Stable								



GEG Environmental Group

Trial Pit Log

Trial Pit No

PCB01

Sheet 1 of 1

Project Name: Hook Lane, Pagham

Project No.
GEG-19-623

Co-ords: -
Level:

Date
24/10/2019

Location: Hook Lane, Pagham, PO21 3PD

Dimensions (m):

0.10

Depth
0.20

0.10

Scale
1:25

Logged
NN

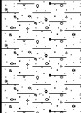
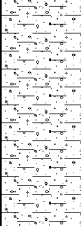
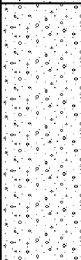
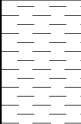
Client: Brookbanks / Hallam Land Management

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	D		0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)	
				0.20			End of Pit at 0.200m	
								0.5
								1.0
								1.5
								2.0
								2.5
								3.0
								3.5
								4.0
								4.5

Remarks: 1. No groundwater encountered. 3. Upon completion trial pit backfilled with arisings.

Stability: Sides Stable



 East Environmental Group				Trial Pit Log			Trial Pit No TP01 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489670.90 - 99438.21 Level:		Date 23/10/2019
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.00		Scale 1:25
Client: Brookbanks / Hallam Land Management						Depth 3.50		Logged NN
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	D		0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)	
				0.40			(Soft) orangish brown sandy gravelly CLAY and SILT. Gravel is medium sub-rounded quartzite and flint. (RIVER TERRACE DEPOSITS)	0.5
							0.70-1.60m With occasional boulder-sized lenses of (loose) sand and gravel.	1.0
				1.60			(Medium dense) brown and grey clayey silty sandy fine to coarse GRAVEL of sub-rounded flint and quartzite. (RIVER TERRACE DEPOSITS)	1.5
	1.70	LB					1.80-2.50m Becoming (loose)	2.0
				2.50			(Stiff) greyish brown CLAY. (LONDON CLAY FORMATION)	2.5
				3.00			(Stiff) dark grey CLAY. (LONDON CLAY FORMATION)	3.0
			3.50			End of Pit at 3.500m	3.5	
Remarks: 1. No groundwater encountered. 2. Upon completion trial pit backfilled with arisings.								
Stability: Sides Stable								



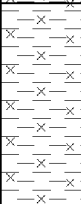
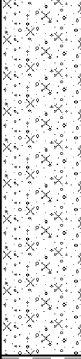
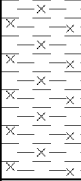
 GEG Environmental Group				Trial Pit Log			Trial Pit No TP02 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489717.01 - 99429.70 Level:		Date 23/10/2019
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 1.00		Scale 1:25
Client: Brookbanks / Hallam Land Management						Depth 3.50		Logged NN

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
				0.40				(Soft to firm) brown slightly sandy silty CLAY. (RIVER TERRACE DEPOSITS)	0.5
	1.00	HVP	24						
	1.00	HVP	24						
	1.00	HVP	24					1.0	
				1.40			(Soft) orangish brown sandy gravelly SILT. Gravel is medium sub-rounded quartzite and flint. (RIVER TERRACE DEPOSITS)	1.5	
				2.00				(Loose) brownish silty medium SAND & GRAVEL of coarse sub-rounded quartzite and flint. (RIVER TERRACE DEPOSITS)	2.0
				2.40					(Medium dense) grey clayey silty gravelly medium SAND. Gravel is medium sub-rounded flint and quartzite. (RIVER TERRACE DEPOSITS)
				3.50			End of Pit at 3.500m		3.5
								4.5	

Remarks: 1. No groundwater encountered. 2. HVP=Uncorrected Hand Vane Measurement. 3. Trial pit backfilling with sand from 2.00m, no progress after 20mins. 4. Upon completion trial pit backfilled with arisings.								
Stability: Unstable from 2.00m								

 GEC Environmental Group				Trial Pit Log			Trial Pit No TP04 Sheet 1 of 1		
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489693.25 - 99368.88 Level:		Date 23/10/2019	
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.00		Scale 1:25	
Client: Brookbanks / Hallam Land Management						Depth 3.20		Logged NN	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
				0.40				(Firm) orangish brown slightly sandy silty CLAY. (RIVER TERRACE DEPOSITS)	
	1.00	HVP	90			1.00-1.80m Becoming stiff			
	1.00	HVP	90						
	1.00	HVP	90						
				1.80			(Soft) orangish brown and greenish brown sandy slightly clayey SILT. (RIVER TERRACE DEPOSITS)		
				2.10				(Loose to medium dense) greenish brown and yellowish brown silty slightly gravelly SAND. Gravel is medium sub-rounded flint and quartzite. (RIVER TERRACE DEPOSITS)	
						2.40-3.00m With occasional boulder-sized lenses of clay			
				3.00					
	3.10	HVP	90						
3.10	HVP	90				Stiff greyish brown CLAY. (LONDON CLAY FORMATION)			
3.10	HVP	90	3.20			End of Pit at 3.200m			
Remarks: 1. Groundwater encountered at 2.80m as slow flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.									
Stability: Unstable from 2.10-2.40m									



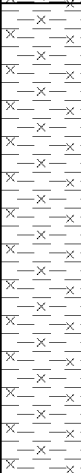
 East Environmental Group				Trial Pit Log			Trial Pit No TP05 Sheet 1 of 1			
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489817.93 - 99367.95 Level:		Date 25/10/2019		
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 2.50 0.00		Scale 1:25		
Client: Brookbanks / Hallam Land Management						Depth 4.00		Logged NN		
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
	Depth	Type	Results							
 	0.20	D		0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)			
				0.30				(Soft to firm) orangish brown silty CLAY. (RIVER TERRACE DEPOSITS)		
	1.00	HVP	56			1.00-1.50m Becoming firm				
	1.00	HVP	56					1.50-2.00m Becoming soft		
	1.00	HVP	56							
	1.20	D								
	1.50	HVP	36							
	1.50	HVP	36							
	1.50	HVP	36							
					2.00			(Medium dense) bluish grey and grey silty slightly gravelly SAND. Gravel is medium sub-rounded flint and quartzite. (RIVER TERRACE DEPOSITS)		
					2.20				(Loose to medium dense) yellow and yellowish brown silty SAND & GRAVEL of medium sub-rounded flint and quartzite. (RIVER TERRACE DEPOSITS)	
				3.40			Firm greyish brown silty CLAY. (LONDON CLAY FORMATION)			
3.60	HVP	70								
3.60	HVP	70								
3.60	HVP	70								
				4.00		End of Pit at 4.000m				

Remarks: 1. Groundwater encountered at 2.50m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement.
3. Upon completion trial pit backfilled with arisings.

Stability: Unstable from 2.50-3.50m



 Geot Environmental Group				Trial Pit Log				TrialPit No TP06 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489768.64 - 99356.03 Level:		Date 25/10/2019	
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 2.50 		Scale 1:25	
Client: Brookbanks / Hallam Land Management						Depth 4.00		Logged NN	

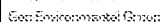
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
				0.30				(Soft to firm) brown silty CLAY. (RIVER TERRACE DEPOSITS)	0.5
	1.00	HVP	36						
	1.00	HVP	36						
	1.00	HVP	36				1.00-1.60m Becoming soft	1.0	
	1.20	LB							
	1.60	HVP	56						
	1.60	HVP	56				1.60-1.90m Becoming firm	1.5	
	1.60	HVP	56						
				1.90			(Soft) yellowish and orangish brown sandy gravelly clayey SILT. Gravel is coarse sub-rounded quartzite and flint. (RIVER TERRACE DEPOSITS)	2.0	
							2.30-2.80m With occasional lenses of sand	2.5	
			2.80			(Loose to medium dense) yellowish brown silty gravelly SAND. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)	3.0		
			3.50					3.5	
	3.60	HVP	104				Stiff greyish brown CLAY. (LONDON CLAY FORMATION)		
	3.60	HVP	104						
	3.60	HVP	104						
			4.00				End of Pit at 4.000m	4.0	
								4.5	

Remarks: 1. Groundwater encountered at 2.50m as slow flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.

Stability: Unstable from 2.80-3.50m



 GEC Environmental Group				Trial Pit Log			Trial Pit No TP08 Sheet 1 of 1		
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489781.24 - 99327.82 Level:		Date 23/10/2019	
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 2.50 		Scale 1:25	
Client: Brookbanks / Hallam Land Management						Depth 3.90		Logged NN	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
				0.30					
	1.00	HVP	50				1.00-1.50m Becoming firm		
	1.00	HVP	50						
	1.00	HVP	50						
	1.50	HVP	110				1.50-1.80m Becoming stiff		
	1.50	HVP	110						
	1.50	HVP	110						
				1.80			(Firm) greenish brown clayey SILT. (RIVER TERRACE DEPOSITS)		
				2.40					
	2.50	PP	PP=0.00						
	2.50	PP	PP=0.00						
2.50	PP	PP=0.00				(Loose) yellowish brown silty gravelly SAND. Gravel is sub-rounded flint and quartzite. (RIVER TERRACE DEPOSITS)			
			2.80						
			3.90			End of Pit at 3.900m			
Remarks: 1. Groundwater encountered at 2.50m as slow flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. PP = Pocket Penetrometer measurement in kPa. 4. Upon completion trial pit backfilled with arisings.									
Stability: Unstable from 2.50-3.90m									



TrialPit No
TP09
Sheet 1 of 1

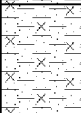
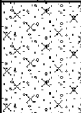
Date
23/10/2019

Scale 1:25
Logged NN

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.00			(Firm) dark brown silty slightly sandy CLAY. (TOPSOIL)	
				0.30			(Soft to firm) dark reddish brown slightly sandy silty CLAY. (RIVER TERRACE DEPOSITS)	0.5 -
	1.00	HVP	56					1.0 -
	1.00	HVP	56				1.00-1.80m Becoming firm	
	1.00	HVP	56					1.5 -
	1.80	HVP	124					2.0 -
	1.80	HVP	124				1.80-2.30m Becoming stiff	
	1.80	HVP	130					2.5 -
				2.30			(Medium dense) white and brown silty gravelly SAND. Gravel is fine chalk and flint. (RIVER TERRACE DEPOSITS)	3.0 -
				2.50			(Medium dense) greenish brown clayey silty gravelly SAND with occasional lenses of stiff pinkish brown clay. Gravel is medium sub-rounded flint. (RIVER TERRACE DEPOSITS)	3.5 -
			3.60			(Stiff) greyish brown CLAY. (LONDON CLAY FORMATION)	4.0 -	
			3.90			End of Pit at 3.900m	4.5 -	



Stability: Sides Stable

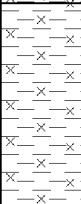
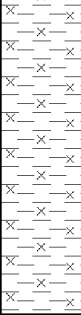
 GEG Environmental Group				Trial Pit Log			Trial Pit No TP10 Sheet 1 of 1			
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489756.04 - 99298.21 Level:		Date 23/10/2019		
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 1.00		Scale 1:25		
Client: Brookbanks / Hallam Land Management						Depth 4.00		Logged NN		
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
	Depth	Type	Results							
	0.10	D		0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)			
				0.40						(Firm) orangish brown slightly sandy silty CLAY. (RIVER TERRACE DEPOSITS)
	0.80	HVP	90							
	0.80	HVP	90							
	0.80	HVP	90							
	1.20	D								
	1.50	HVP	20							
	1.50	HVP	20							
	1.50	HVP	20							
	2.00	HVP	16	2.00						
	2.00	HVP	16							
	2.00	HVP	16							
				2.60			(Loose) yellowish brown slightly clayey silty gravelly SAND. Gravel is medium sub-angular flint and quartzite. (RIVER TERRACE DEPOSITS)			
				4.00						
						End of Pit at 4.000m				

Remarks: 1. Groundwater encountered at 2.50m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement.
 3. Upon completion trial pit backfilled with arisings.



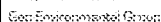
Stability: Unstable from 2.80-4.00m

 GEG Environmental Group				Trial Pit Log			Trial Pit No TP11 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489721.29 - 99254.39 Level:		Date 25/10/2019
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.90		Scale 1:25
Client: Brookbanks / Hallam Land Management						Depth 3.50		Logged NN

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
	Depth	Type	Results							
▼ ▼				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)			
				0.30				(Soft) brown silty CLAY. (RIVER TERRACE DEPOSITS)	0.5	
	1.00	HVP	56							
	1.00	HVP	58							
				1.00	HVP	70		1.00-1.60m Becoming firm	1.0	
				1.60	HVP	16				
				1.60	HVP	16				
				1.60	HVP	16			1.60-2.00m Becoming very soft	1.5
				2.00				(Soft) yellowish brown and brown sandy clayey SILT. (RIVER TERRACE DEPOSITS)	2.0	
				2.20				(Medium dense) yellow and yellowish brown silty SAND. (RIVER TERRACE DEPOSITS)	2.5	
			3.00			(Loose) yellow SAND & GRAVEL of fine sub-angular flint and quartzite. (RIVER TERRACE DEPOSITS)		3.0		
			3.50			End of Pit at 3.500m		3.5		
								4.0		
								4.5		

Remarks: 1. Groundwater encountered at 2.20m as very slow flow and 2.5m as fast flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.		
Stability: Unstable from 2.80-3.50m		

 East Environmental Group				Trial Pit Log			Trial Pit No TP12 Sheet 1 of 1		
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489739.04 - 99204.94 Level:		Date 25/10/2019	
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 2.50 0.00		Scale 1:25	
Client: Brookbanks / Hallam Land Management						Depth 4.00		Logged NN	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
▼				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
				0.30				(Soft to firm) yellowish brown silty CLAY. (RIVER TERRACE DEPOSITS)	0.5
	0.80	HVP	44						
	0.80	HVP	44						
	0.80	HVP	44						
				1.50			0.80-1.50m Becoming firm	1.0	
	1.60	HVP	84						
	1.60	HVP	84						
	1.60	HVP	84						
				2.00			Stiff brown slightly gravelly silty CLAY. (RIVER TERRACE DEPOSITS)	1.5	
									
			3.60				(Loose to medium dense) yellowish brown and yellow very silty gravelly SAND. Gravel is fine sub-rounded flint and quartzite. (RIVER TERRACE DEPOSITS)	2.0	
									
			4.00				2.40-3.60m With occasional lenses of (very soft) silt	2.5	
									
							Stiff greyish brown CLAY. (LONDON CLAY FORMATION)	3.0	
									
							End of Pit at 4.000m	3.5	
								4.0	
								4.5	
Remarks: 1. Groundwater encountered at 2.00m as moderate inflow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.									
Stability: Unstable from 1.80-3.60m									



TrialPit No
TP13
Sheet 1 of 1

Date
25/10/2019

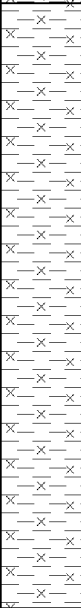
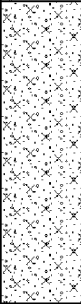
Scale
1:25

Logged
NN

0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5



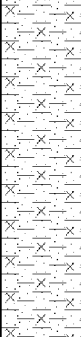
Stability: Sides Stable

 East Environmental Group				Trial Pit Log			Trial Pit No TP14 Sheet 1 of 1			
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489699.40 - 99190.31 Level:		Date 25/10/2019		
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.90 2.50		Scale 1:25		
Client: Brookbanks / Hallam Land Management						Depth 3.80		Logged NN		
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
	Depth	Type	Results							
 	0.20	D		0.00			(Soft) dark brown slightly sandy silty CLAY. (TOPSOIL)			
				0.30						(Soft) orangish brown silty CLAY. (RIVER TERRACE DEPOSITS)
	0.90	HVP	40			0.90-1.20m Becoming soft to firm				
	0.90	HVP	40							
	0.90	HVP	40							
	1.00	D				1.20-2.30m Becoming firm				
	1.20	HVP	50							
	1.20	HVP	56							
	1.20	HVP	56							
					2.30			(Loose to medium dense) white and yellowish brown silty gravelly SAND. Gravel is medium sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)		
				3.30			(Stiff) greyish brown CLAY. (LONDON CLAY FORMATION)			
3.50	HVP	130								
3.50	HVP	136								
				3.80		End of Pit at 3.800m				
3.50	HVP	136								

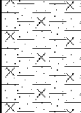
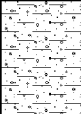
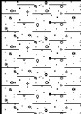
Remarks: 1. Groundwater encountered at 2.00m and 2.30m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.

Stability: Unstable from 2.30-3.50m



 East Environmental Group				Trial Pit Log			Trial Pit No TP15 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489634.39 - 99232.57 Level:		Date 22/10/2019
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.90		Scale 1:25
Client: Brookbanks / Hallam Land Management						Depth 3.90		Logged NN
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.00			(Soft) dark brown slightly sandy silty CLAY. (TOPSOIL)	
				0.30				(Firm) orangish brown slightly sandy silty CLAY. (RIVER TERRACE DEPOSITS)
	1.00	HVP	76			1.00-1.40m Becoming stiff		
	1.00	HVP	78					
	1.00	HVP	78					
	1.50	HVP	30				1.40-2.10m Becoming (soft)	
	1.50	HVP	30					
	1.50	HVP	30					
	2.20	HVP	64				Firm greenish grey and white very sandy clayey SILT. (RIVER TERRACE DEPOSITS)	
	2.20	HVP	64					
	2.20	HVP	64					
				2.80			(Loose to medium dense) brown and greenish brown silty gravelly SAND. Gravel is medium sub-angular flint. (RIVER TERRACE DEPOSITS) 3.00-3.60m Becoming grey	
				3.60				
				3.90			(Stiff) greyish brown CLAY. (LONDON CLAY FORMATION)	
							End of Pit at 3.900m	
Remarks: 1. No groundwater encountered. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.								
Stability: Unstable from 2.80-3.60m								

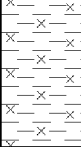
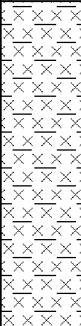
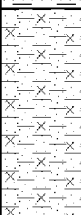


 GEG Environmental Group				Trial Pit Log			Trial Pit No TP16 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489612.85 - 99191.05 Level:		Date 22/10/2019
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 1.00		Scale 1:25
Client: Brookbanks / Hallam Land Management						Depth 3.80		Logged NN
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)	
				0.40				(Soft to firm) orangish brown slightly sandy silty CLAY. (RIVER TERRACE DEPOSITS)
	0.80	HVP	36			0.80-1.50m Becoming soft		
	0.80	HVP	36					
	0.80	HVP	42					
							1.50-2.00m Becoming firm	
	1.50	HVP	50					
	1.50	HVP	50					
							Firm greenish brown and white very sandy slightly gravelly silty CLAY with occasional boulder-sized pockets of coarse sand. Gravel is coarse sub-angular flint. (RIVER TERRACE DEPOSITS)	
	2.30	HVP	50					
	2.30	HVP	52					
							Stiff greyish brown CLAY. (LONDON CLAY FORMATION)	
	3.20	HVP	142					
	3.20	HVP	144					
							End of Pit at 3.800m	
3.20	HVP	144						
3.20	HVP	144						

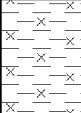
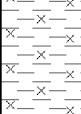
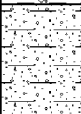
Remarks: 1. Groundwater encountered at 2.50m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement.
 3. Upon completion trial pit backfilled with arisings.

Stability: Sides Stable



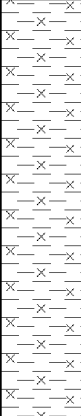
 Geo Environmental Group				Trial Pit Log			Trial Pit No TP17 Sheet 1 of 1		
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489662.43 - 99136.67 Level:		Date 22/10/2019	
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 1.00		Scale 1:25	
Client: Brookbanks / Hallam Land Management						Depth 3.90		Logged NN	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
				0.50					
	0.80	HVP	102				0.80-1.00m Becoming stiff		
	0.80	HVP	104						
	0.80	HVP	104						
	1.00	HVP	30						
				1.00			Soft brown clayey SILT. (RIVER TERRACE DEPOSITS)		
	1.00	HVP	32						
	1.00	HVP	32						
				2.10					
2.20	HVP	96							
2.20	HVP	96							
			2.80			(Loose to medium dense) white gravelly silty coarse SAND. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)			
			3.90						3.00-3.90m Becoming (medium dense) and brown End of Pit at 3.90m
Remarks: 1. Groundwater encountered at 2.80m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.									
Stability: Unstable from 1.50m									



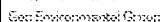
 East Environmental Group				Trial Pit Log			Trial Pit No TP18 Sheet 1 of 1			
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489693.00 - 99103.00 Level:		Date 24/10/2019		
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 2.50 		Scale 1:25		
Client: Brookbanks / Hallam Land Management						Depth 3.60		Logged NN		
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
	Depth	Type	Results							
▼				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)			
				0.40				Very soft brown silty CLAY. (RIVER TERRACE DEPOSITS)		0.5
	0.50	HVP	16							
	0.50	HVP	16							
	0.50	HVP	16							
	0.90	HVP	76					0.90-1.50m Becoming stiff 		1.0
	0.90	HVP	76							
	0.90	HVP	76							
				1.50				Firm brown slightly gravelly clayey SILT. (RIVER TERRACE DEPOSITS)		1.5
	1.60	HVP	56							
	1.60	HVP	56							
	1.60	HVP	56							
			1.90			(Loose) white clayey gravelly medium SAND. Gravel is medium sub-angular flint, chalk and quartzite. (RIVER TERRACE DEPOSITS)		2.0		
								2.5		
								3.0		
								3.5		
			3.60			End of Pit at 3.600m		4.0		
								4.5		
Remarks: 1. Groundwater encountered at 1.80m as slow flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.										
Stability: Unstable from 1.50m. Collapsing to 2.50m at 3.50m										

 GEG Environmental Group				Trial Pit Log			Trial Pit No TP19 Sheet 1 of 1				
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489576.63 - 99143.85 Level:		Date 22/10/2019			
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 2.50		Scale 1:25			
Client: Brookbanks / Hallam Land Management						Depth 3.50		Logged NN			
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description				
	Depth	Type	Results								
▼				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)				
				0.40						(Soft to firm) brown slightly sandy silty CLAY. (RIVER TERRACE DEPOSITS)	
	0.80	HVP	50				(Soft) light brown, white and yellowish brown sandy gravelly SILT. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)				
	0.80	HVP	50								
	0.80	HVP	50							(Soft) light brown, white and yellowish brown sandy gravelly SILT. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)	
			2.00								
				3.50			End of Pit at 3.500m				
Remarks: 1. Groundwater encountered at 2.00m as slow flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.											
Stability: Unstable from 1.00m, becoming very unstable from 2.00-3.50m											



 GEG Environmental Group				Trial Pit Log			Trial Pit No TP20 Sheet 1 of 1				
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489621.37 - 99030.71 Level:		Date 25/10/2019			
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.00		Scale 1:25			
Client: Brookbanks / Hallam Land Management						Depth 4.00		Logged NN			
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description				
	Depth	Type	Results								
▼	0.20	D		0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)				
				0.40						(Soft to firm) orangish brown silty CLAY. (RIVER TERRACE DEPOSITS)	
	1.00	HVP	64				1.00-1.80m Becoming firm				
	1.00	HVP	64								
	1.00	HVP	64								
	1.20	D		1.80			(Loose to medium dense) yellowish brown and white silty gravelly SAND. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)				
			4.00						2.50-4.00m Becoming brown and grey		
						End of Pit at 4.000m					
Remarks: 1. Groundwater encountered at 1.80m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.											
Stability: Unstable below 1.80m											





TrialPit No
TP21
Sheet 1 of 1

Date
24/10/2019

Logged
NN

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)	
				0.30			(Soft to firm) orangish brown silty CLAY. (RIVER TERRACE DEPOSITS)	0.5 -
	1.00	D						
	1.00	HVP	76					
	1.00	HVP	76					1.0 -
	1.00	HVP	76					
				1.50			(Medium dense) yellowish brown silty SAND. (RIVER TERRACE DEPOSITS)	1.5 -
				1.80			(Loose to medium dense) white and grey silty gravelly SAND. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)	2.0 -
								2.5 -
							3.0 -	
								3.5 -
				3.50			Stiff greyish brown CLAY. (LONDON CLAY FORMATION)	
								4.0 -
				3.90			End of Pit at 3.900m	4.5 -

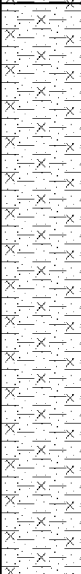
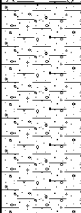
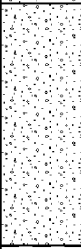
Stability: Unstable from 2.40-3.50m

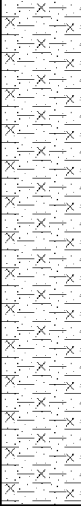
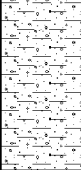
 East Environmental Group				Trial Pit Log			Trial Pit No TP22 Sheet 1 of 1		
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489499.44 - 99123.46 Level:		Date 24/10/2019	
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 2.50 0.90		Scale 1:25	
Client: Brookbanks / Hallam Land Management						Depth 4.00		Logged NN	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
				0.40					
	1.00	HVP	36						
	1.00	HVP	36						
	1.50	HVP	36						
	1.50	HVP	36						
	1.50	HVP	36						
				2.00			(Soft) yellowish brown sandy SILT. (RIVER TERRACE DEPOSITS)		
				2.50					
			3.60			(Firm to stiff) greyish brown CLAY. (LONDON CLAY FORMATION)			
			4.00						End of Pit at 4.000m

Remarks: 1. Groundwater encountered at 2.40m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement.
 3. Upon completion trial pit backfilled with arisings.

Stability: Unstable from 2.00-3.60m



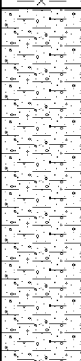
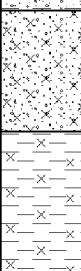
 GEG Environmental Group				Trial Pit Log			Trial Pit No TP23 Sheet 1 of 1						
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489526.07 - 99190.49 Level:		Date 22/10/2019					
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 9.00		Scale 1:25					
Client: Brookbanks / Hallam Land Management						Depth 4.00		Logged NN					
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description						
	Depth	Type	Results										
	1.00	D		0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)						
				0.30							(Soft to firm) orangish brown slightly sandy silty CLAY. (RIVER TERRACE DEPOSITS)		
				2.20				(Firm) greyish brown sandy gravelly silty CLAY. Gravel is medium sub-angular flint. (RIVER TERRACE DEPOSITS)					
				2.90									
				3.70				(Stiff) greyish brown CLAY. (LONDON CLAY FORMATION)					
				4.00								End of Pit at 4.000m	
Remarks: 1. Groundwater encountered at 2.80m as slow flow. 2. Upon completion trial pit backfilled with arisings.													
Stability: Unstable from 2.00-3.60m													

 East Environmental Group				Trial Pit Log			Trial Pit No TP24 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489577.47 - 99178.89 Level:		Date 22/10/2019
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.00		Scale 1:25
Client: Brookbanks / Hallam Land Management						Depth 4.00		Logged NN
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	D		0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)	
				0.30				(Soft) brown slightly sandy silty CLAY. (RIVER TERRACE DEPOSITS)
	1.00	D						
	1.00	HVP	16			1.00-1.50m Becoming very soft		
	1.00	HVP	16					
	1.00	HVP	16			1.50-1.80m Becoming (firm)		
	1.80	HVP	116			1.80-2.00m Becoming stiff		
	1.80	HVP	116					
	1.80	HVP	116					
	2.10	HVP	110	2.00			Stiff greyish brown sandy gravelly silty CLAY. Gravel is coarse sub-angular flint and quartzite. (RIVER TERRACE DEPOSITS)	
	2.10	HVP	110					
	2.10	HVP	110					
				2.60			(Loose to medium dense) grey and brown silty low cobble content coarse SAND. Cobbles are sub-angular flint. (RIVER TERRACE DEPOSITS)	
			3.60			Stiff greyish brown CLAY. (LONDON CLAY FORMATION)		
3.70	HVP	130						
3.70	HVP	130						
			4.00			End of Pit at 4.000m		

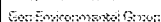
Remarks: 1. No groundwater encountered. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.

Stability: Unstable from 2.00-3.20m



 East Environmental Group				Trial Pit Log			Trial Pit No TP25 Sheet 1 of 1		
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489555.93 - 99224.79 Level:		Date 22/10/2019	
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.00		Scale 1:25	
Client: Brookbanks / Hallam Land Management						Depth 3.90		Logged NN	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
				0.30				Firm brown silty CLAY. (RIVER TERRACE DEPOSITS)	
	1.00	HVP	56						
	1.00	HVP	56						
	1.00	HVP	56						
				1.80				Firm yellowish brown and white sandy slightly gravelly silty CLAY. Gravel is medium sub-angular flint. (RIVER TERRACE DEPOSITS)	
	2.00	HVP	58						
	2.00	HVP	62						
							2.80-3.00m With occasional boulder-sized pockets of silt and sand		
				3.00				(Loose to medium dense) brown clayey silty gravelly SAND. Gravel is medium sub-angular flint and quartzite. (RIVER TERRACE DEPOSITS)	
			3.40		Stiff greyish brown silty CLAY. (LONDON CLAY FORMATION)				
			3.90		End of Pit at 3.900m				
Remarks: 1. Groundwater encountered at 2.50m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.									
Stability: Sides Stable									





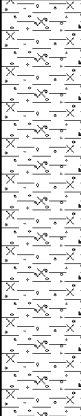
TrialPit No
TP26
Sheet 1 of 1

Date
22/10/2019

Logged
NN

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)	
				0.30			Firm brown slightly gravelly silty CLAY. Gravel is fine sub-angular flint and quartzite. (RIVER TERRACE DEPOSITS)	0.5 -
	0.80	HVP	48					
	0.80	HVP	50					
	0.80	HVP	50					1.0 -
	1.00	B						
				1.40			(Loose to medium dense) orangish brown and grey clayey gravelly medium SAND. Gravel is medium sub-rounded flint and quartzite. (RIVER TERRACE DEPOSITS)	1.5 -
							2.10-3.10m With occasional boulder-sized pockets of clay and medium cobble content of sub-angular flint.	2.0 - 2.5 - 3.0 -
			3.10			(Stiff) greyish brown CLAY. (LONDON CLAY FORMATION)		
						3.40-3.60m Becoming stiff to very stiff	3.5 -	
	3.40	HVP	150					
	3.40	HVP	150					
	3.40	HVP	150					
				3.60			(Stiff) dark grey CLAY. (LONDON CLAY FORMATION)	
				3.90			End of Pit at 3.900m	4.0 - 4.5 -

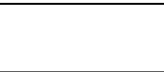
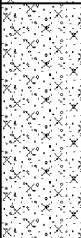
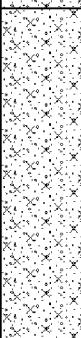


 GEC Environmental Group				Trial Pit Log			Trial Pit No TP27 Sheet 1 of 1		
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489558.06 - 99309.74 Level:		Date 22/10/2019	
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 1.00		Scale 1:25	
Client: Brookbanks / Hallam Land Management						Depth 4.00		Logged NN	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
	0.10	D		0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
				0.40				(Firm) orangish brown slightly gravelly silty CLAY. Gravel is fine sub-rounded quartzite. (RIVER TERRACE DEPOSITS)	
	1.00	D				1.00-1.80m Becoming stiff			
	1.00	HVP	90						
	1.00	HVP	90						
	1.85	HVP	64	1.80			Firm brown, white and yellowish brown sandy slightly gravelly silty CLAY. Gravel is medium sub-rounded quartzite and flint. (RIVER TERRACE DEPOSITS)		
	1.85	HVP	64				(Loose) yellowish brown and white clayey silty gravelly SAND with occasional cobble-sized pockets of (soft) clay. Gravel is medium sub-rounded quartzite. (RIVER TERRACE DEPOSITS)		
	1.85	HVP	70	2.00					
									
	3.20	HVP	90	3.20				Stiff greyish brown CLAY. (LONDON CLAY FORMATION)	
	3.20	HVP	90						
3.20	HVP	90							
				3.80			(Stiff) dark grey CLAY. (LONDON CLAY FORMATION)		
				4.00			End of Pit at 4.000m		

Remarks: 1. No groundwater encountered. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.

Stability: Unstable from 2.50-3.20m

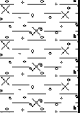
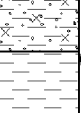


 East Environmental Group				Trial Pit Log			Trial Pit No TP28 Sheet 1 of 1			
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489568.72 - 99278.44 Level:		Date 22/10/2019		
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 2.50 		Scale 1:25		
Client: Brookbanks / Hallam Land Management						Depth 4.00		Logged NN		
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
	Depth	Type	Results							
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)			
				0.30				(Soft to firm) orangish brown slightly gravelly silty CLAY. Gravel is fine sub-angular quartzite and flint. (RIVER TERRACE DEPOSITS)		0.5
	1.00	HVP	16			1.00-1.60m Becoming soft			1.0	
	1.00	HVP	24							
	1.00	HVP	30						1.5	
				1.60			(Loose) greenish grey clayey silty slightly gravelly medium SAND. Gravel is medium sub-angular flint. (RIVER TERRACE DEPOSITS)		2.0	
				2.40				(Medium dense) dark brown very clayey silty gravelly medium SAND. Gravel is medium sub-angular flint and quartzite. (RIVER TERRACE DEPOSITS)		2.5
				3.50		Stiff greyish brown CLAY. (LONDON CLAY FORMATION)		3.5		
	3.60	HVP	110			Stiff dark brown CLAY. (LONDON CLAY FORMATION)				
	3.60	HVP	110							
3.60	HVP	110						4.0		
			4.00		End of Pit at 4.000m				4.5	

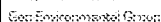
Remarks: 1. Groundwater encountered at 1.60m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement.
 3. Upon completion trial pit backfilled with arisings.

Stability: Unstable from 1.60-2.40m



 GEG Environmental Group				Trial Pit Log			Trial Pit No TP29 Sheet 1 of 1		
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489559.58 - 99349.87 Level:		Date 22/10/2019	
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 1.50 2.50		Scale 1:25	
Client: Brookbanks / Hallam Land Management						Depth 3.60		Logged NN	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.00			(Soft) brown slightly gravelly silty CLAY. Gravel is fine sub-angular quartzite and flint. (TOPSOIL)		
				0.40				(Soft to firm) orangish brown sandy silty CLAY. (RIVER TERRACE DEPOSITS)	
	0.80	HVP	36						
	0.80	HVP	36			0.80-1.50m Becoming soft			
	0.80	HVP	38			1.50-2.40m Becoming very soft			
	1.50	HVP	16						
	1.50	HVP	16						
	1.50	HVP	16						
	2.40						(Soft) brown, white and yellowish brown sandy slightly gravelly low cobble content silty CLAY with occasional boulder sized pockets of sand and cobbles. Gravel and cobbles are medium sub-rounded flint and quartzite. (RIVER TERRACE DEPOSITS)		
	2.60						Stiff greyish brown CLAY. (LONDON CLAY FORMATION)		
	2.80	HVP	130						
	2.80	HVP	130						
	2.80	HVP	130						
	3.00						Stiff dark grey CLAY. (LONDON CLAY FORMATION)		
	3.20	HVP	110						
3.20	HVP	110							
3.20	HVP	110							
3.60					End of Pit at 3.600m				
Remarks: 1. Groundwater encountered at 2.40m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.									
Stability: Unstable from 2.50-2.60m									





TrialPit No
TP30
Sheet 1 of 1

Date
24/10/2019

Logged
NN



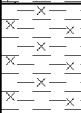
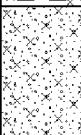
Stability: Unstable from 2.00-2.50m

 Geot Environmental Group				Trial Pit Log				Trial Pit No TP31 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489481.43 - 99074.66 Level:		Date 24/10/2019	
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.00		Scale 1:25	
Client: Brookbanks / Hallam Land Management						Depth 4.00		Logged NN	

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
▼				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
				0.40				(Firm) orangish brown silty CLAY. (RIVER TERRACE DEPOSITS)	0.5
	0.80	HVP	16						
	0.80	HVP	20					0.80-1.60m Becoming very soft to soft	
	0.80	HVP	24					1.0	
	1.50	HVP	36					1.5	
	1.50	HVP	36						
	1.50	HVP	36	1.60			(Loose to medium dense) white silty gravelly SAND. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)	2.0	
								2.00-3.40m Becoming orangish brown and brown	
									2.5
								3.0	
								3.5	
								4.0	
								4.5	

Remarks: 1. Groundwater encountered at 2.00m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.		
Stability: Unstable from 2.50-3.40m		

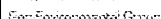
 GEG Environmental Group				Trial Pit Log			Trial Pit No TP32 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489449.73 - 99111.01 Level:		Date 24/10/2019
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 2.50		Scale 1:25
Client: Brookbanks / Hallam Land Management						Depth 3.90		Logged NN

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)	
				0.45			(Soft to firm) orangish brown silty CLAY. (RIVER TERRACE DEPOSITS)	0.5
	0.80	HVP	72					
	0.80	HVP	76					
	0.80	HVP	76				0.80-1.10m Becoming firm	1.0
	1.10	HVP	30					
	1.10	HVP	32				1.10-1.50m Becoming soft	
	1.10	HVP	36					
	1.40	HVP	36					
	1.40	HVP	36					
	1.40	HVP	36	1.50			(Loose to medium dense) yellowish brown and brown very silty gravelly SAND. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)	1.5
				2.30			(Loose to medium dense) dark brown medium silty gravelly SAND. Gravel is medium sub-rounded flint. (RIVER TERRACE DEPOSITS)	2.5
							2.50-3.50m Becoming (loose)	
				3.50			Stiff greyish brown CLAY. (LONDON CLAY FORMATION)	3.5
	3.60	HVP	76					
3.60	HVP	76						
3.60	HVP	76						
			3.90				End of Pit at 3.900m	4.0
								4.5

Remarks: 1. Groundwater encountered at 2.60m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement.
 3. Upon completion trial pit backfilled with arisings.

Stability: Unstable from 2.50-3.50m





TrialPit No
TP34
Sheet 1 of 1

Date
25/10/2019

Scale
1:25

Logged
NN



Stability: Unstable from 2.00-3.60m



East Environmental Group

Trial Pit Log

Trial Pit No

TP35

Sheet 1 of 1

Project Name: Hook Lane, Pagham

Project No.
GEG-19-623

Co-ords: 489469.52 - 98924.03
Level:

Date
24/10/2019

Location: Hook Lane, Pagham, PO21 3PD

Dimensions (m): 2.00

Scale
1:25

Client: Brookbanks / Hallam Land Management

Depth
4.00

0.00

Logged
NN

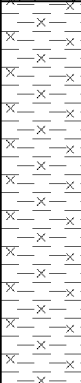
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)	
				0.30			(Soft) yellowish brown SILT/CLAY. (RIVER TERRACE DEPOSITS)	
				0.50			Firm brown silty CLAY. (RIVER TERRACE DEPOSITS)	0.5
	0.80	HVP	44					
	0.80	HVP	44					
	0.80	HVP	46					1.0
								
								
								1.5
								
								
								2.0
				2.00			(Soft) white and yellowish brown gravelly sandy SILT. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)	
								2.5
								
								
								3.0
								
								
								3.5
								
								
								4.0
								
								4.5
								

Remarks: 1. Groundwater encountered at 2.00m as slow flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.

Stability: Unstable from 2.00m



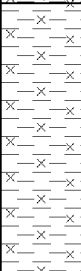
 East Environmental Group				Trial Pit Log			Trial Pit No TP36 Sheet 1 of 1	
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489469.00 - 98980.00 Level:		Date 24/10/2019
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.00		Scale 1:25
Client: Brookbanks / Hallam Land Management						Depth 4.00		Logged NN

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
				0.30				(Soft) yellowish brown silty CLAY. (RIVER TERRACE DEPOSITS)	0.5
	1.00	HVP	54						
	1.00	HVP	54						1.0
	1.00	HVP	54						
				1.80			(Loose to medium dense) white and yellowish brown silty gravelly SAND. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)	2.0	
				2.30				(Soft to firm) greyish brown silty CLAY. (LONDON CLAY FORMATION)	2.5
	2.50	HVP	58						
	2.50	HVP	58						
	2.50	HVP	58						
	2.90	HVP	44						3.0
	2.90	HVP	44						
	2.90	HVP	50						
	3.20	HVP	44						
	3.20	HVP	44						
3.20	HVP	44					3.5		
3.60	HVP	110				Stiff dark brown CLAY. (LONDON CLAY FORMATION)			
3.60	HVP	110							
3.60	HVP	110							
			4.00			End of Pit at 4.000m		4.0	
								4.5	

Remarks: 1. Groundwater encountered at 2.00m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement.
3. Upon completion trial pit backfilled with arisings.

Stability: Unstable from 2.00-3.00m



 East Devon Council				Trial Pit Log			Trial Pit No TP37 Sheet 1 of 1		
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489437.00 - 99045.00 Level:		Date 24/10/2019	
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 0.00 2.00		Scale 1:25	
Client: Brookbanks / Hallam Land Management						Depth 3.90		Logged NN	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)		
				0.30				(Firm) orangish brown silty CLAY. (RIVER TERRACE DEPOSITS)	
								0.80-1.20m Becoming soft	
		0.80	HVP	24					
		0.80	HVP	36					
		0.80	HVP	36					
					1.20			(Very soft) white and yellowish brown sandy slightly gravelly slightly clayey SILT. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)	
		2.10	HVP	56	2.00			Firm greyish brown CLAY. (LONDON CLAY FORMATION)	
		2.10	HVP	56					
		2.10	HVP	56					
	2.50	HVP	62						
	2.50	HVP	62						
	2.50	HVP	62						
	3.00	HVP	84	3.00			Stiff greyish brown CLAY. (LONDON CLAY FORMATION)		
	3.00	HVP	84						
	3.00	HVP	84						
				3.90			End of Pit at 3.900m		
Remarks: 1. Groundwater encountered at 2.00m as slow flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.									
Stability: Unstable from 2.00m									





East Environmental Group

Trial Pit Log

Trial Pit No

TP39

Sheet 1 of 1

Project Name: Hook Lane, Pagham

Project No.
GEG-19-623

Co-ords: 489401.78 - 98922.29
Level:

Date
24/10/2019

Location: Hook Lane, Pagham, PO21 3PD

Dimensions (m):

2.00

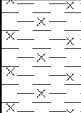
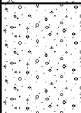
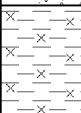
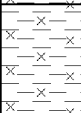
Depth
3.90

0.90

Scale
1:25

Logged
NN

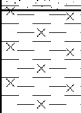
Client: Brookbanks / Hallam Land Management

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	D		0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)	
				0.40			(Firm) yellowish brown silty CLAY. (RIVER TERRACE DEPOSITS)	0.5
	0.80	HVP	76				0.80-1.60m Becoming stiff	
	0.80	HVP	76					
	0.80	HVP	76					1.0
	1.00	D						
				1.60			(Medium dense) yellowish brown silty SAND & GRAVEL of medium sub-rounded flint and quartzite. (RIVER TERRACE DEPOSITS)	1.5
				2.50			Firm greyish brown silty CLAY. (LONDON CLAY FORMATION)	2.0
	2.55	HVP	50					2.5
	2.55	HVP	50					
	2.55	HVP	50					
	3.00	HVP	50					3.0
	3.00	HVP	56					
	3.00	HVP	58					
	3.20	HVP	70					
	3.20	HVP	70					
	3.20	HVP	70					
				3.50			Stiff dark brown silty CLAY. (LONDON CLAY FORMATION)	3.5
	3.70	HVP	116					
	3.70	HVP	116					
	3.70	HVP	118					
				3.90			End of Pit at 3.900m	4.0
								4.5

Remarks: 1. Groundwater encountered at 2.00m as slow flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.

Stability: Unstable from 2.00m



 GEG Environmental Group				Trial Pit Log			Trial Pit No TP44 Sheet 1 of 1			
Project Name: Hook Lane, Pagham				Project No. GEG-19-623		Co-ords: 489612.93 - 99088.79 Level:		Date 24/10/2019		
Location: Hook Lane, Pagham, PO21 3PD						Dimensions (m): 2.50 		Scale 1:25		
Client: Brookbanks / Hallam Land Management						Depth 4.00		Logged NN		
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
	Depth	Type	Results							
				0.00			(Firm) dark brown slightly sandy silty CLAY. (TOPSOIL)			
				0.40				(Soft to firm) orangish brown silty CLAY. (RIVER TERRACE DEPOSITS)		0.5
	0.80	HVP	50			0.80-1.30m Becoming firm				
	0.80	HVP	50							
	0.80	HVP	50							
							1.30-1.60m Becoming very soft			
	1.30	HVP	16							
	1.30	HVP	20							
					1.60			(Soft) orangish brown SILT. (RIVER TERRACE DEPOSITS)		1.5
					1.80				(Loose to medium dense) light grey silty gravelly medium to coarse SAND. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)	
				2.30		1.90-2.30m With occasional lenses of (soft) clay				
								(Loose) grey silty gravelly medium SAND. Gravel is fine sub-angular flint and chalk. (RIVER TERRACE DEPOSITS)		2.5
									3.0	
									3.5	
				4.00					4.0	
							End of Pit at 4.000m		4.5	
Remarks: 1. Groundwater encountered at 2.00m as moderate flow. 2. HVP=Uncorrected Hand Vane Measurement. 3. Upon completion trial pit backfilled with arisings.										
Stability: Unstable below 1.00m. Sides collapsed to 2.50m at 4.00m										



APPENDIX D

INFILTRATION TEST DATA

Appendix D

Infiltration Tests

Project Name: Hook Lane, Pagham
Project Ref.: GEG-19-623
Trial Pit: IT41
Test No.: Test 1 of 1

Depth of Pit (cm):	200.00
Depth of Water at Start of Depth (cm):	79.00
Date of Test:	23 October 2019

[illegible]

Parameter	Symbol	Calculation	Units	IT41
Effective Depth of Trial Pit	d_p		m	1.21
Width of Trial Pit	w		m	0.90
Length of Trial Pit	l		m	2.00
Volume of Trial Pit	V	$= d_p \times w \times l$	m^3	2.18
Volume of Trial Pit at 50% Effective Depth	$V_{50\%}$	$= V \times 0.5$	m^3	1.089
Internal Surface Area of Trial Pit*	$a_{p50\%}$	$= l \times w + d_p \times (w + l)$	m^2	5.31
Time to reach 75% Effective Depth	$T_{p75\%}$		min	N/A
Time to reach 25% Effective Depth	$T_{p25\%}$		min	N/A
Time 25% - 75%	$T_{p75\%-25\%}$	$= T_{p25\%} - T_{p75\%}$	min	N/A
Infiltration Rate	f	$= V_{50\%} / a_{p50\%} \times (T_{p75\%-25\%})$	m/s	N/A

*To 50% Effective Depth (including base)

With Reference to: **Figure D-1**

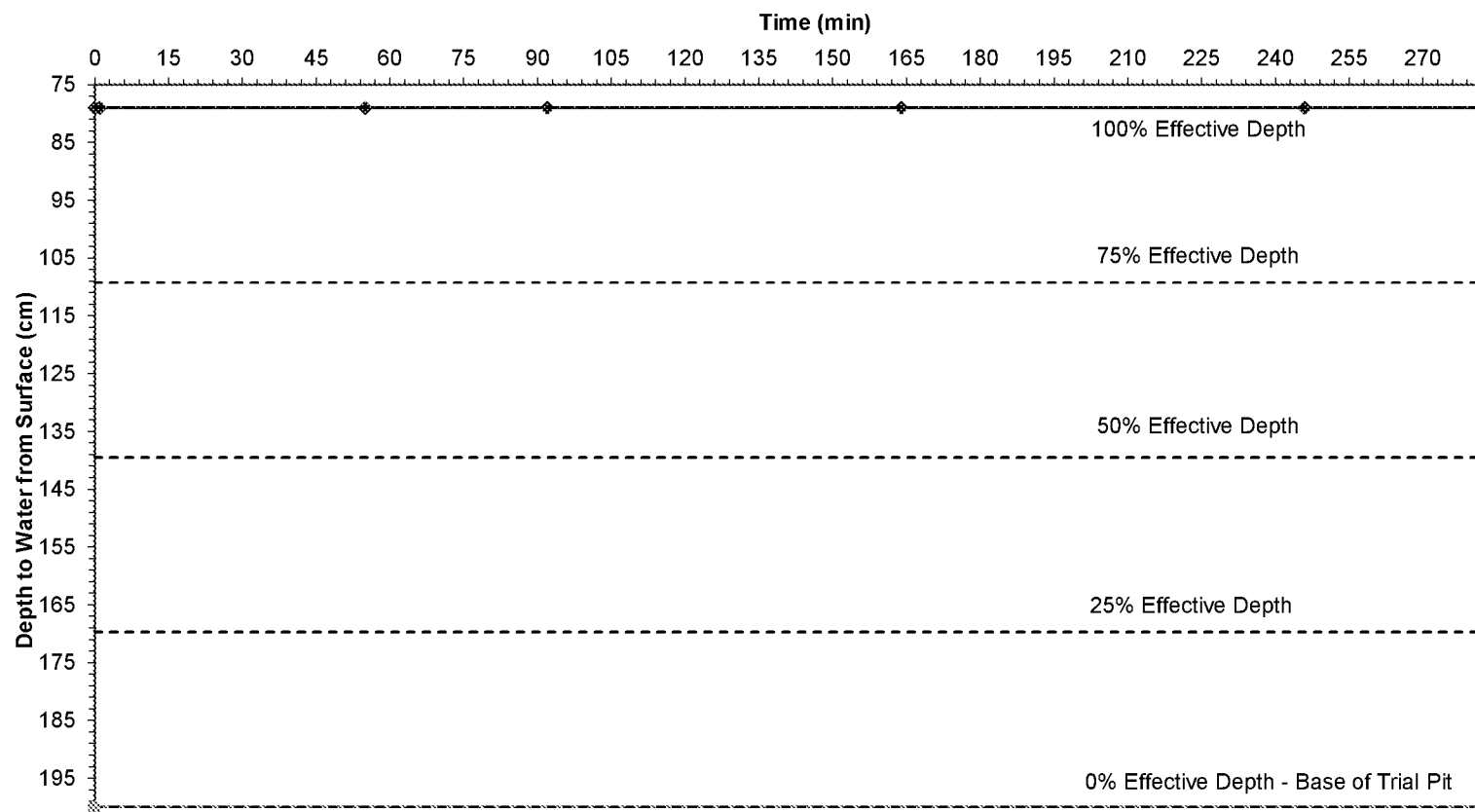
Engineer: NN
Checked: MP

Figure D-1

GEG-19-623

Hook Lane, Pagham

IT41



Appendix D

Infiltration Tests

Project Name: Hook Lane, Pagham
Project Ref.: GEG-19-623
Trial Pit: IT42
Test No.: Test 1 of 1

Depth of Pit (cm):	180.00
Depth of Water at Start of Depth (cm):	52.00
Date of Test:	23 October 2019

[illegible]

Parameter	Symbol	Calculation	Units	IT42
Effective Depth of Trial Pit	d_p		m	1.28
Width of Trial Pit	w		m	0.90
Length of Trial Pit	l		m	2.00
Volume of Trial Pit	V	$= d_p \times w \times l$	m^3	2.30
Volume of Trial Pit at 50% Effective Depth	$V_{50\%}$	$= V \times 0.5$	m^3	1.152
Internal Surface Area of Trial Pit*	$a_{p50\%}$	$= l \times w + d_p \times (w + l)$	m^2	5.51
Time to reach 75% Effective Depth	$T_{p75\%}$		min	N/A
Time to reach 25% Effective Depth	$T_{p25\%}$		min	N/A
Time 25% - 75%	$T_{p75\%-25\%}$	$= T_{p25\%} - T_{p75\%}$	min	N/A
Infiltration Rate	f	$= V_{50\%} / a_{p50\%} \times (T_{p75\%-25\%})$	m/s	N/A

*To 50% Effective Depth (including base)

With Reference to: **Figure D-2**

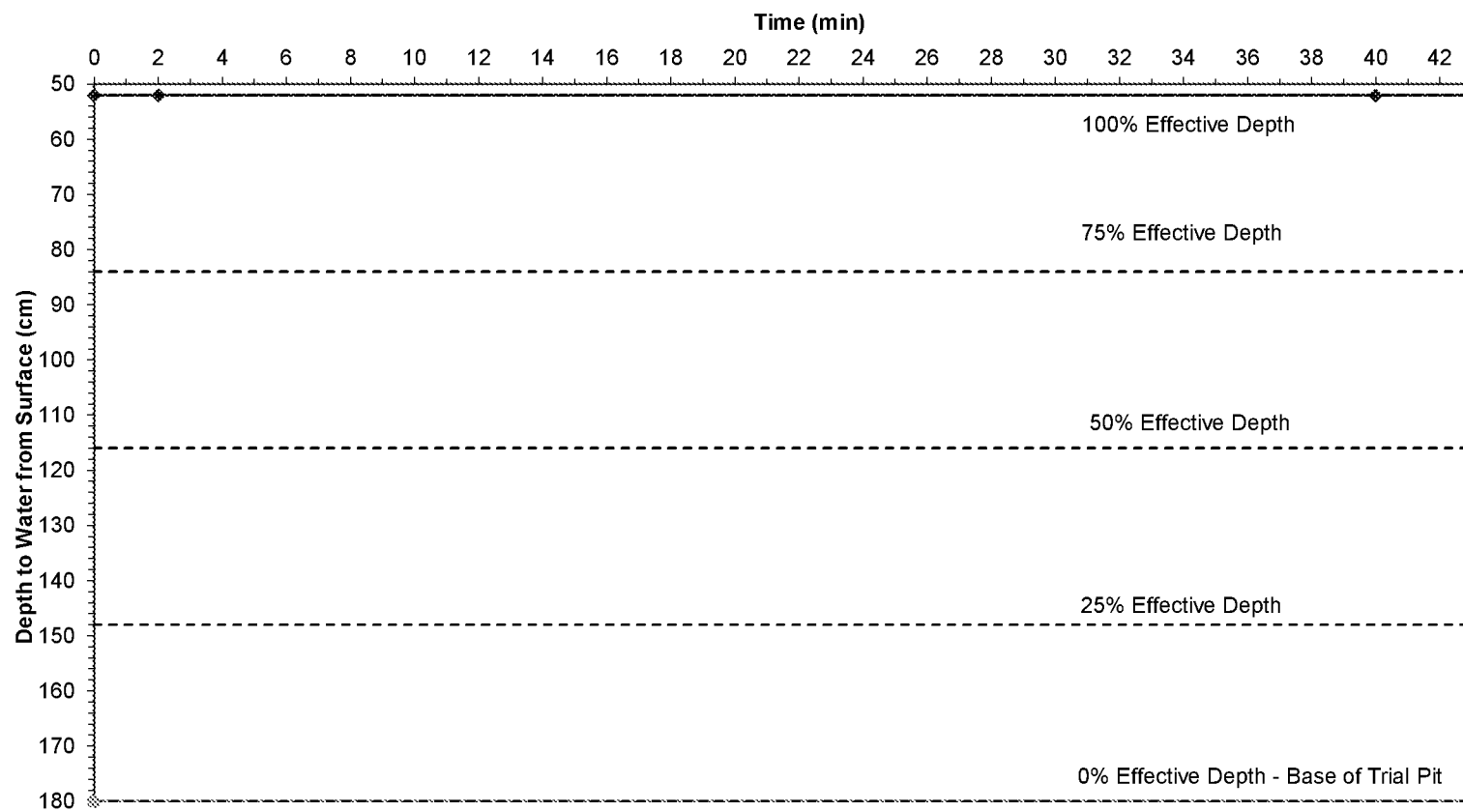
Engineer: NN
Checked: MP

Figure D-2

GEG-19-623

Hook Lane, Pagham

IT42



Appendix D

Infiltration Tests

Project Name: Hook Lane, Pagham
Project Ref.: GEG-19-623
Trial Pit: IT43
Test No.: Test 1 of 1

Depth of Pit (cm):	200.00
Depth of Water at Start of Depth (cm):	55.00
Date of Test:	23 October 2019

[illegible]

Parameter	Symbol	Calculation	Units	IT43
Effective Depth of Trial Pit	d_p		m	1.45
Width of Trial Pit	w		m	0.90
Length of Trial Pit	l		m	2.00
Volume of Trial Pit	V	$= d_p \times w \times l$	m^3	2.61
Volume of Trial Pit at 50% Effective Depth	$V_{50\%}$	$= V \times 0.5$	m^3	1.305
Internal Surface Area of Trial Pit*	$a_{p50\%}$	$= l \times w + d_p \times (w + l)$	m^2	6.01
Time to reach 75% Effective Depth	$T_{p75\%}$		min	N/A
Time to reach 25% Effective Depth	$T_{p25\%}$		min	N/A
Time 25% - 75%	$T_{p75\%-25\%}$	$= T_{p25\%} - T_{p75\%}$	min	N/A
Infiltration Rate	f	$= V_{50\%} / a_{p50\%} \times (T_{p75\%-25\%})$	m/s	N/A

*To 50% Effective Depth (including base)

With Reference to: **Figure D-3**

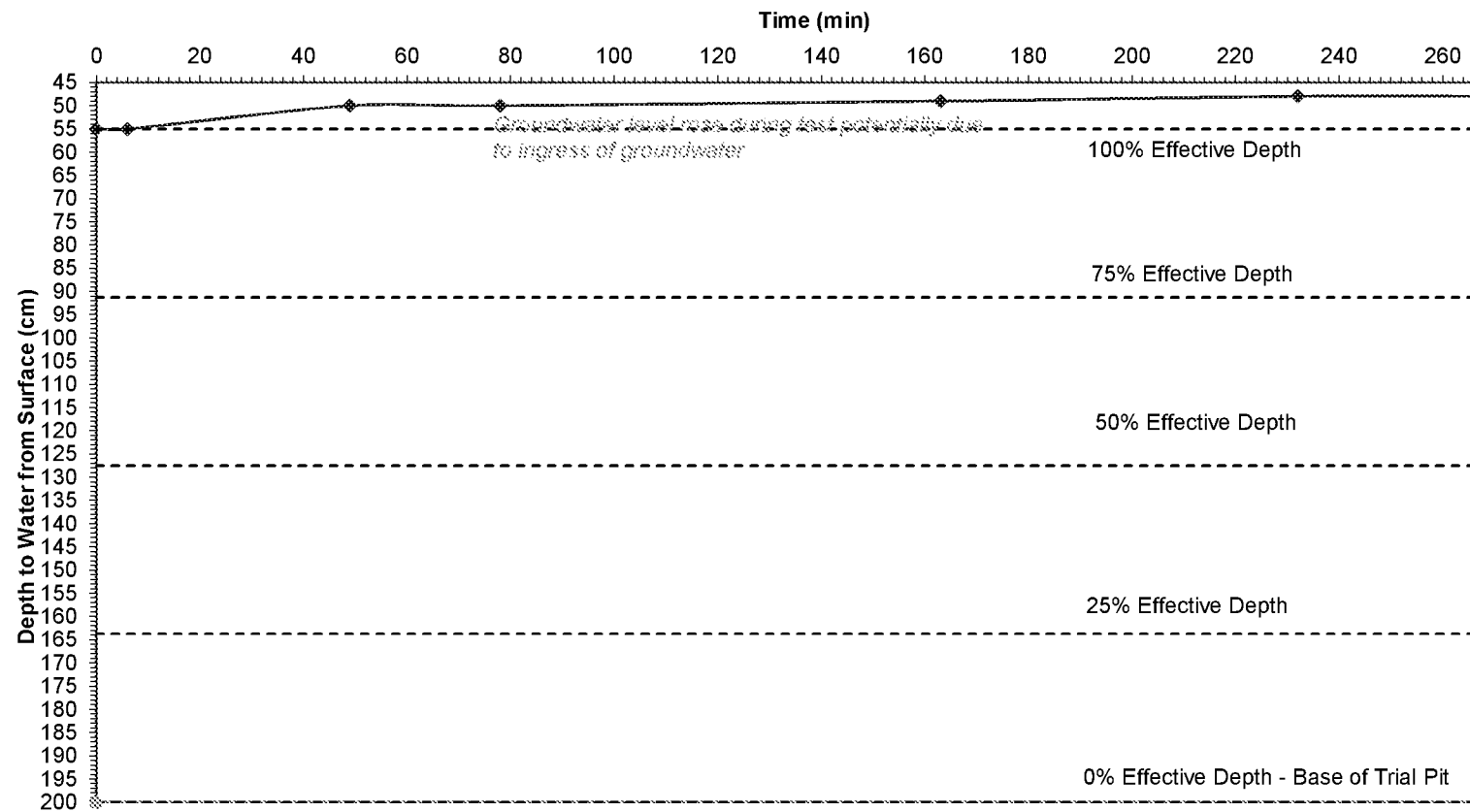
Engineer: NN
Checked: MP

Figure D-3

GEG-19-623

Hook Lane, Pagham

IT43





APPENDIX E

CHEMICAL ANALYSIS RESULTS



Nick Needham
Geo Environmental Group
GEG House,
17 Graham Road
Malvern
WR14 2HR

DETS Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2TN

DETS Report No: 19-15295

Site Reference: Hook Lane, Paqham

Project / Job Ref: GEG-19-623

Order No: 3531

Sample Receipt Date: 29/10/2019

Sample Scheduled Date: 29/10/2019

Report Issue Number: 2

Reporting Date: 10/12/2019

Authorised by:



Dave Ashworth
Technical Manager

This report supersedes 19-15295, issue no.1.
Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN



Soil Analysis Certificate						
DETS Report No: 19-15295	Date Sampled	25/10/19	25/10/19	25/10/19	25/10/19	25/10/19
Geo Environmental Group	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Hook Lane, Pagham	TP / BH No	TP01	TP05	TP05	TP10	TP10
Project / Job Ref: GEG-19-623	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 3531	Depth (m)	0.20	0.20	1.20	0.10	1.20
Reporting Date: 10/12/2019	DETS Sample No	444342	444343	444344	444345	444346

Determinand	Unit	RL	Accreditation					
pH	pH Units	N/a	MCERTS	6.2	5.9	7.9	6.1	7.2
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2		< 2	
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2		< 2	
Total Sulphate as SO ₄	mg/kg	< 200	NONE	< 200	278		337	
Total Sulphate as SO ₄	%	< 0.02	NONE	< 0.02	0.03		0.03	
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	12	13	< 10	16	17
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.01	0.01	< 0.01	0.02	0.02
Sulphide	mg/kg	< 5	NONE	< 5	< 5		< 5	
Organic Matter	%	< 0.1	MCERTS	< 0.1	1.8		1.6	
W/S Chloride (2:1)	mg/kg	< 1	MCERTS			16		15
W/S Chloride (2:1)	mg/l	< 0.5	MCERTS			8.2		7.7
Antimony (Sb)	mg/kg	< 1	NONE	< 1	1.1		1.1	
Arsenic (As)	mg/kg	< 2	MCERTS	6	7		7	
W/S Boron	mg/kg	< 1	NONE	< 1	< 1		< 1	
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	0.2		< 0.2	
Chromium (Cr)	mg/kg	< 2	MCERTS	8	21		18	
Chromium (III)	mg/kg	< 2	NONE	8	21		18	
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2		< 2	
Copper (Cu)	mg/kg	< 4	MCERTS	< 4	13		11	
Lead (Pb)	mg/kg	< 3	MCERTS	4	16		17	
W/S Magnesium	mg/l	< 0.1	NONE			1.9		2.8
Mercury (Hg)	mg/kg	< 1	NONE	< 1	< 1		< 1	
Nickel (Ni)	mg/kg	< 3	MCERTS	5	12		10	
Selenium (Se)	mg/kg	< 3	NONE	< 3	< 3		< 3	
Zinc (Zn)	mg/kg	< 3	MCERTS	13	39		37	
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2		< 2	

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C

Subcontracted analysis (S)



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN



Soil Analysis Certificate						
DETS Report No: 19-15295	Date Sampled	25/10/19	25/10/19	25/10/19	25/10/19	25/10/19
Geo Environmental Group	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Hook Lane, Pagham	TP / BH No	TP14	TP14	TP20	TP20	TP23
Project / Job Ref: GEG-19-623	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 3531	Depth (m)	0.20	1.00	0.20	1.20	1.00
Reporting Date: 10/12/2019	DETS Sample No	444347	444348	444349	444350	444351

Determinand	Unit	RL	Accreditation					
pH	pH Units	N/a	MCERTS	6.6	8.1	7.1	8.0	8.2
Total Cyanide	mg/kg	< 2	NONE	< 2		< 2		
Free Cyanide	mg/kg	< 2	NONE	< 2		< 2		
Total Sulphate as SO ₄	mg/kg	< 200	NONE	320		1552		
Total Sulphate as SO ₄	%	< 0.02	NONE	0.03		0.16		
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	< 10	< 10	555	33	15
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	< 0.01	< 0.01	0.56	0.03	0.01
Sulphide	mg/kg	< 5	NONE	< 5		< 5		
Organic Matter	%	< 0.1	MCERTS	2		2		
W/S Chloride (2:1)	mg/kg	< 1	MCERTS		18		14	14
W/S Chloride (2:1)	mg/l	< 0.5	MCERTS		8.8		6.9	7.1
Antimony (Sb)	mg/kg	< 1	NONE	1.3		1.2		
Arsenic (As)	mg/kg	< 2	MCERTS	7		7		
W/S Boron	mg/kg	< 1	NONE	< 1		< 1		
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2		< 0.2		
Chromium (Cr)	mg/kg	< 2	MCERTS	20		22		
Chromium (III)	mg/kg	< 2	NONE	20		22		
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2		< 2		
Copper (Cu)	mg/kg	< 4	MCERTS	11		12		
Lead (Pb)	mg/kg	< 3	MCERTS	19		15		
W/S Magnesium	mg/l	< 0.1	NONE		2.4		3.1	2.6
Mercury (Hg)	mg/kg	< 1	NONE	< 1		< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS	12		13		
Selenium (Se)	mg/kg	< 3	NONE	< 3		< 3		
Zinc (Zn)	mg/kg	< 3	MCERTS	41		38		
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2		< 2		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C

Subcontracted analysis (S)



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN



Soil Analysis Certificate						
DETS Report No: 19-15295	Date Sampled	25/10/19	25/10/19	25/10/19	25/10/19	25/10/19
Geo Environmental Group	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Hook Lane, Pagham	TP / BH No	TP24	TP24	TP27	TP27	TP30
Project / Job Ref: GEG-19-623	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 3531	Depth (m)	0.20	1.00	0.10	1.00	0.20
Reporting Date: 10/12/2019	DETS Sample No	444353	444354	444355	444356	444357

Determinand	Unit	RL	Accreditation					
pH	pH Units	N/a	MCERTS	7.5	7.5	7.1	7.5	7.3
Total Cyanide	mg/kg	< 2	NONE	< 2		< 2		< 2
Free Cyanide	mg/kg	< 2	NONE	< 2		< 2		< 2
Total Sulphate as SO ₄	mg/kg	< 200	NONE	395		393		315
Total Sulphate as SO ₄	%	< 0.02	NONE	0.04		0.04		0.03
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	12	1160	64	18	22
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.01	1.16	0.06	0.02	0.02
Sulphide	mg/kg	< 5	NONE	< 5		< 5		< 5
Organic Matter	%	< 0.1	MCERTS	1.8		1.6		1.6
W/S Chloride (2:1)	mg/kg	< 1	MCERTS		20		13	
W/S Chloride (2:1)	mg/l	< 0.5	MCERTS		9.9		6.3	
Antimony (Sb)	mg/kg	< 1	NONE	< 1		1.1		1.1
Arsenic (As)	mg/kg	< 2	MCERTS	7		7		7
W/S Boron	mg/kg	< 1	NONE	< 1		< 1		< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2		0.2		0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	20		22		21
Chromium (III)	mg/kg	< 2	NONE	20		22		21
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2		< 2		< 2
Copper (Cu)	mg/kg	< 4	MCERTS	11		14		11
Lead (Pb)	mg/kg	< 3	MCERTS	15		17		16
W/S Magnesium	mg/l	< 0.1	NONE		6.5		2.1	
Mercury (Hg)	mg/kg	< 1	NONE	< 1		< 1		< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	11		13		13
Selenium (Se)	mg/kg	< 3	NONE	< 3		< 3		< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	40		42		40
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2		< 2		< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C

Subcontracted analysis (S)



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN



Soil Analysis Certificate						
DETS Report No: 19-15295	Date Sampled	25/10/19	25/10/19	25/10/19		
Geo Environmental Group	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Hook Lane, Pagham	TP / BH No	TP30	TP39	TP39		
Project / Job Ref: GEG-19-623	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: 3531	Depth (m)	1.00	0.20	1.00		
Reporting Date: 10/12/2019	DETS Sample No	444358	444359	444360		

Determinand	Unit	RL	Accreditation			
pH	pH Units	N/a	MCERTS	7.9	6.8	8.2
Total Cyanide	mg/kg	< 2	NONE		< 2	
Free Cyanide	mg/kg	< 2	NONE		< 2	
Total Sulphate as SO ₄	mg/kg	< 200	NONE		302	
Total Sulphate as SO ₄	%	< 0.02	NONE		0.03	
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	14	< 10	12
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.01	< 0.01	0.01
Sulphide	mg/kg	< 5	NONE		< 5	
Organic Matter	%	< 0.1	MCERTS		2.1	
W/S Chloride (2:1)	mg/kg	< 1	MCERTS	12		15
W/S Chloride (2:1)	mg/l	< 0.5	MCERTS	6		7.7
Antimony (Sb)	mg/kg	< 1	NONE		1.1	
Arsenic (As)	mg/kg	< 2	MCERTS		7	
W/S Boron	mg/kg	< 1	NONE		< 1	
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		0.2	
Chromium (Cr)	mg/kg	< 2	MCERTS		21	
Chromium (III)	mg/kg	< 2	NONE		21	
Chromium (hexavalent)	mg/kg	< 2	NONE		< 2	
Copper (Cu)	mg/kg	< 4	MCERTS		13	
Lead (Pb)	mg/kg	< 3	MCERTS		18	
W/S Magnesium	mg/l	< 0.1	NONE	2.2		2.2
Mercury (Hg)	mg/kg	< 1	NONE		< 1	
Nickel (Ni)	mg/kg	< 3	MCERTS		13	
Selenium (Se)	mg/kg	< 3	NONE		< 3	
Zinc (Zn)	mg/kg	< 3	MCERTS		38	
Total Phenols (monohydric)	mg/kg	< 2	NONE		< 2	

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 19-15295	Date Sampled	25/10/19	25/10/19	25/10/19	25/10/19	25/10/19
Geo Environmental Group	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Hook Lane, Pagham	TP / BH No	TP01	TP05	TP10	TP14	TP20
Project / Job Ref: GEG-19-623	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 3531	Depth (m)	0.20	0.20	0.10	0.20	0.20
Reporting Date: 10/12/2019	DETS Sample No	444342	444343	444345	444347	444349

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 19-15295	Date Sampled	25/10/19	25/10/19	25/10/19	25/10/19	
Geo Environmental Group	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Hook Lane, Pagham	TP / BH No	TP24	TP27	TP30	TP39	
Project / Job Ref: GEG-19-623	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: 3531	Depth (m)	0.20	0.10	0.20	0.20	
Reporting Date: 10/12/2019	DETS Sample No	444353	444355	444357	444359	

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Soil Analysis Certificate - EPH Texas Banded						
DETS Report No: 19-15295	Date Sampled	25/10/19	25/10/19	25/10/19	25/10/19	25/10/19
Geo Environmental Group	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Hook Lane, Pagham	TP / BH No	TP01	TP05	TP10	TP14	TP20
Project / Job Ref: GEG-19-623	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 3531	Depth (m)	0.20	0.20	0.10	0.20	0.20
Reporting Date: 10/12/2019	DETS Sample No	444342	444343	444345	444347	444349

Determinand	Unit	RL	Accreditation					
EPH Texas (C6 - C8)	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
EPH Texas (>C8 - C10)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C10 - C12)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C12 - C16)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C16 - C21)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C21 - C40)	mg/kg	< 6	MCERTS	< 6	< 6	< 6	< 6	< 6
EPH Texas (C6 - C40)	mg/kg	< 6	NONE	< 6	< 6	< 6	< 6	< 6

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Soil Analysis Certificate - EPH Texas Banded						
DETS Report No: 19-15295	Date Sampled	25/10/19	25/10/19	25/10/19	25/10/19	
Geo Environmental Group	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Hook Lane, Pagham	TP / BH No	TP24	TP27	TP30	TP39	
Project / Job Ref: GEG-19-623	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: 3531	Depth (m)	0.20	0.10	0.20	0.20	
Reporting Date: 10/12/2019	DETS Sample No	444353	444355	444357	444359	

Determinand	Unit	RL	Accreditation					
EPH Texas (C6 - C8)	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
EPH Texas (>C8 - C10)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C10 - C12)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C12 - C16)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C16 - C21)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C21 - C40)	mg/kg	< 6	MCERTS	< 6	< 6	< 6	< 6	< 6
EPH Texas (C6 - C40)	mg/kg	< 6	NONE	< 6	< 6	< 6	< 6	< 6

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Tel: 01622 686420

Soil Analysis Certificate - PCB (12 Congeners)						
DETS Report No: 19-15295	Date Sampled	25/10/19				
Geo Environmental Group	Time Sampled	None Supplied				
Site Reference: Hook Lane, Pagham	TP / BH No	PCB01				
Project / Job Ref: GEG-19-623	Additional Refs	None Supplied				
Order No: 3531	Depth (m)	0.10				
Reporting Date: 10/12/2019	DETS Sample No	444341				

Determinand	Unit	RL	Accreditation				
PCB Congener 77	mg/kg	0.008	NONE	< 0.008			
PCB Congener 81	mg/kg	0.008	NONE	< 0.008			
PCB Congener 105	mg/kg	0.008	NONE	< 0.008			
PCB Congener 114	mg/kg	0.008	NONE	< 0.008			
PCB Congener 118	mg/kg	0.008	NONE	< 0.008			
PCB Congener 123	mg/kg	0.008	NONE	< 0.008			
PCB Congener 126	mg/kg	0.008	NONE	< 0.008			
PCB Congener 156	mg/kg	0.008	NONE	< 0.008			
PCB Congener 157	mg/kg	0.008	NONE	< 0.008			
PCB Congener 167	mg/kg	0.008	NONE	< 0.008			
PCB Congener 169	mg/kg	0.008	NONE	< 0.008			
PCB Congener 189	mg/kg	0.008	NONE	< 0.008			
Total PCB (12 Congeners)	mg/kg	< 0.1	NONE	< 0.1			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 19-15295

Geo Environmental Group

Site Reference: Hook Lane, Pagham

Project / Job Ref: GEG-19-623

Order No: 3531

Reporting Date: 10/12/2019

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
444341	PCB01	None Supplied	0.10	19.8	Brown clayey sand
444342	TP01	None Supplied	0.20	17.5	Brown clayey sand with stones
444343	TP05	None Supplied	0.20	15.3	Brown clayey sand
444344	TP05	None Supplied	1.20	13.3	Brown clayey sand
444345	TP10	None Supplied	0.10	14.9	Brown clayey sand
444346	TP10	None Supplied	1.20	16.3	Brown clayey sand
444347	TP14	None Supplied	0.20	15.8	Brown clayey sand
444348	TP14	None Supplied	1.00	14.3	Brown clayey sand
444349	TP20	None Supplied	0.20	17.8	Brown clayey sand
444350	TP20	None Supplied	1.20	10.8	Brown clayey sand
444352	TP23	None Supplied	1.00	11.7	Brown clayey sand
444353	TP24	None Supplied	0.20	15	Brown clayey sand
444354	TP24	None Supplied	1.00	17.1	Brown clayey sand
444355	TP27	None Supplied	0.10	16.9	Brown clayey sand
444356	TP27	None Supplied	1.00	12.5	Brown clayey sand
444357	TP30	None Supplied	0.20	14.6	Brown clayey sand with stones
444358	TP30	None Supplied	1.00	14.2	Brown clayey sand
444359	TP39	None Supplied	0.20	17.3	Brown clayey sand
444360	TP39	None Supplied	1.00	15	Brown clayey sand

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{1/s}

Unsuitable Sample ^{1/s}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 19-15295

Geo Environmental Group

Site Reference: Hook Lane, Pagham

Project / Job Ref: GEG-19-623

Order No: 3531

Reporting Date: 10/12/2019

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



Nick Needham
Geo Environmental Group
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DETS Report No: 19-17654

Site Reference: Hook Lane, Paqham

Project / Job Ref: GEG-19-623

Order No: 3589

Sample Receipt Date: 20/12/2019

Sample Scheduled Date: 20/12/2019

Report Issue Number: 1

Reporting Date: 03/01/2020

Authorised by:



DAVE PETERSON
Technical Manager

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Soil Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 19-17654	Date Sampled	18/12/19	18/12/19	18/12/19	18/12/19	18/12/19
Geo Environmental Group	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Hook Lane, Pagham	TP / BH No	TP01	TP10	TP14	TP20	TP24
Project / Job Ref: GEG-19-623	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 3589	Depth (m)	0.20	0.20	0.20	0.20	0.20
Reporting Date: 03/01/2020	DETS Sample No	453742	453743	453744	453745	453746

Determinand	Unit	RL	Accreditation					
Aldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
alpha-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
beta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
cis-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
delta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dieldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan A	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan B	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
gamma-HCH (Lindane)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor epoxide	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Hexachlorobenzene (HCB)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Isodrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Methoxychlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
trans-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Trifluralin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Soil Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 19-17654	Date Sampled	18/12/19	18/12/19	18/12/19		
Geo Environmental Group	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Hook Lane, Pagham	TP / BH No	TP27	TP30	TP39		
Project / Job Ref: GEG-19-623	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: 3589	Depth (m)	0.20	0.20	0.20		
Reporting Date: 03/01/2020	DETS Sample No	453747	453748	453749		

Determinand	Unit	RL	Accreditation					
Aldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
alpha-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
beta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
cis-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
delta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Dieldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Endosulfan A	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Endosulfan B	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Endrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
gamma-HCH (Lindane)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Heptachlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Heptachlor epoxide	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Hexachlorobenzene (HCB)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Isodrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Methoxychlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
o,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
o,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
o,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
p,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
p,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
p,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
trans-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Trifluralin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Soil Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 19-17654	Date Sampled	18/12/19	18/12/19	18/12/19	18/12/19	18/12/19
Geo Environmental Group	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Hook Lane, Pagham	TP / BH No	TP01	TP10	TP14	TP20	TP24
Project / Job Ref: GEG-19-623	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 3589	Depth (m)	0.20	0.20	0.20	0.20	0.20
Reporting Date: 03/01/2020	DETS Sample No	453742	453743	453744	453745	453746

Determinand	Unit	RL	Accreditation					
Azinphos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorfenvinphos, alpha	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorfenvinphos, beta	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorpyrifos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diazinon	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dichlorvos	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethoate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fenitrothion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fenthion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Malathion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mevinphos, E	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mevinphos, (Z)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Parathion-ethyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Parathion-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phorate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Soil Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 19-17654	Date Sampled	18/12/19	18/12/19	18/12/19		
Geo Environmental Group	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Hook Lane, Pagham	TP / BH No	TP27	TP30	TP39		
Project / Job Ref: GEG-19-623	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: 3589	Depth (m)	0.20	0.20	0.20		
Reporting Date: 03/01/2020	DETS Sample No	453747	453748	453749		

Determinand	Unit	RL	Accreditation					
Azinphos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Chlorfenvinphos, alpha	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Chlorfenvinphos, beta	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Chlorpyrifos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Diazinon	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Dichlorvos	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Dimethoate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Fenitrothion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Fenthion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Malathion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Mevinphos, E	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Mevinphos, (Z)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Parathion-ethyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Parathion-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Phorate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 19-17654

Geo Environmental Group

Site Reference: Hook Lane, Pagham

Project / Job Ref: GEG-19-623

Order No: 3589

Reporting Date: 03/01/2020

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
453742	TP01	None Supplied	0.20	19.5	Brown clay with stones
453743	TP10	None Supplied	0.20	19.7	Brown clay
453744	TP14	None Supplied	0.20	20.4	Brown clay with stones
453745	TP20	None Supplied	0.20	20.2	Brown clay
453746	TP24	None Supplied	0.20	18	Brown clay
453747	TP27	None Supplied	0.20	17.7	Brown clay
453748	TP30	None Supplied	0.20	17.5	Brown clay
453749	TP39	None Supplied	0.20	18.5	Brown clay

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{1/5}

Unsuitable Sample ^{1/5}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 19-17654

Geo Environmental Group

Site Reference: Hook Lane, Pagham

Project / Job Ref: GEG-19-623

Order No: 3589

Reporting Date: 03/01/2020

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 dphenylcarbazine followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



APPENDIX F

STATISTICAL ASSESSMENT OF CHEMICAL RESULTS

Client/client ref	Brookbanks / HLM
Project ref	GEG-19-623
Site ref	Hook Lane, Pagham
Data description	Natural Ground
Contaminant(s)	As to Phenol
Test scenario	Planning: is true mean lower than critical concentration ($\mu < C_c$)? ▼
Date	21 November 2019
User details	MP

Statistics calculator (version 1)



Input data

This spreadsheet has been produced based on the document 'Guidance on Comparing Soil Contamination Data with a Critical Concentration (CIEH/CL:AIRE, 2008)'. Users of this spreadsheet should always refer to this guidance, the User Manual and to relevant guidance on UK legislation and policy, in order to understand how the procedure should be applied in an appropriate context.

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Go to summary

Data sheet

Project details

[illegible]

Client/client ref	Brookbanks / HLM
Project ref	GEG-19-623
Site ref	Hook Lane, Pagham
Data description	Natural Ground
Contaminant(s)	Cu, Zn, B & Sb
Test scenario	Planning: is true mean lower than critical concentration ($\mu < C_c$)? ▼
Date	21 November 2019
User details	MP

Statistics calculator (version 1)



Input data

This spreadsheet has been produced based on the document 'Guidance on Comparing Soil Contamination Data with a Critical Concentration (CIEH/CL:AIRE, 2008)'. Users of this spreadsheet should always refer to this guidance, the User Manual and to relevant guidance on UK legislation and policy, in order to understand how the procedure should be applied in an appropriate context.

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Project details

[illegible]

Directions of Brockholes / H.M.
Project ref: 2022-16-823
Ref: 167 Hook Lane, Padiham
Data Collection: Water Quality
Coordinates: 53.20, 2.5 8.50
Test location: Padiham
Date: 21 November 2018
Lab: ARUN

Depth (mg/kg)	2330	3550	291	260													
Notes																	
Sample size (n)	9	9	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0
Sample mean (x)	10.68888889	36.44444444	0.5	1	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
Sample standard deviation (s)	3.515837185	8.931840671	0	0.291547595													
Number of non-detects	1	0	9	2													
Get all 9 data values below the limit?	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Are all 9 data values below the limit?	No	No	No	No													
Distribution	Non-normal	Non-normal	Single value	Non-normal													
Distribution approach	Auto Underbyshev	Auto Underbyshev	Auto Underbyshev	Auto Underbyshev	Auto	Auto	Auto	Auto	Auto	Auto	Auto	Auto	Auto	Auto	Auto	Auto	Auto

Plot description	Plotting: Data point lower than critical concentration is < 10%	Summary: Normal distribution	95%	Use Normal distribution to test for outliers
Statistic: 1st order	-1678.855381	-1180.122559	N/A	-2995.089013
Upper confidence limit (95% confidence interval)	15.99728189	49.42210807	0.5	1.423606834
Confidence level	100%	100%	100%	100%
Statistic: 2nd order	SAFETY 2ND	SAFETY 2ND	SAFETY 2ND	SAFETY 2ND
Statistic: 3rd order	$\mu < C_c$	$\mu < C_c$	$\mu < C_c$	$\mu < C_c$
Statistic: 4th order	O Y	O Y	O Y	O Y

Back to data

Go to outlier test

Go to normality test

Show individual summary

