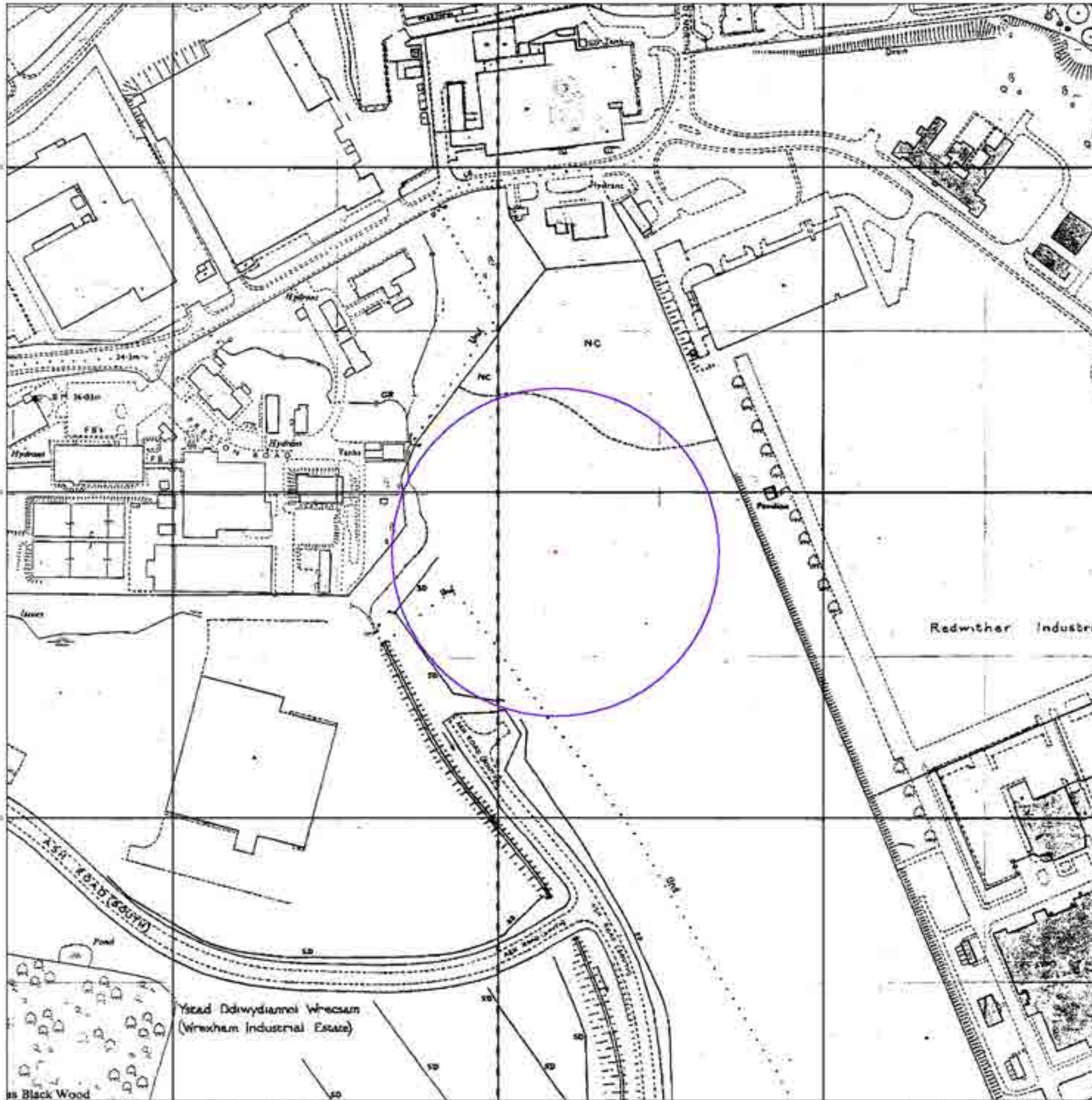




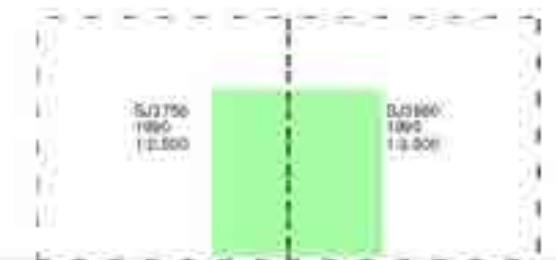
Additional SIMs

Published 1990

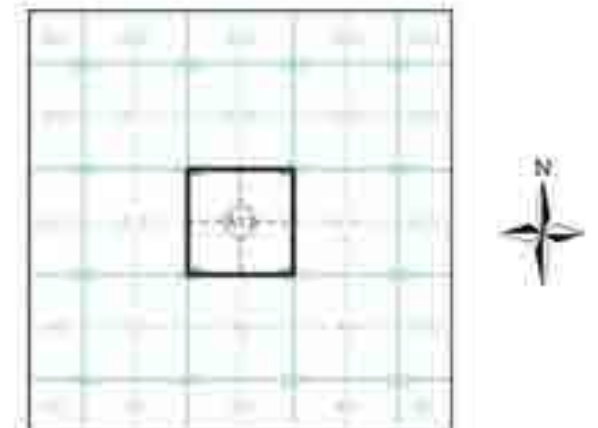
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 330630143_1_1
Customer Ref: 23284
National Grid Reference: 338040, 350360
Slice: A
Site Area (Ha): 0.01
Search Buffer (m): 100

Site Details

Norish Foodcare, Ash Road South, Wrexham Industrial Estate, WREXHAM, LL13 9UG



Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



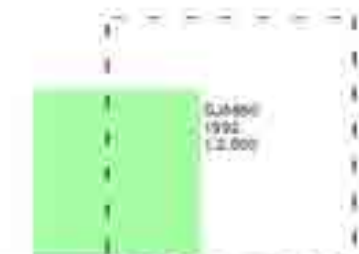
Ordnance Survey Plan

Published 1992

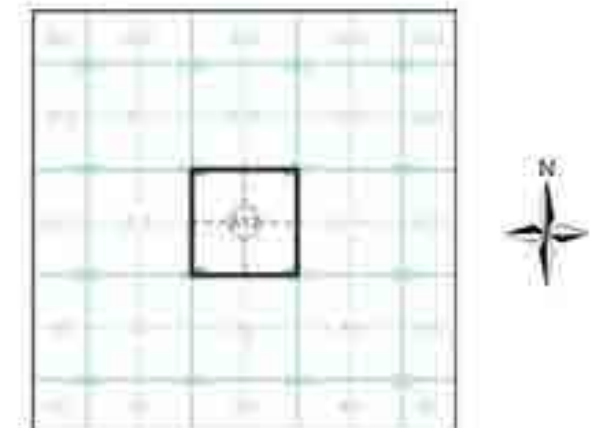
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 330630143_1_1
Customer Ref: 23284
National Grid Reference: 338040, 350360
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Site Area (Ha): 0.01
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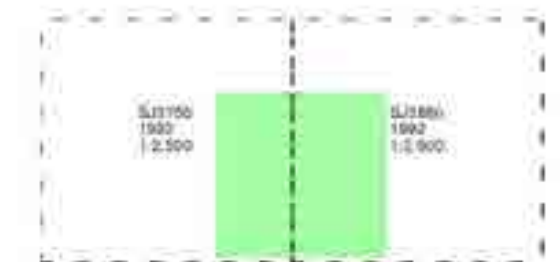
Large-Scale National Grid Data

Published 1992

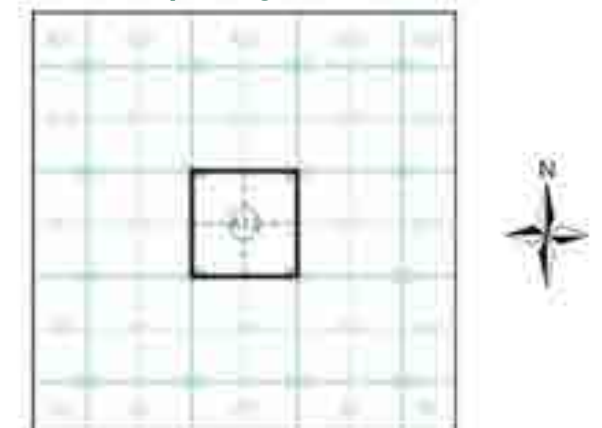
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 330630143_1_1
Customer Ref: 23284
National Grid Reference: 338040, 350360
Slice: A
Site Area (Ha): 0.01
Search Buffer (m): 100

Site Details

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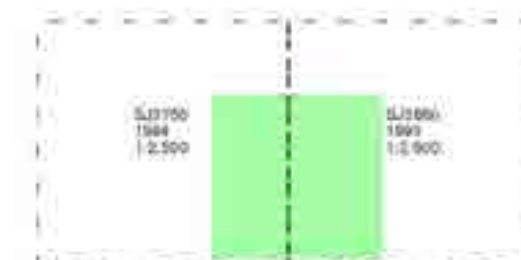
Large-Scale National Grid Data

Published 1993 - 1994

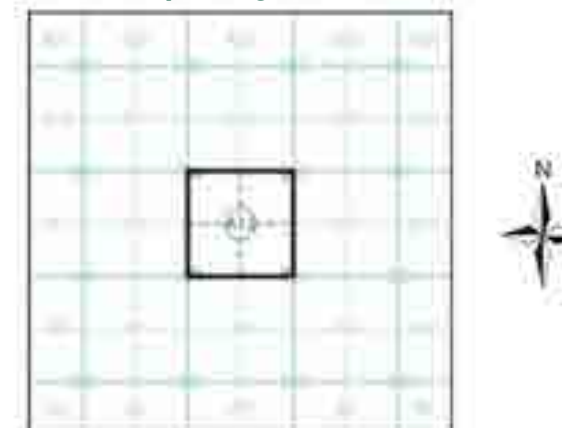
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

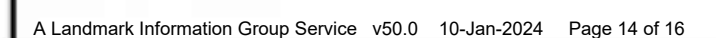
Order Number: 330630143_1_1
Customer Ref: 23284
National Grid Reference: 338040, 350360
Slice: A
Site Area (Ha): 0.01
Search Buffer (m): 100

Site Details

Norish Foodcare, Ash Road South, Wrexham Industrial Estate,
WREXHAM, LL13 9UG



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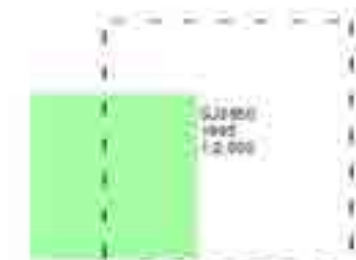
Large-Scale National Grid Data

Published 1995

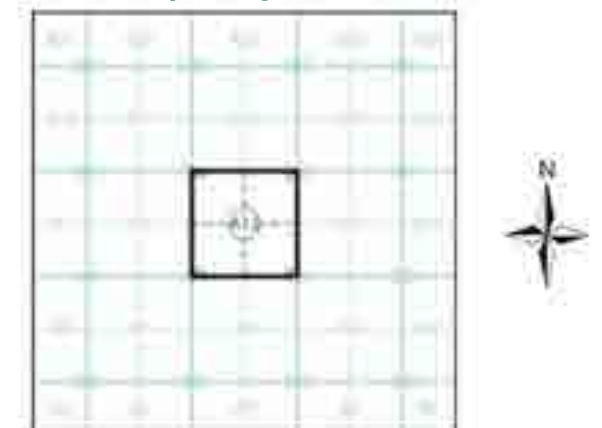
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 330630143_1_1
Customer Ref: 23284
National Grid Reference: 338040, 350360
Slice: A
Site Area (Ha): 0.01
Search Buffer (m): 100

Site Details

Norish Foodcare, Ash Road South, Wrexham Industrial Estate, WREXHAM, LL13 9UG



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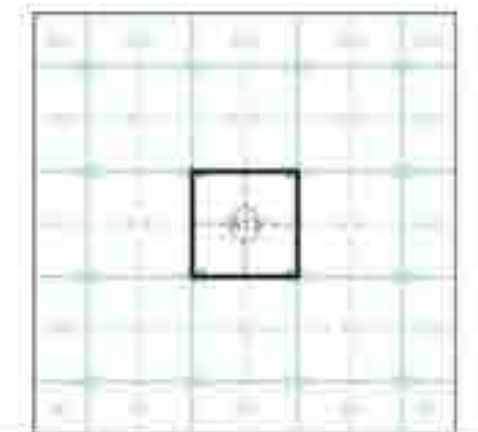


Historical Aerial Photography

Published 2003

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

Order Number: 330630143_1_1
Customer Ref: 23284
National Grid Reference: 338040, 350360
Slice: A
Site Area (Ha): 0.01
Search Buffer (m): 100

Site Details

Norish Foodcare, Ash Road South, Wrexham Industrial Estate, WREXHAM, LL13 9UG



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Web: www.envirocheck.co.uk

Appendix C – Exploratory Hole Logs



Exploratory Hole Progress by Time				Exploratory Hole	
Date and Time	Depth	Casing Depth	Water Depth	BH101	
15/01/2024 10:45	0.00	0.00			
15/01/2024 11:04	1.20	0.00	Dry		
15/01/2024 16:30	10.50	10.50	Wet		
16/01/2024 09:14	10.50	10.50	6.72	Sheet 1 of 3	
16/01/2024 16:06	22.50	22.50	1.50	Scale	1:50
17/01/2024 10:15	25.00	25.00	Dry	Drilled	LM & LH
				Logged	FT
				Checked	AP

Chiseling				Hole Diameter		Casing Diameter		Water Added		Water Strikes						
Depth Top	Depth Base	Duration (hh:mm)	Tool	Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Date and Time	Casing	Strike	Sealed	Rising to	Time	Remarks
					10.50 200mm 25.00		10.50 200mm 25.00			15/01/2024 13:52 18/01/2024 11:09 18/01/2024 11:10	5.00 10.50 21.00	5.20 10.50 21.20		4.80 10.50 1.50	20mins 20mins 20mins	

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		CABLE PERCUSSIVE EXPLORATORY HOLE LOG				Exploratory Hole Progress by Time				Exploratory Hole								
						Date and Time		Depth	Casing Depth	Water Depth	BH101							
Project		Sakura, Wrexham		Equipment		Dando 2000		15/01/2024 10:45		0.00	0.00	Dry Wet 6.72 1.50 Dry		Sheet 2 of 3				
Client		Thermotrafic		Method		CP/IP		15/01/2024 11:04		1.20	0.00			Scale		1:50		
Project No		G24001	Level		32.18 mAOD	Inclination		90 degrees		15/01/2024 16:30				10.50	10.50	Drilled		LM & LH
Easting		337997.20	Northing		350418.90	SPT Hammer Serial Number		AR5755		16/01/2024 09:14				10.50	10.50	Logged		FT
Termination Reason		Terminated at scheduled depth		SPT Hammer Energy Ratio		65 %		16/01/2024 16:06		22.50	22.50			1.50		Checked		AP
17/01/2024 10:15		25.00		25.00		Dry												
Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks		Depth (Thickness)	Level (mAOD)	Legend	Description					Scale	Backfill					
22 B 23 D	10.50 - 10.95 10.50 - 10.95 10.50	SPT(S) N=13 (1,2/3,3,4) Casing: 10.40 Water: Dry					Firm to stiff reddish to greyish brown sandy to very sandy CLAY. Sand is fine. (DEVENSIAN TILL)					10.50						
24 B 45 UT	12.00 - 12.45 12.00 - 12.45	Blows: 15 Rec: 0% Dia: 100mm Water: 10.55										11.00						
25 D	12.50											11.50						
26 D 27 B	13.50 - 13.95 13.50 - 13.95 13.50	SPT(S) N=18 (2,1/2,3,6,7) Casing: 13.40 Water: 10.50		14.00	18.18		13.50m - 13.95m Very sandy.					12.00						
28 B 29 D	15.00 - 15.45 15.00 - 15.45 15.00	SPT(S) N=6 (1,2/1,2,1,2) Casing: 14.90 Water: 10.50		(3.30)			Loose reddish brown slightly clayey fine SAND. (DEVENSIAN TILL) 14.00m - 17.00m Sample recovered is highly saturated, liquid behaviour.					12.50						
30 D 31 B	16.50 - 16.95 16.50 - 16.95 16.50	SPT(S) N=8 (1,2/2,2,2,2) Casing: 16.40 Water: 10.50										13.00						
32 D	17.30			17.30	14.88							13.50						
33 UT	18.00 - 18.45	Blows: 10 Rec: 70% Dia: 100mm Water: 9.90					Soft to firm reddish brown to brown very sandy CLAY. Sand is fine. (DEVENSIAN TILL)					14.00						
34 D	18.50						18.50m - 19.95m Slightly silty sandy CLAY.					14.50						
35 D 36 B	19.50 - 19.95 19.50 - 19.95 19.50	SPT(S) N=13 (2,3/2,3,4,4) Casing: 19.40 Water: 8.00		(4.90)			19.50m - 22.50m Sand portion of sample recovered is highly saturated, liquid behaviour, clasts of clay within recovery.					15.00						
							Continued on next Sheet					15.50						
												16.00						
												16.50						
												17.00						
												17.50						
												18.00						
												18.50						
												19.00						
												19.50						
												20.00						
Chiseling				Hole Diameter		Casing Diameter		Water Added		Water Strikes								
Depth Top	Depth Base	Duration (hh:mm)	Tool	Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Date and Time	Casing	Strike	Sealed	Rising to	Time	Remarks		
				10.50	200mm	10.50	200mm			15/01/2024 13:52	5.00	5.20		4.80	20mins			
				25.00	150mm	25.00	150mm			18/01/2024 11:09	10.50	10.50		10.50	20mins			
										18/01/2024 11:10	21.00	21.20		1.50	20mins			
Remarks																		
Hand excavated inspection pit from GL to 1.20m depth. Cable Percussive drilling from 1.20m to 25.00m depth.																		
Printed 12/02/2024 15:22																		

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Exploratory Hole Progress by Time				Exploratory Hole	
Date and Time		Depth	Casing Depth	Water Depth	BH102
17/01/2024 15:00		0.00			
17/01/2024 16:00		1.20			
18/01/2024 16:15		12.50	12.50	Dry	
19/01/2024 13:40		20.00	20.00	Wet	
					Wet
					Sheet 1 of 2
				Scale	1:50
				Drilled	LM & LH
				Logged	FT
				Checked	AP

Chiseling				Hole Diameter		Casing Diameter		Water Added		Water Strikes						
Depth Top	Depth Base	Duration (hh:mm)	Tool	Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Date and Time	Casing	Strike	Sealed	Rising to	Time	Remarks
					3.00 200mm 20.00		200mm 150mm			18/01/2024 10:30 18/01/2024 15:30 19/01/2024 13:40	2.90 13.50 19.40	3.50 13.50 20.00		2.50 13.50 18.00	20mins 20mins 20mins	

Printed 12/02/2024 15:22

		CABLE PERCUSSIVE EXPLORATORY HOLE LOG				Exploratory Hole Progress by Time					Exploratory Hole					
						Date and Time		Depth	Casing Depth	Water Depth	BH102					
						17/01/2024 15:00		0.00								
						17/01/2024 16:00		1.20								
18/01/2024 16:15		12.50	12.50	Dry	Sheet 2 of 2											
19/01/2024 13:40		20.00	20.00	Wet												
Project		Sakura, Wrexham		Equipment		Dando 2000										
Client		Thermotraffic		Method		CP/IP										
Project No		G24001	Level	31.47 mAOD	Inclination		90 degrees									
Easting		337981.90	Northing	350356.80	SPT Hammer Serial Number		AR5755				Scale 1:50					
Termination Reason		Terminated at maximum achievable depth within shift allowance.			SPT Hammer Energy Ratio		65 %				Drilled LM & LH					
											Logged FT					
											Checked AP					
Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks		Depth (Thickness)	Level (mAOD)	Legend	Description					Scale	Backfill			
22 D	10.50 - 10.95	SPT(S) N=8 (1,2/1,2,2,3) Casing: 10.40 Water: Dry					Soft to firm yellowish brown to brown slightly to very sandy CLAY with rare subrounded to rounded fine to medium gravel. (DEVENSIAN TILL)					10.50				
23 B	10.50 - 10.95											11.00				
	10.50											11.50				
27 UT	12.00 - 12.45	Blows: 12 Rec: 100% Dia: 100mm Water: Dry		12.00	19.47		Medium dense reddish brown slightly clayey fine SAND. (DEVENSIAN TILL)					12.00				
30 D	12.50		12.50													
29 D	13.00	SPT(S) N=18 (3,3/3,4,5,6) Casing: 12.90 Water: Dry	13.00	13.00	13.00											
28 D	13.50 - 13.95		(5.20)	13.50	13.50	13.50										
35 B	13.50 - 13.95			14.00	14.00	14.00										
		14.50		14.50	14.50											
31 D	15.00 - 15.45	SPT(S) N=22 (1,3/4,6,6,6) Casing: 14.90 Water: 8.00										15.00				
36 B	15.00 - 15.45											15.50		15.50	15.50	
	15.00											16.00		16.00	16.00	
37 B	16.50 - 16.95	Blows: 15 Rec: 0% Dia: 100mm Water: 8.00		(2.80)								16.50				
40 UT	16.50 - 16.95		16.50									16.50		16.50		
		17.00	17.00									17.00				
32 D	17.20			17.20	14.27		Firm to stiff reddish brown to brown slightly silty, sandy CLAY. Sand is fine. (DEVENSIAN TILL)					17.50				
						17.50										
						17.50										
33 D	18.00 - 18.45	SPT(S) N=21 (3,3/4,5,6,6) Casing: 17.90 Water: Dry										18.00				
	18.00											18.50		18.50	18.50	
												19.00		19.00	19.00	
38 UT	19.50 - 19.95	Blows: 15 Rec: 90% Dia: 100mm Water: Dry		(2.80)								19.50				
															19.50	
34 D	20.00				11.47		End of Exploratory Hole at 20.00m					20.00				
Chiseling		Hole Diameter		Casing Diameter		Water Added		Water Strikes								
Depth Top	Depth Base	Duration (hh:mm)	Tool	Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Date and Time	Casing	Strike	Sealed	Rising to	Time	Remarks
				3.00	200mm	3.00	200mm			18/01/2024 10:30	2.90	3.50		2.50	20mins	
				20.00	150mm	20.00	150mm			18/01/2024 15:30	13.50	13.50		13.50	20mins	
										19/01/2024 13:40	19.40	20.00		18.00	20mins	
Remarks																
Hand excavated inspection pit from GL to 1.20m depth. Cable Percussive drilling from 1.20m to 20.00m depth.																

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		EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole
						HP101
Project	Sakura, Wrexham	Easting	338016.00	Equipment	Insulated hand tools	Sheet 1 of 1
Client	Thermotrafic	Northing	350406.00	Method	IP	
Project No	G24001	Level	32.11 mAOD	Termination Reason	Base of foundation pad exposed	



HP101 Detail



HP101

		TRIAL PIT EXPLORATORY HOLE LOG					Exploratory Hole Progress by Time			Exploratory Hole		
							Date and Time		Depth	Water Depth	HP102	
							16/01/2024 10:30 16/01/2024 10:55		0.00 0.26	Dry	Sheet 1 of 1	
											Scale	1:20
Project	Sakura, Wrexham			Equipment	Insulated hand tools							
Client	Thermotrafic			Method	IP					Logged	FT	
Project No	G24001	Level	31.56 mAOD	Orientation	90 degrees					Checked	AP	
Easting	338006.00	Northing	350359.00	Length	0.50							
Termination Reason	Base of foundation pad exposed			Width	0.40							
Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks		Depth (Thickness)	Level (mAOD)	Legend	Description			Scale	Backfill	
1 ES	0.16 - 0.26 0.20	PID: 0.0ppmv		0.00 (0.16)	31.40 31.30		Soft brown slightly silty sandy CLAY with rare subrounded to subangular fine to medium gravel of sandstone and red brick fragments. (TOPSOIL) 0.00m - 0.11m Concrete foundation pad (Face B of IP) Yellowish brown to reddish brown and grey slightly sandy clayey fine to coarse subrounded to angular GRAVEL of mudstone, sandstone, concrete and rare red brick fragments. (MADE GROUND) End of Exploratory Hole at 0.26m					
Weather		Cold, dry	Trial Pit Excavation Onsite Layout				Water Strikes					
Shoring		None					Date and Time		Strike	Rising to	Time	Remarks
Stability		Stable										
Log presents Face A unless otherwise noted.												
Remarks hand excavated foundation inspection pit from GL to 0.26m.												

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		EXPLORATORY HOLE PHOTOGRAPHS		Exploratory Hole	
				HP102	
Project	Sakura, Wrexham	Easting	338006.00	Equipment	Insulated hand tools
Client	Thermotrafic	Northing	350359.00	Method	IP
Project No	G24001	Level	31.56 mAOD	Termination Reason	Base of foundation pad exposed

Sheet 1 of 1



HP102 Detail



HP102

		TRIAL PIT EXPLORATORY HOLE LOG					Exploratory Hole Progress by Time			Exploratory Hole		
							Date and Time		Depth	Water Depth	HP103	
							18/01/2024 15:00		0.00	Dry		
							18/01/2024 15:20		0.70			
Project	Sakura, Wrexham			Equipment	Insulated hand tools				Sheet 1 of 1			
Client	Thermotrafic			Method	IP				Scale	1:20		
Project No	G24001	Level	32.31 mAOD	Orientation	90 degrees				Logged	FT		
Easting	338078.60	Northing	350436.60	Length	0.30				Checked	AP		
Termination Reason	Made ground encountered			Width	0.30							
Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks		Depth (Thickness)	Level (mAOD)	Legend	Description			Scale	Backfill	
1 ES	0.50 - 0.70			0.00	32.11		Brown slightly silty sandy CLAY with rare subangular fine gravel of red brick and sandstone. Rootlets (1-2mm diameter) present to 0.1m depth. (TOPSOIL)			0.50		
				(0.20)								
				0.20			Soft to firm yellowish brown to reddish brown slightly sandy CLAY with medium gravel content and one cobble. Gravel is fine to medium subrounded to angular of sandstone, mudstone, red brick fragments and rare concrete. Cobble is subangular of concrete with aggregate. (MADE GROUND)					
				(0.50)			End of Exploratory Hole at 0.70m					
					31.61							
										1.00		
										1.50		
										2.00		
										2.50		
										3.00		
										3.50		
										4.00		
Weather	Cold, dry	Trial Pit Excavation Onsite Layout 					Water Strikes					
Shoring	None						Date and Time	Strike	Rising to	Time	Remarks	
Stability	Stable											
Log presents Face A unless otherwise noted.												
Remarks												
Hand excavated trial pit within 'stockpile' from surface to 0.70m depth. .												

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Exploratory Hole

HP103

Project	Sakura, Wrexham	Easting	338078.60	Equipment	Insulated hand tools
Client	Thermotrafic	Northing	350436.60	Method	IP
Project No	G24001	Level	32.31 mAOD	Termination Reason	Made ground encountered

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		EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole
						HP104
Project	Sakura, Wrexham	Easting	338110.60	Equipment	Insulated hand tools	Sheet 1 of 1
Client	Thermotrafic	Northing	350429.60	Method	IP	
Project No	G24001	Level	32.43 mAOD	Termination Reason	Made ground encountered	

		TRIAL PIT EXPLORATORY HOLE LOG				Exploratory Hole Progress by Time			Exploratory Hole		
						Date and Time		Depth	Water Depth	TP101	
						17/01/2024 10:45 17/01/2024 11:00		0.00 1.80	Dry	Sheet 1 of 1	
Project	Sakura, Wrexham			Equipment	JCB 3cx						
Client	Thermotrafic			Method	TP						
Project No	G24001	Level	31.01 mAOD	Orientation				Scale	1:20		
Easting	337988.70	Northing	350277.90	Length		2.00		Logged	FT		
Termination Reason	Service encountered (concrete pipe).			Width		0.50		Checked	AP		
Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks		Depth (Thickness)	Level (mAOD)	Legend	Description	Scale	Backfill		
1 ES	0.00 - 0.10 0.05	PID: 0.0ppmv		0.00 (0.20) 0.20	30.81		Soft brown slightly silty sandy CLAY with rare subangular fine to medium gravel of red brick fragments, concrete, sandstone and infrequent ceramic fragments. (TOPSOIL)				
2 B	0.50 - 0.70						Firm to stiff yellowish brown to reddish brown slightly sandy gravelly CLAY with low cobble content. Gravel is fine to medium subrounded to angular of sandstone, mudstone, red brick, concrete and ceramic fragments. Cobbles are subrounded to subangular of mudstone and clay pipe/pot fragments. (MADE GROUND)				
3 B 4 ES	1.00 - 1.20 1.00 - 1.20 1.00	PID: 0.0ppmv		(1.60)							
5 B	1.50 - 1.70						1.50m - 1.60m Type 1 sub base material recovered. 1.60m - 1.75m slightly gravelly CLAY.				
					29.21		1.79m - 1.80m Rounded concrete feature located, assumed service pipe. End of Exploratory Hole at 1.80m				
Weather	Cold, dry	Trial Pit Excavation Onsite Layout				Water Strikes					
Shoring	None					Date and Time	Strike	Rising to	Time	Remarks	
Stability	Stable										
Remarks Machine excavated trial pit from GL to 1.80m											

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EXPLORATORY HOLE PHOTOGRAPHS

Exploratory Hole

TP101

Project	Sakura, Wrexham	Easting	337988.70	Equipment	JCB 3cx
Client	Thermotrafic	Northing	350277.90	Method	TP
Project No	G24001	Level	31.01 mAOD	Termination Reason	Service encountered (concrete pipe).

Sheet 1 of 5



Concrete utility at base 1



TP101 B

Project	Sakura, Wrexham	Easting	337988.70	Equipment	JCB 3cx
Client	Thermotrafic	Northing	350277.90	Method	TP
Project No	G24001	Level	31.01 mAOD	Termination Reason	Service encountered (concrete pipe).



TP101 Face A close up



TP101 Face A

Project	Sakura, Wrexham	Easting	337988.70	Equipment	JCB 3cx	Sheet 3 of 5
Client	Thermotrafic	Northing	350277.90	Method	TP	
Project No	G24001	Level	31.01 mAOD	Termination Reason	Service encountered (concrete pipe).	



TP101 Face B close up



TP101 Face C close up

		EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole
						TP101
Project	Sakura, Wrexham	Easting	337988.70	Equipment	JCB 3cx	Sheet 4 of 5
Client	Thermotrafic	Northing	350277.90	Method	TP	
Project No	G24001	Level	31.01 mAOD	Termination Reason	Service encountered (concrete pipe).	



TP101 Face C

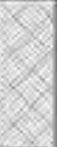


TP101 Face D

Project	Sakura, Wrexham	Easting	337988.70	Equipment	JCB 3cx	Sheet 5 of 5
Client	Thermotrafic	Northing	350277.90	Method	TP	
Project No	G24001	Level	31.01 mAOD	Termination Reason	Service encountered (concrete pipe).	



TP101 spoil

		TRIAL PIT EXPLORATORY HOLE LOG					Exploratory Hole Progress by Time			Exploratory Hole		
							Date and Time		Depth	Water Depth	TP101A	
							17/01/2024 11:30 17/01/2024 11:50		0.00 2.20	Dry		
							Project		Sakura, Wrexham		Equipment	
Client		Thermotrafic		Method		TP		Scale		1:20		
Project No		G24001	Level		31.29 mAOD	Orientation		90 degrees		Logged	FT	
Easting		337992.30	Northing		350283.10	Length		2.00		Checked	AP	
Termination Reason		Potential service encountered (concrete pipe).				Width		0.50				
Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks		Depth (Thickness)	Level (mAOD)	Legend	Description			Scale	Backfill	
1 ES 2 B	1.50 - 1.60 1.50 - 2.00 1.50	PID: 0.0ppmv		0.00	30.89		Soft brown slightly silty sandy CLAY with rare subangular fine to medium gravel of red brick fragments, concrete, sandstone and infrequent ceramic fragments. (TOPSOIL)			0.50		
				(0.40)			Firm to stiff yellowish brown to reddish brown slightly sandy gravelly CLAY with low cobble content. Gravel is fine to medium subrounded to angular of sandstone, mudstone, red brick, concrete, glass and ceramic fragments. Cobbles are subrounded to subangular of mudstone. (MADE GROUND)					
				0.40								
				(1.80)						1.00		
										1.50		
										2.00		
					29.09		End of Exploratory Hole at 2.20m			2.50		
										3.00		
										3.50		
										4.00		
Weather		Cold, dry					Water Strikes					
Shoring		None					Date and Time		Strike	Rising to	Time	Remarks
Stability		Stable										
Log presents Face A unless otherwise noted.												
Remarks Machine excavated trial pit from GL to 2.20m												

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EXPLORATORY HOLE PHOTOGRAPHS

Exploratory Hole

TP101A

Project	Sakura, Wrexham	Easting	337992.30	Equipment	JCB 3cx	Sheet 1 of 4
Client	Thermotrafic	Northing	350283.10	Method	TP	
Project No	G24001	Level	31.29 mAOD	Termination Reason	Potential service encountered (concrete pipe).	



Concrete utility at base



TP101A Face A

EXPLORATORY HOLE PHOTOGRAPHS

Exploratory Hole

TP101A

Project	Sakura, Wrexham	Easting	337992.30	Equipment	JCB 3cx	Sheet 2 of 4
Client	Thermotrafic	Northing	350283.10	Method	TP	
Project No	G24001	Level	31.29 mAOD	Termination Reason	Potential service encountered (concrete pipe).	



TP101A Face B (2)



TP101A Face C close up

		EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole
						TP101A
Project	Sakura, Wrexham	Easting	337992.30	Equipment	JCB 3cx	Sheet 3 of 4
Client	Thermotrafic	Northing	350283.10	Method	TP	
Project No	G24001	Level	31.29 mAOD	Termination Reason	Potential service encountered (concrete pipe).	



TP101A Face C



TP101A Face D close up

Project	Sakura, Wrexham	Easting	337992.30	Equipment	JCB 3cx	Sheet 4 of 4
Client	Thermotrafic	Northing	350283.10	Method	TP	
Project No	G24001	Level	31.29 mAOD	Termination Reason	Potential service encountered (concrete pipe).	



TP101A Face D



TP101A Spoil

		TRIAL PIT EXPLORATORY HOLE LOG					Exploratory Hole Progress by Time			Exploratory Hole		
							Date and Time		Depth	Water Depth	TP102	
							17/01/2024 08:55 17/01/2024 09:29		0.00 3.50	Dry		
Project	Sakura, Wrexham			Equipment	JCB 3cx			Sheet 1 of 1				
Client	Thermotrafic			Method	TP			Scale	1:20			
Project No	G24001	Level	31.51 mAOD	Orientation	90 degrees			Logged	FT			
Easting	338110.00	Northing	350321.40	Length	2.30			Checked	AP			
Termination Reason	Terminated at scheduled depth			Width	0.50							
Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks		Depth (Thickness)	Level (mAOD)	Legend	Description	Scale	Backfill			
1 ES	0.05 - 0.15 0.05	PID: 0.0ppmv		0.00 (0.30)	31.21		Soft light to dark brown slightly silty sandy CLAY with rare subangular fine to medium gravel of sandstone. (TOPSOIL)					
2 ES	0.40 - 0.60 0.40	PID: 0.0ppmv		0.30			Firm to stiff reddish brown mottled grey CLAY with infrequent pockets of fine to medium sand. (DEVENSIAN TILL)					
4 B	0.50 - 0.80	HV: P: 110kPa R: 16kPa		0.50			0.50m - 1.00m Rare subrounded coarse gravel of sandstone.					
8 D	0.50 - 0.80 0.50											
3 ES	1.00 - 1.20	HV: P: 106kPa R: 14kPa PID: 0.0ppmv		1.00								
5 B	1.00 - 1.30											
9 D	1.00 - 1.30 1.00 1.00											
10 D	1.50 - 1.70	HV: P: 106kPa R: 14kPa		1.50								
6 B	1.50 - 1.70 1.50											
11 D	2.00 - 2.50 2.00	HV: P: 112kPa R: 20kPa		(3.20)			2.00					
	2.50	HV: P: 110kPa R: 18kPa						2.50				
12 D	3.00 - 3.50	HV: P: 96kPa R: 16kPa		28.01			3.00					
7 B	3.00 - 3.50 3.00							2.90m - 3.50m Rootlets (1-2mm diameter) observed.				
							3.50					
							End of Exploratory Hole at 3.50m					
								4.00				
Weather	Cold, dry						Water Strikes					
Shoring	None						Date and Time	Strike	Rising to	Time	Remarks	
Stability	Stable											
Remarks Machine excavated trial pit from GL to 3.50m												

		EXPLORATORY HOLE PHOTOGRAPHS						Exploratory Hole
								TP102
Project	Sakura, Wrexham	Easting	338110.00	Equipment	JCB 3cx	Sheet 1 of 3		
Client	Thermotrafic	Northing	350321.40	Method	TP			
Project No	G24001	Level	31.51 mAOD	Termination Reason	Terminated at scheduled depth			



TP102 Face A



TP102 Face B

		EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole
						TP102
Project	Sakura, Wrexham	Easting	338110.00	Equipment	JCB 3cx	Sheet 2 of 3
Client	Thermotrafic	Northing	350321.40	Method	TP	
Project No	G24001	Level	31.51 mAOD	Termination Reason	Terminated at scheduled depth	



TP102 Face C



TP102 Face D

Project	Sakura, Wrexham	Easting	338110.00	Equipment	JCB 3cx
Client	Thermotrafic	Northing	350321.40	Method	TP
Project No	G24001	Level	31.51 mAOD	Termination Reason	Terminated at scheduled depth

Sheet 3 of 3



TP102 rootlets at 3.0m



TP102 Spoil

		TRIAL PIT EXPLORATORY HOLE LOG					Exploratory Hole Progress by Time			Exploratory Hole		
							Date and Time		Depth	Water Depth	TP103	
							17/01/2024 14:30 17/01/2024 14:47		0.00 0.70	Dry		
							Project		Sakura, Wrexham		Equipment	
Client		Thermotrafic		Method		TP		Scale		1:20		
Project No		G24001	Level	31.70 mAOD	Orientation		90 degrees		Logged		FT	
Easting		337998.40	Northing	350386.00	Length		2.00		Checked		AP	
Termination Reason		Water utility uncovered within pit.			Width		0.50					
Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks		Depth (Thickness)	Level (mAOD)	Legend	Description			Scale	Backfill	
1 ES	0.30 - 0.50			0.00	31.50		Soft brown slightly silty sandy CLAY with rare subangular fine to medium gravel of red brick fragments, concrete, sandstone and infrequent ceramic fragments. (TOPSOIL)					
2 B	0.50 - 0.70			(0.20)			Firm becoming stiff yellowish brown to reddish brown slightly sandy CLAY with low gravel content. Gravel is fine to medium subrounded to angular of sandstone, mudstone, red brick and rare ceramic fragments. (MADE GROUND)			0.50		
				(0.50)			0.69m - 0.70m Blue water pipe (diameter unknown) End of Exploratory Hole at 0.70m			1.00		
										1.50		
										2.00		
										2.50		
										3.00		
										3.50		
										4.00		
Weather		Cold, dry					Water Strikes					
Shoring		None					Date and Time		Strike	Rising to	Time	Remarks
Stability		Stable										
Remarks Machine excavated trial pit from GL to 0.70m												

EXPLORATORY HOLE PHOTOGRAPHS

Exploratory Hole

TP103

Project	Sakura, Wrexham	Easting	337998.40	Equipment	JCB 3cx
Client	Thermotrafic	Northing	350386.00	Method	TP
Project No	G24001	Level	31.70 mAOD	Termination Reason	Water utility uncovered within pit.

Sheet 1 of 1



TP103 Pit



TP103 utility and pit

		TRIAL PIT EXPLORATORY HOLE LOG				Exploratory Hole Progress by Time			Exploratory Hole		
						Date and Time		Depth	Water Depth	TP104	
						17/01/2024 12:48 17/01/2024 13:43		0.00 3.50	Dry		
Project	Sakura, Wrexham			Equipment	JCB 3cx			Sheet 1 of 1			
Client	Thermotrafic			Method	TP			Scale	1:20		
Project No	G24001	Level	31.39 mAOD	Orientation	90 degrees			Logged	FT		
Easting	337969.00	Northing	350326.80	Length	2.00			Checked	AP		
Termination Reason	Terminated at scheduled depth			Width	0.50						
Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks		Depth (Thickness)	Level (mAOD)	Legend	Description	Scale	Backfill		
				0.00 (0.25) 0.25	31.14		Soft brown slightly silty sandy CLAY with rare subangular fine to medium gravel of red brick fragments, concrete, sandstone and mudstone. (TOPSOIL)				
1 ES 2 B	0.50 - 0.70 0.50 0.50 0.60 - 0.80	HV: P: 30kPa R: 2kPa PID: 0.0ppmv					Soft to firm Yellowish brown to reddish brown and grey slightly sandy gravelly CLAY with low cobble content. Gravel is fine to coarse subrounded to angular of sandstone, mudstone, red brick, concrete and ceramic fragments. Cobbles are subrounded to subangular of red brick and concrete. (MADE GROUND)	0.50			
3 B	1.00 - 1.30 1.00	HV: P: 96kPa R: 4kPa						1.00			
4 ES	1.50 - 1.60 1.50	PID: 0.0ppmv						1.50			
5 B	2.00 - 2.30 2.00	HV: P: 70kPa R: 22kPa		(3.25)				2.00			
6 B	3.00 - 3.20 3.00	HV: P: 104kPa R: 12kPa						3.00			
7 B 8 ES	3.40 - 3.50 3.40 - 3.50 3.40	PID: 0.0ppmv			27.89		End of Exploratory Hole at 3.50m	3.50			
								4.00			
Weather	Cold, dry	Trial Pit Excavation Onsite Layout				Water Strikes					
Shoring	None					Date and Time	Strike	Rising to	Time	Remarks	
Stability	Stable										
Remarks Machine excavated trial pit from GL to 3.50m											

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EXPLORATORY HOLE PHOTOGRAPHS

Exploratory Hole

TP104

Project	Sakura, Wrexham	Easting	337969.00	Equipment	JCB 3cx
Client	Thermotrafic	Northing	350326.80	Method	TP
Project No	G24001	Level	31.39 mAOD	Termination Reason	Terminated at scheduled depth

Sheet 1 of 5



TP104 Face A close up



TP104 Face A



EXPLORATORY HOLE PHOTOGRAPHS

Exploratory Hole

TP104

Project	Sakura, Wrexham	Easting	337969.00	Equipment	JCB 3cx
Client	Thermotrafic	Northing	350326.80	Method	TP
Project No	G24001	Level	31.39 mAOD	Termination Reason	Terminated at scheduled depth

Sheet 2 of 5



TP104 Face B close up



TP104 Face B

Project	Sakura, Wrexham	Easting	337969.00	Equipment	JCB 3cx
Client	Thermotrafic	Northing	350326.80	Method	TP
Project No	G24001	Level	31.39 mAOD	Termination Reason	Terminated at scheduled depth



TP104 Face C close up



TP104 Face C

Project	Sakura, Wrexham	Easting	337969.00	Equipment	JCB 3cx
Client	Thermotrafic	Northing	350326.80	Method	TP
Project No	G24001	Level	31.39 mAOD	Termination Reason	Terminated at scheduled depth



TP104 Face D close up



TP104 Face D

Project	Sakura, Wrexham	Easting	337969.00	Equipment	JCB 3cx
Client	Thermotrafic	Northing	350326.80	Method	TP
Project No	G24001	Level	31.39 mAOD	Termination Reason	Terminated at scheduled depth



TP104 Spoil

		TRIAL PIT EXPLORATORY HOLE LOG				Exploratory Hole Progress by Time			Exploratory Hole		
						Date and Time		Depth	Water Depth	TP105	
						17/01/2024 15:25 17/01/2024 15:54		0.00 1.80	Dry		
Project	Sakura, Wrexham		Equipment	JCB 3cx		Sheet 1 of 1		Scale 1:20			
Client	Thermotrafic		Method	TP							
Project No	G24001	Level	32.52 mAOD	Orientation	90 degrees						
Easting	338020.00	Northing	350423.20	Length	2.00	Logged		FT			
Termination Reason	Potential service encountered (metal wire / cable).			Width	0.50	Checked		AP			
Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Legend	Description		Scale	Backfill		
2 B 1 ES	0.40 - 0.80 0.50 - 0.60 0.50	PID: 0.0ppmv	0.00 (0.20) 0.20 (0.10) 0.30	32.32 32.22		Soft brown slightly silty sandy CLAY with rare subangular fine to medium gravel of red brick fragments, concrete, sandstone and mudstone. (TOPSOIL)		0.50			
	Grey slightly sandy fine to medium subrounded to subangular GRAVEL of concrete and aggregate. Sand is fine to coarse. (MADE GROUND (type 1.sub base)) Soft to firm yellowish brown to reddish brown and grey slightly sandy gravelly CLAY with low cobble content. Gravel is fine to coarse subrounded to angular of sandstone, mudstone, red brick, concrete and ceramic fragments. Cobbles are subrounded to subangular of red brick and mudstone. (MADE GROUND)										
3 B	1.00 - 1.20	PID: 0.0ppmv	(1.50)			1.50m - 1.60m Two HDPE (hard plastic) fragments recovered.		1.00			
4 B 5 ES	1.50 - 1.60 1.50 - 1.80 1.50					1.75m - 1.80m Metal wire / cable (approximate 20mm diameter). End of Exploratory Hole at 1.80m		1.50			
	1.80	HV: P: 108kPa R: 30kPa		30.72				2.00			
								2.50			
								3.00			
								3.50			
								4.00			
Weather	Cold, dry					Water Strikes					
Shoring	None					Date and Time		Strike	Rising to	Time	Remarks
Stability	Stable										
Remarks Machine excavated trial pit from GL to 1.80m											

EXPLORATORY HOLE PHOTOGRAPHS

Exploratory Hole

TP105

Project	Sakura, Wrexham	Easting	338020.00	Equipment	JCB 3cx	Sheet 1 of 3
Client	Thermotrafic	Northing	350423.20	Method	TP	
Project No	G24001	Level	32.52 mAOD	Termination Reason	Potential service encountered (metal wire / cable).	



TP105 Face A



TP105 Face B

EXPLORATORY HOLE PHOTOGRAPHS

Exploratory Hole

TP105

Project	Sakura, Wrexham	Easting	338020.00	Equipment	JCB 3cx	Sheet 2 of 3
Client	Thermotrafic	Northing	350423.20	Method	TP	
Project No	G24001	Level	32.52 mAOD	Termination Reason	Potential service encountered (metal wire / cable).	



TP105 Face C



TP105 Face D

		EXPLORATORY HOLE PHOTOGRAPHS		Exploratory Hole	
				TP105	
Project	Sakura, Wrexham	Easting	338020.00	Equipment	JCB 3cx
Client	Thermotrafic	Northing	350423.20	Method	TP
Project No	G24001	Level	32.52 mAOD	Termination Reason	Potential service encountered (metal wire / cable).

Sheet 3 of 3



TP105 Spoil



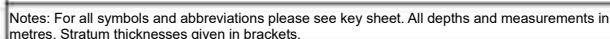
TP105 wire at base

		Consulting Geotechnical, Geo-Environmental Engineers & Site Investigation Contractors		Cardiff Office 10 South Quay Blackwells Road Penarth Cardiff CF23 5TB		Exeter Office The Bute Gate Lisians Lodge Barnstaple Exeter EX6 7DF		Plymouth Office Technique Angels Terrace North Hill Plymouth PL3 8LL		Borehole No. BH202 Sheet 1 of 3																																																																																																																																																														
Project Name Project Sakura				Project No. TF-24-148		Date 25/04/2024 to 29/04/2024				Hole Type CP																																																																																																																																																														
Client Jubb				Co-ords E: 337975.01 N: 350398.71 L: 32.03		Water Strike Details Depth Strike After 20 mins Remarks 3.00 1.80 1 13.50 6.00 1				Logged By KB																																																																																																																																																														
Contractor LSI			Plant Used Dando 2000						Approved By		Scale 1:50																																																																																																																																																													
<table><tr><th colspan="4">Samples and Results</th><th rowspan="2">Depth, (Thickness)</th><th rowspan="2">Level</th><th rowspan="2">Stratum Description</th><th rowspan="2">Legend</th><th rowspan="2">Well</th></tr><tr><th>Results</th><th>Type</th><th>Depth</th><th>Casing Water</th></tr><tr><td></td><td>B</td><td>0.00 - 0.30</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>B</td><td>0.30 - 1.20</td><td></td><td></td><td>(0.30) 0.30 (0.20) 0.50</td><td>31.73 31.53</td><td>Grass over soft dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments and plastics. (Topsoil)</td><td></td><td></td><td></td><td></td></tr><tr><td>N=15 (2,2/3,4,4,4)</td><td>B D SPT(S)</td><td>1.20 1.20 - 1.65 1.20</td><td></td><td></td><td>1 (1.50)</td><td></td><td>Medium dense grey very sandy slightly clayey angular fine to coarse GRAVEL. Sand is coarse. (Made Ground) Firm brown gravelly slightly sandy CLAY. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments. (Made Ground)</td><td></td><td></td><td></td><td></td></tr><tr><td>N=22 (2,3/4,5,7,6)</td><td>B D SPT(S)</td><td>2.00 2.00 - 2.45 2.00</td><td></td><td></td><td>2 2.00</td><td>30.03</td><td>Firm to stiff brown mottled grey slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)</td><td></td><td></td><td></td><td></td></tr><tr><td>N=21 (3,3/4,5,6,6)</td><td>B D SPT(S)</td><td>3.00 3.00 - 3.45 3.00</td><td></td><td></td><td>3 (3.00)</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>N=18 (3,3/4,4,5,5)</td><td>B D SPT(S)</td><td>4.00 4.00 - 4.45 4.00</td><td></td><td></td><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>blows=20 recovery=89%</td><td>UT</td><td>5.00 - 5.45</td><td></td><td></td><td>5 5.00</td><td>27.03</td><td>Firm to stiff brown slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>D</td><td>5.50</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>N=7 (1,2/2,2,1,1)</td><td>B D SPT(S)</td><td>6.00 6.00 - 6.45 6.00</td><td></td><td></td><td>6 7</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>blows=15 recovery=100%</td><td>UT</td><td>7.50 - 7.95</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>B</td><td>8.00</td><td></td><td></td><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>N=6 (1,2/2,2,1,1)</td><td>B D SPT(S)</td><td>9.00 9.00 - 9.45 9.00</td><td></td><td></td><td>9 (8.50)</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>												Samples and Results				Depth, (Thickness)	Level	Stratum Description	Legend	Well	Results	Type	Depth	Casing Water		B	0.00 - 0.30											B	0.30 - 1.20			(0.30) 0.30 (0.20) 0.50	31.73 31.53	Grass over soft dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments and plastics. (Topsoil)					N=15 (2,2/3,4,4,4)	B D SPT(S)	1.20 1.20 - 1.65 1.20			1 (1.50)		Medium dense grey very sandy slightly clayey angular fine to coarse GRAVEL. Sand is coarse. (Made Ground) Firm brown gravelly slightly sandy CLAY. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments. (Made Ground)					N=22 (2,3/4,5,7,6)	B D SPT(S)	2.00 2.00 - 2.45 2.00			2 2.00	30.03	Firm to stiff brown mottled grey slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)					N=21 (3,3/4,5,6,6)	B D SPT(S)	3.00 3.00 - 3.45 3.00			3 (3.00)							N=18 (3,3/4,4,5,5)	B D SPT(S)	4.00 4.00 - 4.45 4.00			4							blows=20 recovery=89%	UT	5.00 - 5.45			5 5.00	27.03	Firm to stiff brown slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)						D	5.50										N=7 (1,2/2,2,1,1)	B D SPT(S)	6.00 6.00 - 6.45 6.00			6 7							blows=15 recovery=100%	UT	7.50 - 7.95											B	8.00			8							N=6 (1,2/2,2,1,1)	B D SPT(S)	9.00 9.00 - 9.45 9.00			9 (8.50)						
Samples and Results				Depth, (Thickness)	Level	Stratum Description	Legend	Well																																																																																																																																																																
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N=15 (2,2/3,4,4,4)	B D SPT(S)	1.20 1.20 - 1.65 1.20			1 (1.50)		Medium dense grey very sandy slightly clayey angular fine to coarse GRAVEL. Sand is coarse. (Made Ground) Firm brown gravelly slightly sandy CLAY. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments. (Made Ground)																																																																																																																																																																	
N=22 (2,3/4,5,7,6)	B D SPT(S)	2.00 2.00 - 2.45 2.00			2 2.00	30.03	Firm to stiff brown mottled grey slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)																																																																																																																																																																	
N=21 (3,3/4,5,6,6)	B D SPT(S)	3.00 3.00 - 3.45 3.00			3 (3.00)																																																																																																																																																																			
N=18 (3,3/4,4,5,5)	B D SPT(S)	4.00 4.00 - 4.45 4.00			4																																																																																																																																																																			
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N=6 (1,2/2,2,1,1)	B D SPT(S)	9.00 9.00 - 9.45 9.00			9 (8.50)																																																																																																																																																																			
Chiselling Details			Remarks				Borehole Diameter																																																																																																																																																																	
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		Consulting Geotechnical, Geo-Environmental Engineers & Site Investigation Contractors		Cardiff Office 10 Stryker Court Riverside Road Cardiff CF23 5TB		Exeter Office The Gate Gate Lilford Lodge Barnstaple Devon EX6 7DF		Plymouth Office Technique Kingsway, Plymouth North Hill Plymouth PL3 8LL		Borehole No. BH202 Sheet 3 of 3			
Project Name Project Sakura				Project No. TF-24-148		Date 25/04/2024 to 29/04/2024				Hole Type CP			
Client Jubb				Co-ords E: 337975.01 N: 350398.71 L: 32.03		Water Strike Details Depth Strike After 20 mins Remarks 3.00 1.80 1 13.50 6.00 1				Logged By KB			
Contractor LSI			Plant Used Dando 2000						Approved By		Scale 1:50		
Samples and Results													
Results		Type	Depth	Casing	Water	Depth, (Thickness)	Level	Stratum Description				Legend	Well
Firm to stiff brown very sandy slightly gravelly silty CLAY with occasional lenses of fine to medium SAND. Sand is fine. Gravels are subangular to subrounded fine. (Till, Devensian)													
N=16 (2,3/3,4,4,5)		B D SPT(S)	21.00 21.00 - 21.95 21.00			21 (6.80) 22							
N=19 (2,2/3,5,5,6)		B D SPT(S)	22.50 22.50 - 22.95 22.50			23							
N=16 (2,3/3,4,4,5)		B D SPT(S)	24.00 24.00 - 24.45 24.00			24							
N=16 (2,2/3,5,3,5)		SPT(S)	25.00			25 25.00 7.03		End of Borehole at 25.00m					
						26							
						27							
						28							
						29							
Chiselling Details			Remarks					Borehole Diameter					
Depth From	Depth To	Time						Base Depth	Diameter				
Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.													

		Consulting Geotechnical, Geo-Environmental Engineers & Site Investigation Contractors		Cardiff Office 10 South Quay Riverside Road Cardiff CF10 1TB		Exeter Office The Gate Barn Larkin 1, Larkin Sumner Exeter EX4 7DF		Plymouth Office Technique Kingsway, Plymouth North Hill Plymouth PL3 8LL		Borehole No. BH203 Sheet 1 of 3		
Project Name Project Sakura				Project No. TF-24-148		Date 22/04/2024 to 29/04/2024				Hole Type CP		
Client Jubb				Co-ords E: 337984.66 N: 350382.79 L: 31.77		Water Strike Details Depth Strike After 20 mins Remarks 5.20 0.00 seepage 20.80 0.00 Artisan strike				Logged By KB		
Contractor LSI			Plant Used Dando 2000						Approved By		Scale 1:50	
Samples and Results												
Results		Type	Depth	Casing Water	Depth, (Thickness)	Level	Stratum Description				Legend	Well
		B	0.10 - 1.00		(0.10) 0.10	31.67	Grass over soft dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithogies including bick fragments and plastics. (Topsoil) Firm brown gravelly slightly sandy CLAY with a medium cobble content. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithogies including bick fragments. Cobbles are concrete blocks up to 280x200x180mm (Made Ground)					
50 (25 for 0mm/50 for 0mm)		B SPT(S)	1.20 - 1.65 1.20		1							
N=13 (2,3/2,3,3,5)		D SPT(S)	2.00 - 2.45 2.00		2	(3.90)						
50 (25 for 75mm/50 for 20mm)		B SPT(S)	3.00 - 3.45 3.00		3							
N=16 (3,4/4,4,4,4)		D SPT(S)	4.00 - 4.45 4.00		4	4.00 27.77	Firm to stiff brown locally mottled grey slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)					
N=13 (2,2/2,3,4,4)		D SPT(S)	5.50 - 5.95 5.50		5							
blows=47 recovery=100%		UT	7.00 - 7.45		7							
		D	7.50		8							
N=12 (2,2/2,2,4,4)		B D SPT(S)	8.50 - 8.95 8.50 - 9.00 8.50		9							
blows=39		UT	10.00 - 10.45		(11.00)							
Chiselling Details			Remarks				Borehole Diameter					
Depth From	Depth To	Time					Base Depth	Diameter				
Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.												

		Consulting Geotechnical, Geo-Environmental Engineers & Site Investigation Contractors		Credit Office 3rd Floor Court Riverside Road Plymouth PL4 8JG 01752 1551		Exeter Office The Gate Gate Larkin Lodge Barnstaple Devon PL6 8PP 01392 7561		Perrinmouth Office Perrinmouth Kingsway, Devonport Plymouth PL6 8EL 01752 4111		Borehole No. BH203 Sheet 2 of 3		
Project Name Project Sakura				Project No. TF-24-148		Date 22/04/2024 to 29/04/2024				Hole Type CP		
Client Jubb				Co-ords E: 337984.66 N: 350382.79 L: 31.77		Water Strike Details Depth Strike After 20 mins Remarks 5.20 0.00 seepage 20.80 0.00 Artisan strike				Logged By KB		
Contractor LSI			Plant Used Dando 2000						Approved By		Scale 1:50	
Samples and Results												
Results recovery=89%	Type	Depth	Casing	Water	Depth, (Thickness)	Level	Stratum Description				Legend	Well
	D	10.50					Firm to stiff brown locally mottled grey slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)					
N=15 (2,2/3,3,4,5)	B D SPT(S)	11.50 - 11.95 11.50 - 12.00 11.50			11							
blows=29 recovery=0%	UT	13.00 - 13.45			12							
N=22 (2,2/4,4,7,7)	B D SPT(S)	14.50 - 14.95 14.50 - 15.00 14.50			13							
blows=62 recovery=100%	UT	16.00 - 16.45			14							
N=26 (2,4/4,5,8,9)	B D SPT(S)	17.50 - 17.95 17.50 - 18.00 17.50			15	15.00 16.77	Firm to stiff brown very sandy slightly gravelly silty CLAY with occasional lenses of fine to medium SAND. Sand is fine. Gravels are subangular to subrounded fine. (Till, Devensian)					
blows=75 recovery=56%	UT	19.00 - 19.45			16							
	D	19.50			17							
					18	(5.80)						
					19							
Chiselling Details			Remarks				Borehole Diameter					
Depth From	Depth To	Time					Base Depth		Diameter			
Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.												



		Consulting Geotechnical, Geo-Environmental Engineers & Site Investigation Contractors		Credit Office 3rd Floor Court Riverside House Riverside Cardiff CF23 5TB		Crest Office The State Bank Llanelli Llanelli Swansea Swansea SA8 1DP		Perryman Office Technique Anglo-Scottish Work Road Plymouth PL4 8AL		Borehole No. BH204 Sheet 1 of 3																																																																																																																																																																																																																																					
Project Name Project Sakura				Project No. TF-24-148		Date 29/04/2024 to 03/05/2024				Hole Type CP																																																																																																																																																																																																																																					
Client Jubb				Co-ords E: 337962.66 N: 350350.13 L: 31.17		Water Strike Details Depth Strike After 20 mins Remarks 24.50 0.00 1				Logged By KB																																																																																																																																																																																																																																					
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Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments. (Made Ground)</td><td></td><td></td></tr><tr><td>N=15 (2,2/2,4,4,5)</td><td>D SPT(S)</td><td>1.20 - 1.65 1.20</td><td>1.20</td><td>1</td><td>0.70</td><td></td><td></td><td></td><td>Firm brown gravelly slightly sandy CLAY with a medium cobble content. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments. Cobbles are concrete blocks up to 280x200x180mm (Made Ground)</td><td></td><td></td></tr><tr><td>N=15 (1,2/3,3,4,5)</td><td>B SPT(S)</td><td>2.00 - 2.45 2.00</td><td>1.50</td><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>(3.50)</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>N=15 (2,1/3,3,4,5)</td><td>D SPT(S)</td><td>3.00 - 3.45 3.00</td><td>3.00</td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>N=19 (2,2/4,4,5,6)</td><td>D SPT(S)</td><td>4.00 - 4.45 4.00</td><td>4.00</td><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>B</td><td>4.50 - 5.00</td><td></td><td></td><td>4.20</td><td>26.97</td><td></td><td></td><td>Firm brown locally mottled grey slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)</td><td></td><td></td></tr><tr><td>blows=47 recovery=50%</td><td>UT</td><td>5.00 - 5.45</td><td></td><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>D</td><td>5.50</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>N=19 (2,2/4,4,5,6)</td><td>B SPT(S)</td><td>6.00 - 6.45 6.00</td><td>4.50</td><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>(4.80)</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>blows=55 recovery=100%</td><td>UT</td><td>7.50 - 7.95</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>D</td><td>8.00</td><td></td><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>N=16 (2,2/3,3,4,6)</td><td>D SPT(S)</td><td>9.00 - 9.45 9.00</td><td>4.50</td><td>9</td><td>9.00</td><td>22.17</td><td></td><td></td><td>Firm to stiff brown very sandy slightly gravelly silty CLAY with occasional lenses of fine to medium SAND. Sand is fine. Gravels are subangular to subrounded fine. (Till, Devensian)</td><td></td><td></td></tr></table>												Samples and Results				Depth, (Thickness)		Level		Stratum Description		Legend	Well	Results	Type	Depth	Casing Water										B	0.00 - 0.30			(0.30)				Grass over soft dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments and plastics. (Topsoil)				B	0.30 - 0.70			0.30	30.87							B	0.70 - 1.20			(0.40)	30.47			Firm brown gravelly slightly sandy CLAY. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments. (Made Ground)			N=15 (2,2/2,4,4,5)	D SPT(S)	1.20 - 1.65 1.20	1.20	1	0.70				Firm brown gravelly slightly sandy CLAY with a medium cobble content. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments. Cobbles are concrete blocks up to 280x200x180mm (Made Ground)			N=15 (1,2/3,3,4,5)	B SPT(S)	2.00 - 2.45 2.00	1.50	2													(3.50)							N=15 (2,1/3,3,4,5)	D SPT(S)	3.00 - 3.45 3.00	3.00	3								N=19 (2,2/4,4,5,6)	D SPT(S)	4.00 - 4.45 4.00	4.00	4									B	4.50 - 5.00			4.20	26.97			Firm brown locally mottled grey slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)			blows=47 recovery=50%	UT	5.00 - 5.45		5									D	5.50										N=19 (2,2/4,4,5,6)	B SPT(S)	6.00 - 6.45 6.00	4.50	6													(4.80)											7								blows=55 recovery=100%	UT	7.50 - 7.95											D	8.00		8								N=16 (2,2/3,3,4,6)	D SPT(S)	9.00 - 9.45 9.00	4.50	9	9.00	22.17			Firm to stiff brown very sandy slightly gravelly silty CLAY with occasional lenses of fine to medium SAND. Sand is fine. Gravels are subangular to subrounded fine. (Till, Devensian)		
Samples and Results				Depth, (Thickness)		Level		Stratum Description		Legend	Well																																																																																																																																																																																																																																				
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	B	0.00 - 0.30			(0.30)				Grass over soft dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments and plastics. (Topsoil)																																																																																																																																																																																																																																						
	B	0.30 - 0.70			0.30	30.87																																																																																																																																																																																																																																									
	B	0.70 - 1.20			(0.40)	30.47			Firm brown gravelly slightly sandy CLAY. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments. (Made Ground)																																																																																																																																																																																																																																						
N=15 (2,2/2,4,4,5)	D SPT(S)	1.20 - 1.65 1.20	1.20	1	0.70				Firm brown gravelly slightly sandy CLAY with a medium cobble content. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments. Cobbles are concrete blocks up to 280x200x180mm (Made Ground)																																																																																																																																																																																																																																						
N=15 (1,2/3,3,4,5)	B SPT(S)	2.00 - 2.45 2.00	1.50	2																																																																																																																																																																																																																																											
					(3.50)																																																																																																																																																																																																																																										
N=15 (2,1/3,3,4,5)	D SPT(S)	3.00 - 3.45 3.00	3.00	3																																																																																																																																																																																																																																											
N=19 (2,2/4,4,5,6)	D SPT(S)	4.00 - 4.45 4.00	4.00	4																																																																																																																																																																																																																																											
	B	4.50 - 5.00			4.20	26.97			Firm brown locally mottled grey slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)																																																																																																																																																																																																																																						
blows=47 recovery=50%	UT	5.00 - 5.45		5																																																																																																																																																																																																																																											
	D	5.50																																																																																																																																																																																																																																													
N=19 (2,2/4,4,5,6)	B SPT(S)	6.00 - 6.45 6.00	4.50	6																																																																																																																																																																																																																																											
					(4.80)																																																																																																																																																																																																																																										
				7																																																																																																																																																																																																																																											
blows=55 recovery=100%	UT	7.50 - 7.95																																																																																																																																																																																																																																													
	D	8.00		8																																																																																																																																																																																																																																											
N=16 (2,2/3,3,4,6)	D SPT(S)	9.00 - 9.45 9.00	4.50	9	9.00	22.17			Firm to stiff brown very sandy slightly gravelly silty CLAY with occasional lenses of fine to medium SAND. Sand is fine. Gravels are subangular to subrounded fine. (Till, Devensian)																																																																																																																																																																																																																																						
Chiselling Details			Remarks					Borehole Diameter																																																																																																																																																																																																																																							
Depth From	Depth To	Time						Base Depth	Diameter																																																																																																																																																																																																																																						
Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.																																																																																																																																																																																																																																															

 Consulting Geotechnical, Geo-Environmental Engineers & Site Investigation Contractors Phone: 011 882 8080 Email: info@terrafirma.co.za			Credit Office 3rd Floor Court Riverside Road Pretoria 0001 0720 1556			Cape Office The State Bank Lionel Louw Summit Johannesburg 0001 086 700			Pretoria Office Technique Kingdoms Development North Side Pretoria 0001 083 811			Borehole No. BH204 Sheet 2 of 3											
Project Name Project Sakura					Project No. TF-24-148		Date 29/04/2024 to 03/05/2024				Hole Type CP												
Client Jubb					Co-ords E: 337962.66 N: 350350.13 L: 31.17		Water Strike Details Depth Strike After 20 mins Remarks 24.50 0.00 1				Logged By KB												
Contractor LSI			Plant Used Dando 2000								Approved By												
												Scale 1:50											
Samples and Results														Depth, (Thickness)		Level		Stratum Description		Legend		Well	
Results		Type	Depth	Casing	Water																		
blows=40 recovery=100%		UT	10.50 - 10.95																				
		D	11.00			11		(4.00)															
N=16 (2,1/3,2,5,6)		D SPT(S)	12.00 - 12.45 12.00	13.50		12																	
						13		13.00		18.17													
blows=31 recovery=100%		UT	13.50 - 13.95																				
		D	14.00			14																	
N=15 (2,3/4,3,4,4)		D SPT(S)	15.00 - 15.45 15.00	15.00		15																	
						16																	
blows=40 recovery=0%		UT	16.50 - 16.95																				
						17																	
N=14 (2,3/4,3,4,3)		D SPT(S)	18.00 - 18.45 18.00	18.00		18																	
						19																	
blows=39 recovery=0%		B UT	19.50 - 19.95 19.50 - 21.00			19.50		11.67															
Chiselling Details					Remarks					Borehole Diameter													
Depth From		Depth To		Time						Base Depth		Diameter											
Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.																							

		Consulting Geotechnical, Geo-Environmental Engineers & Site Investigation Contractors		Cardiff Office 10 South Quay St David's Road Cardiff CF23 5TB		Exeter Office The Mill Gate Lifton 1 mile Somerset Tavistock PL9 7DF		Plymouth Office Technique Kingsway, Plymouth North Devon Plymouth PL3 8LL		Borehole No. BH204 Sheet 3 of 3		
Project Name Project Sakura				Project No. TF-24-148		Date 29/04/2024 to 03/05/2024				Hole Type CP		
Client Jubb				Co-ords E: 337962.66 N: 350350.13 L: 31.17		Water Strike Details Depth Strike After 20 mins Remarks 24.50 0.00 1				Logged By KB		
Contractor LSI			Plant Used Dando 2000						Approved By		Scale 1:50	
Samples and Results												
Results		Type	Depth	Casing	Water	Depth, (Thickness)	Level	Stratum Description			Legend	Well
N=12 (2,1/3,3,3,3)		D SPT(S)	21.00 - 21.45 21.00	21.00	5.20	21	(2.10)	Loose to medium dense brown very silty fine to medium SAND. (Till, Devensian)				
blows=31 recovery=0%		UT	22.50 - 22.95			22	21.60	9.57 Very stiff brown slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)				
N=39 (6,7/8,9,10,12)		D SPT(S)	24.00 - 24.45 24.00	21.00	4.60	24	(2.85)					
						24	24.45	6.72 End of Borehole at 24.45m				
						25						
						26						
						27						
						28						
						29						
DRAFT												
Chiselling Details			Remarks						Borehole Diameter			
Depth From	Depth To	Time							Base Depth	Diameter		
Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.												

		Consulting Geotechnical, Geo-Environmental Engineers & Site Investigation Contractors		Cardiff Office 10 South Quay Roaldmarch Road Cardiff CF10 1TB		Easter Office The Gate Barn Llanelli 10 miles Swansea SA6 7DF		Perryman Office Technique Angrove Terrace North Stow Perryman PO2 8L		Borehole No. BH205 Sheet 1 of 1		
Project Name Project Sakura				Project No. TF-24-148		Date 25/04/2024 to 25/04/2024				Hole Type CP		
Client Jubb				Co-ords E: 338123.66 N: 350411.72 L: 32.52		Water Strike Details Depth Strike After 20 mins Remarks 7.00 6.80 1				Logged By KB		
Contractor LSI			Plant Used Dando 2000						Approved By		Scale 1:50	
Samples and Results												
Results	Type	Depth	Casing	Water	Depth, (Thickness)	Level	Stratum Description				Legend	Well
	B	0.04 - 0.40			(0.10)	32.42	Grass over soft dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments and plastics. (Topsoil) Firm brown gravelly slightly sandy CLAY. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithologies including bick fragments. (Made Ground) Firm to stiff brown locally mottled grey slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)					
	B	0.40 - 1.20			(0.10) (0.30) 0.40	32.12						
blows=20 recovery=40%	UT	1.20 - 1.65			1							
	D	1.70										
N=12 (2,2/2,3,3,4)	B D SPT(S)	2.00 2.00 - 2.45 2.00	1.90		2							
blows=25 recovery=89%	UT	3.00 - 3.45			3							
	D	3.50										
N=13 (2,2/2,3,4,4)	B D SPT(S)	4.00 4.00 - 4.45 4.00	3.90		4							
blows=22 recovery=40%	UT	5.00 - 5.45			5							
	D	5.50										
N=14 (2,2/2,4,4,4)	B D SPT(S)	6.00 6.00 - 6.45 6.00	5.90		6	6.00 26.52	Firm to stiff brown very sandy slightly gravelly silty CLAY with occasional lenses of fine to medium SAND. Sand is fine. Gravels are subangular to subrounded fine. (Till, Devensian)					
					(1.50)	7						
N=14 (2,3/4,2,4,4)	D SPT(S)	7.50 - 7.95 7.50	7.40	6.8	7.50	25.02	End of Borehole at 7.50m					
					8							
					9							
Chiselling Details			Remarks				Borehole Diameter					
Depth From	Depth To	Time					Base Depth		Diameter			
							7.40		200			
Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.												

		Consulting Geotechnical, Geo-Environmental Engineers & Site Investigation Contractors		Credit Office 3rd Floor Court Riverside Road Plymouth PL4 8JG 01752 1551		Exeter Office The Gate Gate Larkin Lodge Barnstaple EX11 1JF 01392 1551		Plymouth Office Technique Kingsway, Plymouth PL4 8JG 01752 1551		Borehole No. BH201 Sheet 1 of 3		
Project Name Project Sakura				Project No. TF-24-148		Date 01/05/2024 to 07/05/2024				Hole Type CP		
Client Jubb				Co-ords E: 337977.74 N: 350433.61 L: 31.90		Water Strike Details Depth Strike After 20 mins Remarks 24.50 0.00 1				Logged By KB		
Contractor LSI			Plant Used Dando 2000						Approved By		Scale 1:50	
Samples and Results												
Results		Type	Depth	Casing	Water	Depth, (Thickness)	Level	Stratum Description			Legend	Well
		B	0.20 - 1.20			(0.30) 0.30	31.60	Grass over soft dark brown sandy gravelly CLAY with abundant rootlets. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithogies including bick fragments and plastics. (Topsoil) Firm brown gravelly slightly sandy CLAY with a medium cobble content. Sand is fine to coarse. Gravels are subangular to subrounded fine to medium of mixed lithogies including bick fragments. Cobbles are concrete blocks up to 280x200x180mm (Made Ground)				
N=12 (2,3/3,3,3,3)		SPT(S)	1.20	1.20		1						
		D	1.50 - 1.65									
N=15 (3,3/3,4,4,4)		D SPT(S)	2.00 - 2.45 2.00	1.50		2	(3.60)					
N=16 (4,4/4,4,4,4)		D SPT(S)	3.00 - 3.45 3.00	3.00		3						
N=19 (4,4/4,5,5,5)		D D SPT(S)	4.00 - 4.45 4.00 - 4.45 4.00	3.00		4	3.90 28.00	Soft to firm brown locally mottled grey slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)				
blows=19 recovery=100%		UT	5.00 - 5.45			5						
		B	5.50									
N=12 (3,3/3,3,3,3)		D SPT(S)	6.00 - 6.45 6.00	4.50		6						
						7						
blows=23 recovery=100%		UT	7.50 - 7.95									
		B	8.00			8						
N=12 (2,2/3,3,3,3)		B D SPT(S)	9.00 9.00 - 9.45 9.00	4.50		9						
Chiselling Details			Remarks					Borehole Diameter				
Depth From	Depth To	Time						Base Depth	Diameter			
Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.												

		Consulting Geotechnical, Geo-Environmental Engineers & Site Investigation Contractors		Credit Office 3rd Floor Court Riverside Road Plymouth PL4 8JH 01752 1551		Exeter Office The Gate Gate Livery 1, Livery Sumner Exeter EX4 7DF		Plymouth Office Plymouth Kingsway, Plymouth North Quay Plymouth PL4 8LL		Borehole No. BH201 Sheet 2 of 3										
Project Name Project Sakura				Project No. TF-24-148		Date 01/05/2024 to 07/05/2024				Hole Type CP										
Client Jubb				Co-ords E: 337977.74 N: 350433.61 L: 31.90		Water Strike Details Depth Strike After 20 mins Remarks 24.50 0.00 1				Logged By KB										
Contractor LSI			Plant Used Dando 2000						Approved By											
											Scale 1:50									
Samples and Results											Depth, (Thickness)		Level		Stratum Description		Legend		Well	
Results		Type	Depth	Casing	Water															
blows=14 recovery=0%		UT	10.50 - 10.95																	
		B D	11.00 11.00 - 11.45																	
N=11 (2,2/2,3,3,3)		D SPT(S)	12.00 - 12.45 12.00	4.50																
blows=17 recovery=100%		UT	13.50 - 13.95																	
		D	14.00																	
N=12 (3,3/3,3,3,3)		B D SPT(S)	15.00 15.00 - 15.45 15.00	4.50																
blows=16 recovery=100%		UT	16.50 - 16.95																	
		D	17.00																	
N=20 (3,3/5,5,5,5)		D SPT(S)	18.00 - 18.45 18.00	18.00																
blows=24 recovery=100%		UT	19.50 - 19.95																	
		D	20.00																	
Chiselling Details				Remarks								Borehole Diameter								
Depth From		Depth To		Time										Base Depth		Diameter				
Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.																				

		Consulting Geotechnical, Geo-Environmental Engineers & Site Investigation Contractors		Credit Office 3rd Floor Court Riverside Road Plymouth PL4 8JG 01752 1531		Exeter Office The Gate Gate Livery 1, Livery Sumner Exeter EX4 1DP		Plymouth Office Technique Angels Terrace North Quay Plymouth PL3 8LL		Borehole No. BH201 Sheet 3 of 3		
Project Name Project Sakura				Project No. TF-24-148		Date 01/05/2024 to 07/05/2024				Hole Type CP		
Client Jubb				Co-ords E: 337977.74 N: 350433.61 L: 31.90		Water Strike Details Depth Strike After 20 mins Remarks 24.50 0.00 1				Logged By KB		
Contractor LSI			Plant Used Dando 2000						Approved By		Scale 1:50	
Samples and Results												
Results	Type	Depth	Casing	Water	Depth, (Thickness)	Level	Stratum Description				Legend	Well
N=18 (5,3/4,4,5,5)	D SPT(S)	21.00 - 21.45 21.00	19.50		21		Soft to firm brown locally mottled grey slightly gravelly silty CLAY. Gravels are subangular to subrounded fine. (Till, Devensian)					
N=15 (3,3/4,3,4,4)	D SPT(S)	22.50 - 22.95 22.50	22.50	3.00	22							
	B	23.00 - 24.00			23	23.00 8.90 (1.00)	Loose to medium dense brownish grey very silty fine to medium SAND. (Till, Devensian)					
N=22 (2,4/5,5,6,6)	D SPT(S)	24.00 - 24.45 24.00	24.00	0.00	24	24.00 7.90 (1.00)	Soft brown very sandy SILT. (Till, Devensian)					
					25	25.00 6.90	End of Borehole at 25.00m					
					26							
					27							
					28							
					29							
Chiselling Details			Remarks				Borehole Diameter					
Depth From	Depth To	Time					Base Depth		Diameter			
Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.												

Appendix D – Geotechnical and Contamination Test Results



Laboratory Report



Contract Number: 70925

Client Ref: **G24001**

Client PO:

Date Received: **29-01-2024**

Date Completed: **08-02-2024**

Report Date: **08-02-2024**

Client: **Jackson Drilling Holdings Ltd**

This report has been checked and approved by:

Contract Title: **Sakura, Wrexham**

For the attention of: **Adam Putt**

Brendan Evans
Office Administrator

Description	Qty
Moisture Content BS 1377:1990 - Part 2 : 3.2 - * UKAS	17
4 Point Liquid & Plastic Limit BS 1377:1990 - Part 2 : 4.3 & 5.3 - * UKAS	10
PSD Wet Sieve method BS 1377:1990 - Part 2 : 9.2 - * UKAS	4
Dry Den/MC (2.5kg Rammer Method 1 litre mould/CBR Mould) BS 1377:1990 - Part 4 : 3.4 - * UKAS	2
One-dimensional Consolidation 75mm or 50mm diameter specimens (up to 5 stages/days) BS 1377:1990 - Part 5 : 3 - * UKAS	3
Quick Undrained Triaxial Compression Test - Multi-stage Loading of a single specimen (100mm diameter) BS 1377:1990 - Part 7 : 9 - * UKAS	5
Disposal of samples for job	1

Notes: Observations and Interpretations are outside the UKAS Accreditation

* - denotes test included in laboratory scope of accreditation

- denotes test carried out by approved contractor

@ - denotes non accredited tests

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 test report/certificate shall not be reproduced except in full, without the approval of GEO Site & Testing Services Ltd. Any opinions or interpretations stated - within this report/certificate are excluded from the laboratories UKAS accreditation.

Approved Signatories:

Brendan Evans (Office Administrator) - Darren Bourne (Quality Senior Technician) - Paul Evans (Director)

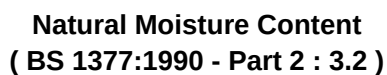
Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager)

Wayne Honey (Human Resources/ Health and Safety Manager)

GEO Site & Testing Services Ltd

Unit 3-4 Heol Aur, Dafen Ind Est, Llanelli, Carmarthenshire SA14 8QN

Tel: 01554 784 040 Fax: 01554 784 040 info@gstl.co.uk https://gstl.co.uk



Contract Number

70925

Project Name

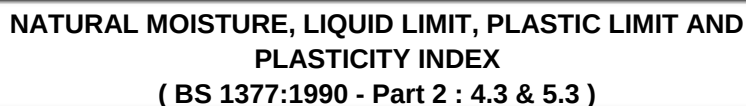
Sakura, Wrexham

Date Tested

06/02/2024

Operator

Clayton Jenkins



70925

Sakura, Wrexham

06/02/2024

DESCRIPTIONS

Clayton Jenkins

**NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND
PLASTICITY INDEX
(BS 1377:1990 - Part 2 : 4.3 & 5.3)**

Contract Number

70925

Project Name

Sakura, Wrexham

Date Tested

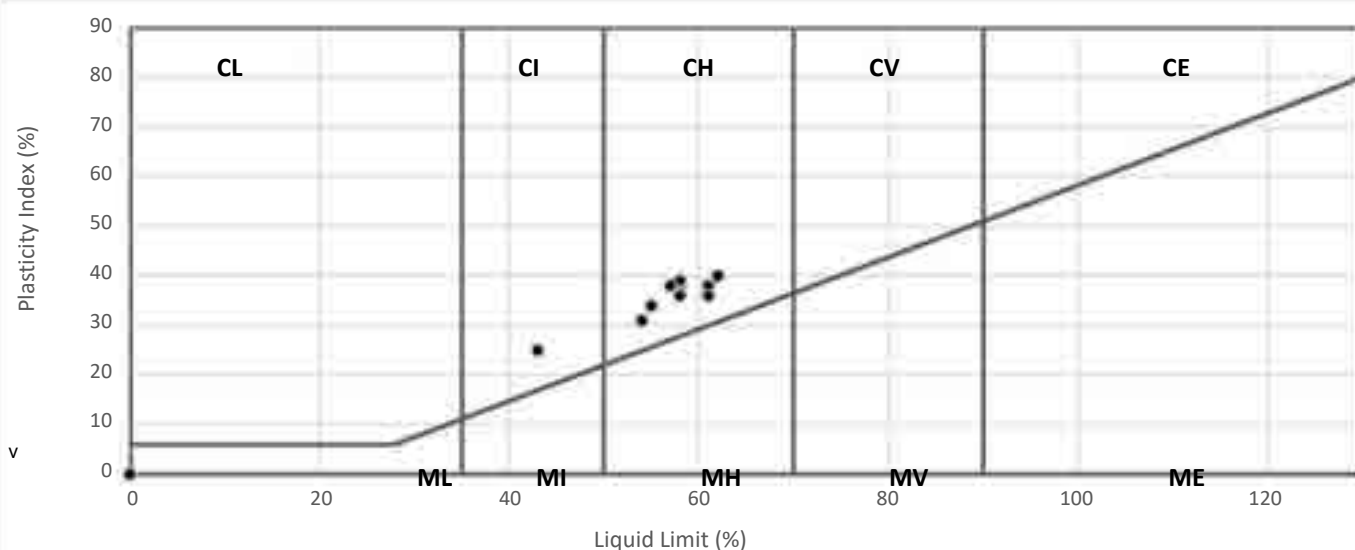
06/02/2024

[illegible]

Symbols: NP : Non Plastic

: Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION BS 5930:2015+A1:2020



Operator

Clayton Jenkins



27.99



PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 70925

Borehole/Pit No. BH102

Project Name Sakura, Wrexham

Sample No. 17

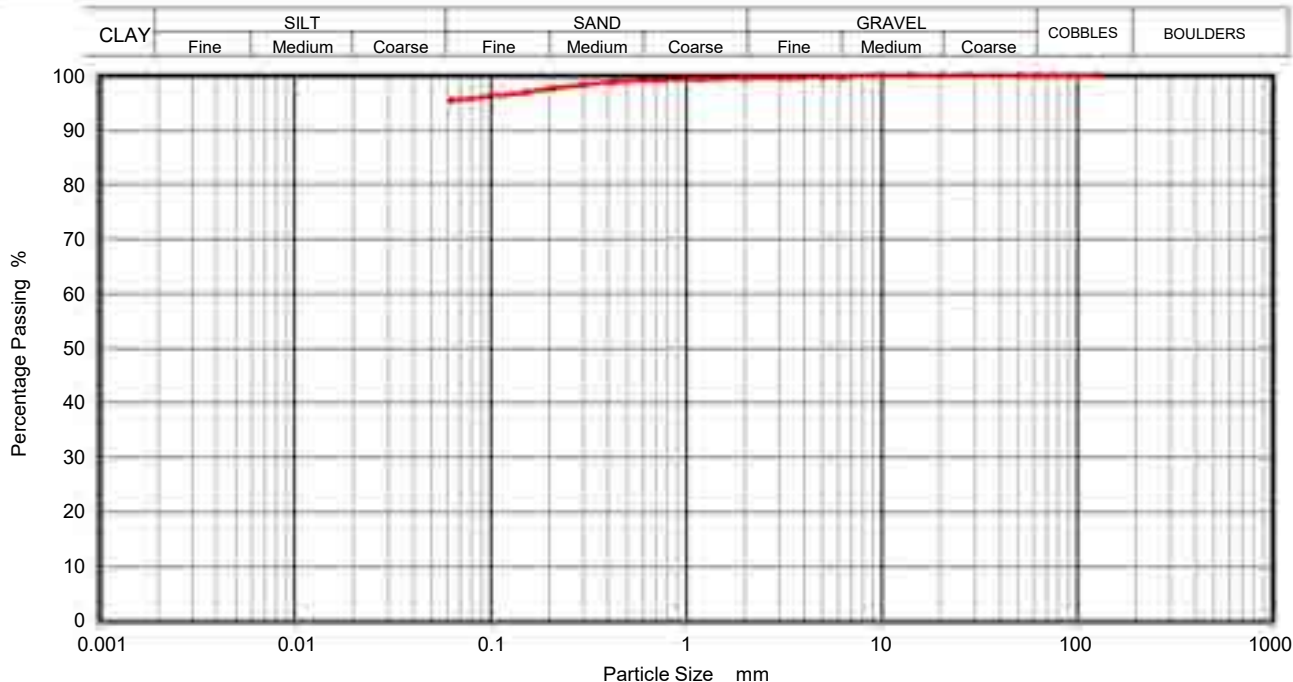
Soil Description Brown slightly gravelly slightly sandy SILT/ CLAY

Depth Top 5.00

Depth Base 5.45

Date Tested 06/02/2024

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	99		
0.6	99		
0.425	99		
0.3	98		
0.212	98		
0.15	97		
0.063	95		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	4
Silt and Clay	95

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator

David Edwards





PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 70925

Borehole/Pit No. TP101

Project Name Sakura, Wrexham

Sample No. 5

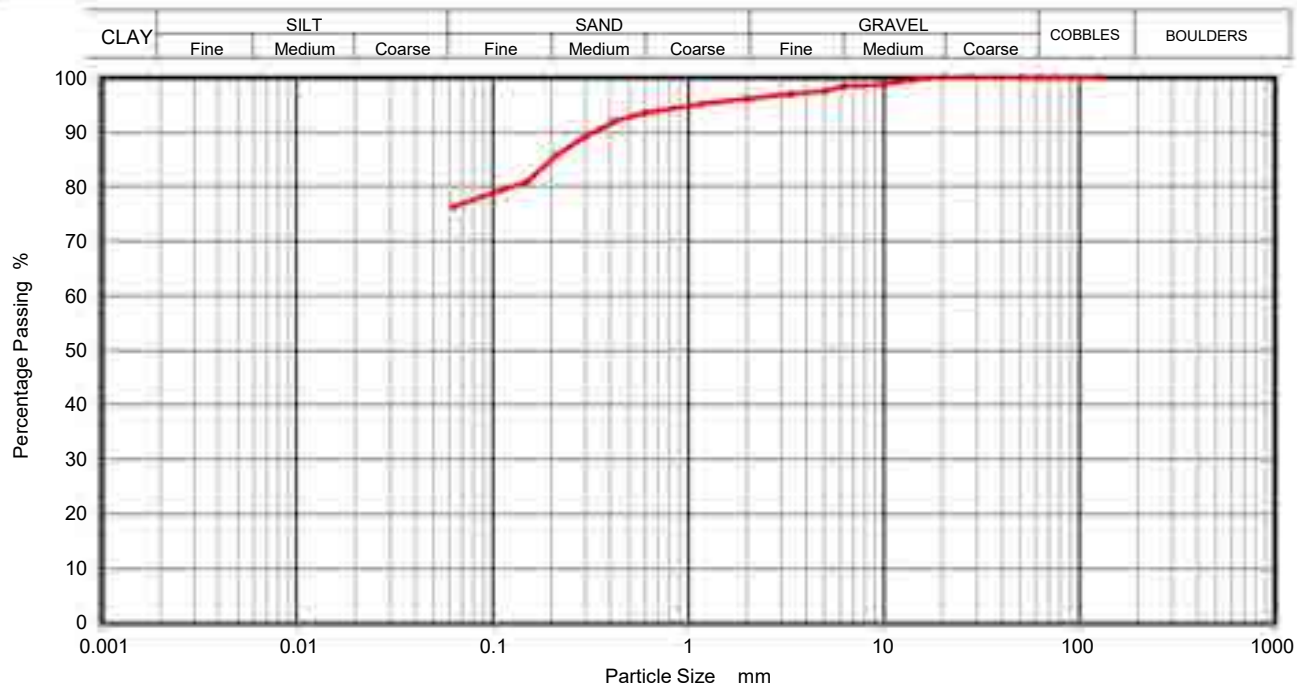
Soil Description Brown slightly gravelly fine to coarse sandy SILT/ CLAY

Depth Top 1.50

Depth Base 1.70

Date Tested 06/02/2024

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	98		
3.35	97		
2	96		
1.18	95		
0.6	93		
0.425	92		
0.3	89		
0.212	86		
0.15	81		
0.063	76		

Sample Proportions	% dry mass
Cobbles	0
Gravel	4
Sand	20
Silt and Clay	76

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator

David Edwards





PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 70925

Borehole/Pit No. TP102

Project Name Sakura, Wrexham

Sample No. 10

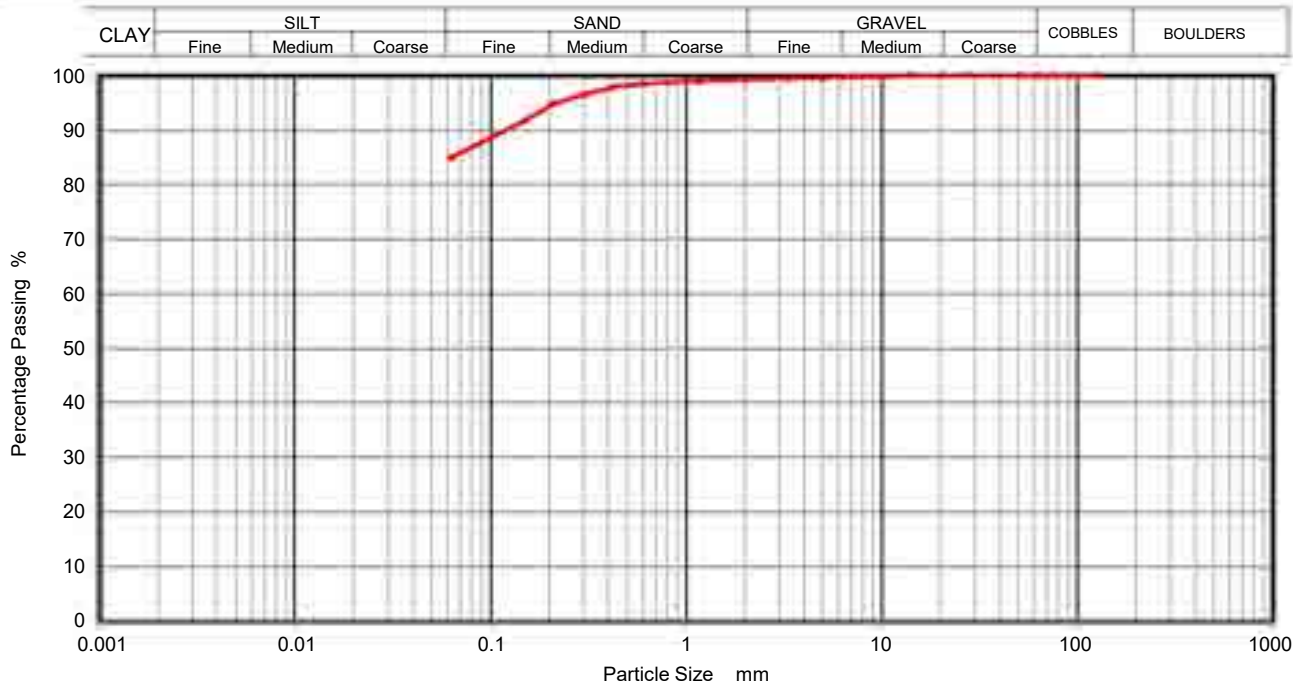
Soil Description Brown slightly gravelly fine to coarse sandy SILT/ CLAY

Depth Top 1.50

Depth Base 1.70

Date Tested 06/02/2024

Sample Type D



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	99		
0.6	98		
0.425	98		
0.3	97		
0.212	95		
0.15	92		
0.063	85		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	14
Silt and Clay	85

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator

David Edwards





PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 70925

Borehole/Pit No. TP104

Project Name Sakura, Wrexham

Sample No. 3

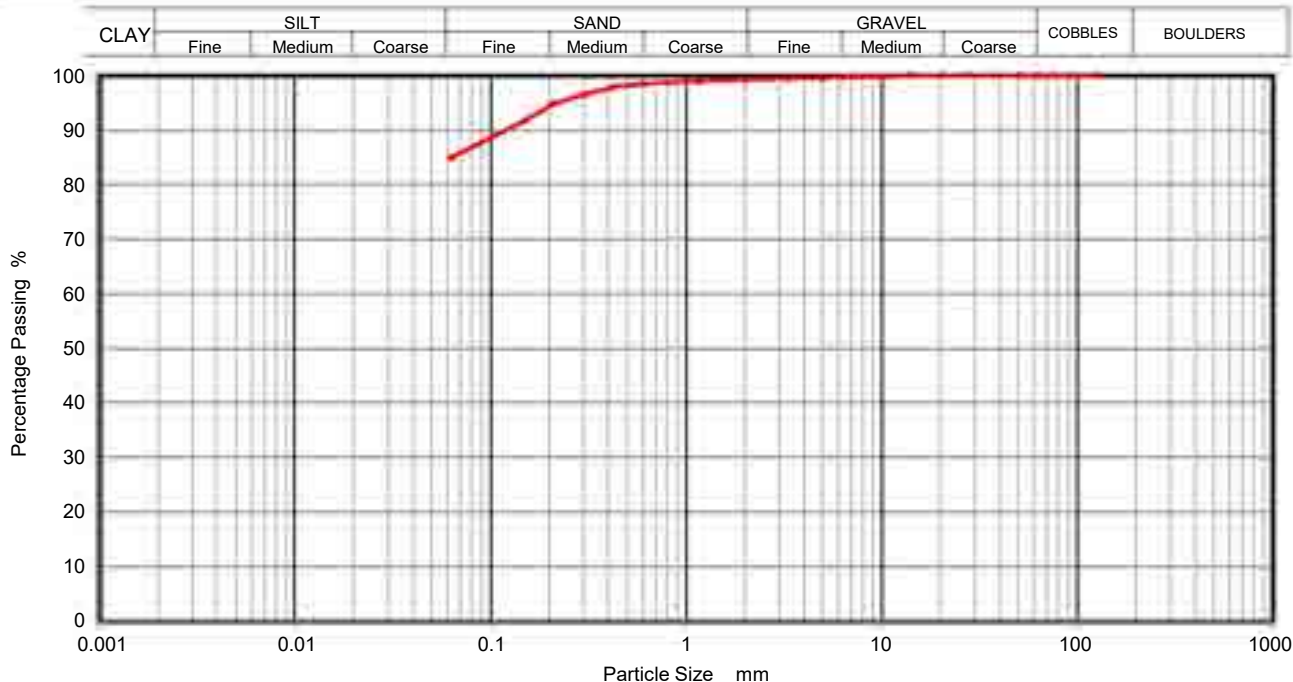
Soil Description Brown slightly gravelly fine to coarse sandy SILT/ CLAY

Depth Top 1.00

Depth Base 1.30

Date Tested 06/02/2024

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	99		
0.6	98		
0.425	98		
0.3	97		
0.212	95		
0.15	92		
0.063	85		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	14
Silt and Clay	85

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator

David Edwards



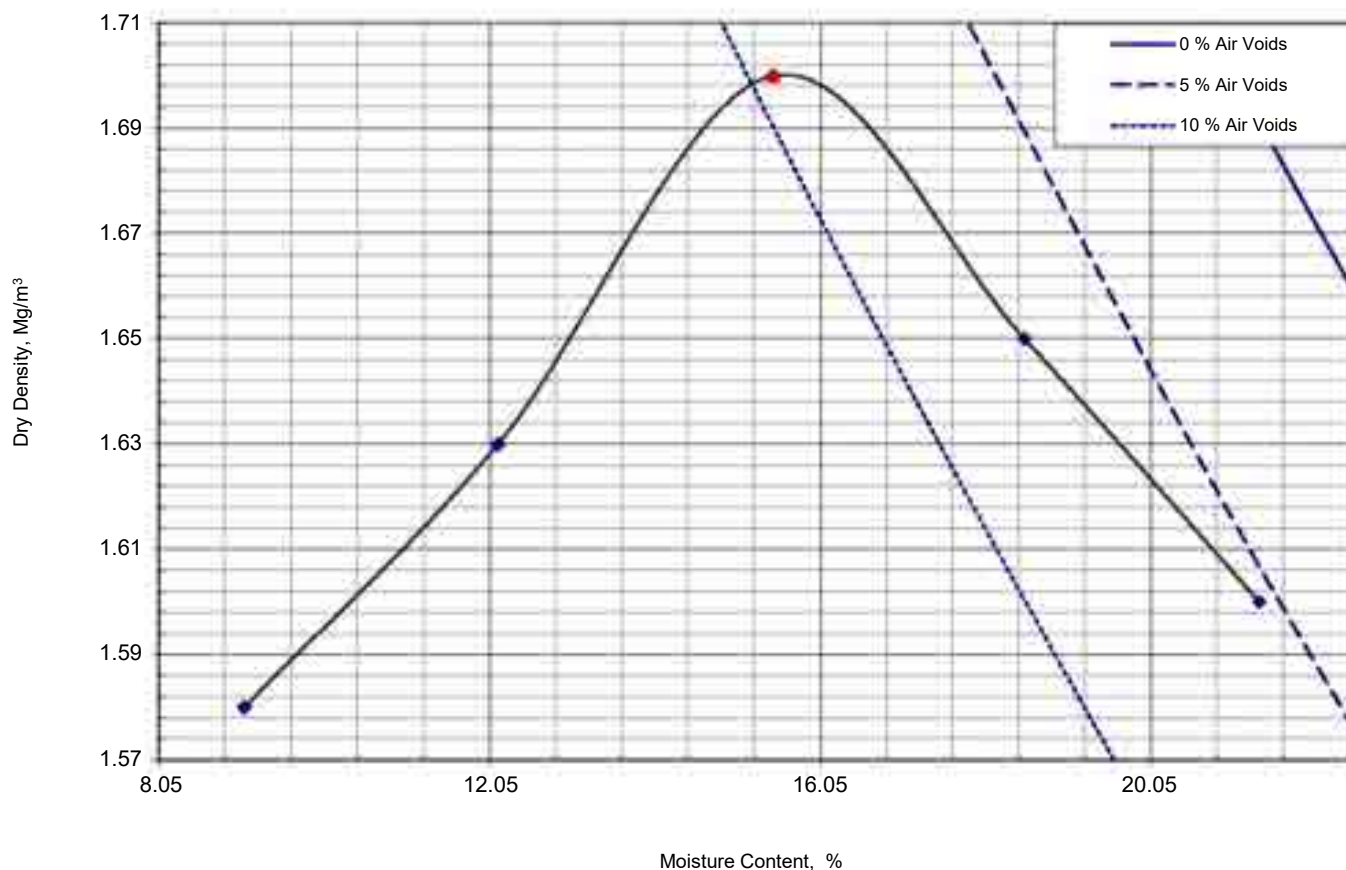


**Dry Density / Moisture Content Relationship
BS 1377:Part 4:1990**

Contract Number 70925

Borehole / Pit No TP102

Project Name	Sakura, Wrexham	Sample No	4
Date Tested	01/02/2024	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	0.80
Compaction Clause	BS1377:Part 4:1990, Clause 3.3	Sample Type	B
Sample Description	Brown silty CLAY	Single or Separate Sample Used	Single



Compaction Point	1	2	3	4	5								
Moisture Content	9.1	12	15	19	21								
Bulk Density	1.72	1.83	1.96	1.96	1.94								
Dry Density	1.58	1.63	1.70	1.65	1.60								

Initial Moisture Content	21	%
Maximum Dry Density	1.70	Mg/m ³
Optimum Moisture Content	15	%
Particle Density	2.65 Assumed	Mg/m ³
Material Retained 37.5mm	0	%
Material Retained 20mm	0	%

Operator

Conor



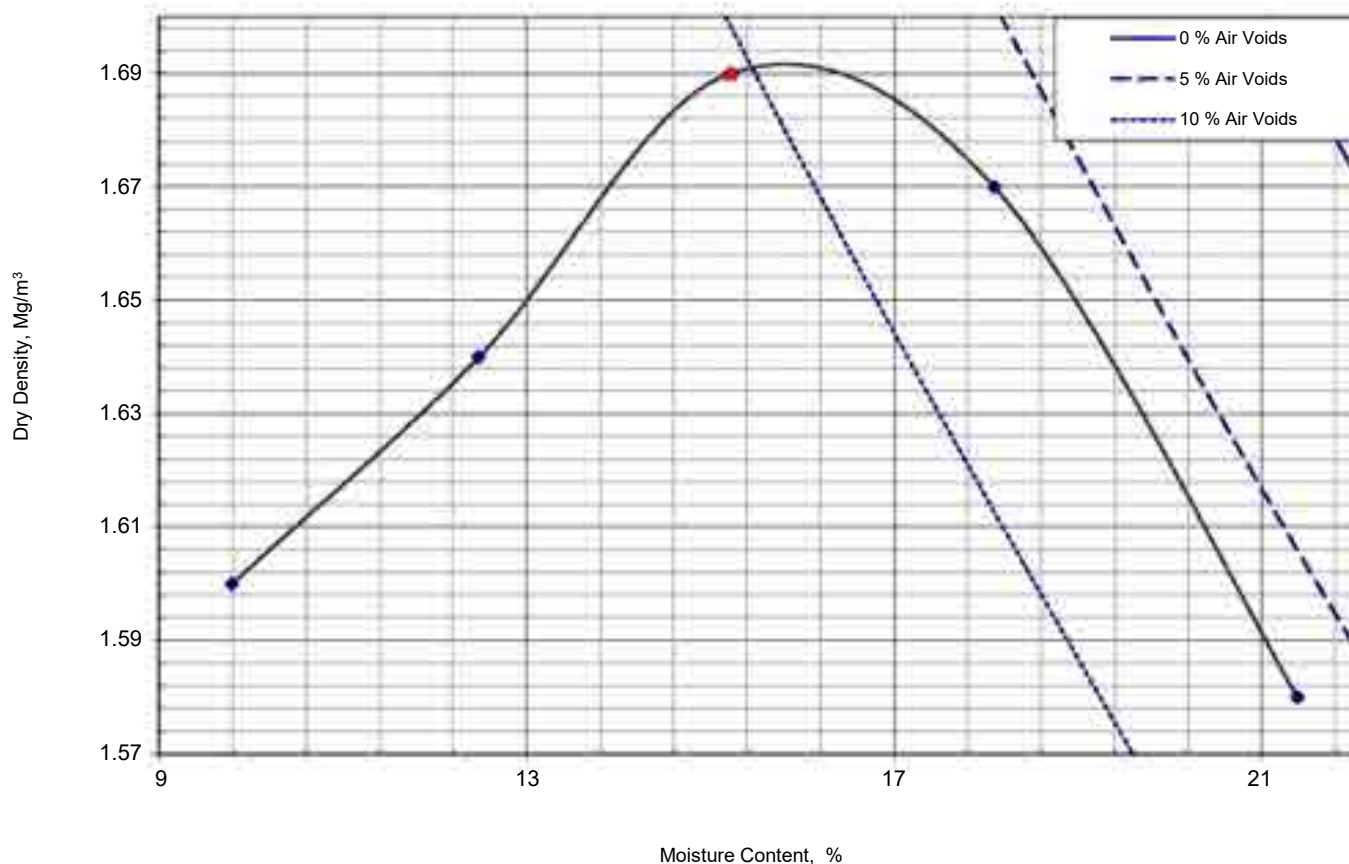


**Dry Density / Moisture Content Relationship
BS 1377:Part 4:1990**

Contract Number 70925

Borehole / Pit No TP104

Project Name	Sakura, Wrexham	Sample No	2
Date Tested	01/02/2024	Depth Top	0.60
Compaction Method	2.5 Kg Rammer	Depth Base	0.80
Compaction Clause	BS1377:Part 4:1990, Clause 3.3	Sample Type	B
Sample Description	Brown fine to medium gravelly silty CLAY	Single or Separate Sample Used	Single



Compaction Point	1	2	3	4	5								
Moisture Content	9.8	12	15	18	21								
Bulk Density	1.76	1.84	1.95	1.97	1.92								
Dry Density	1.60	1.64	1.69	1.67	1.58								

Initial Moisture Content	21	%
Maximum Dry Density	1.69	Mg/m ³
Optimum Moisture Content	15	%
Particle Density	2.65 Assumed	Mg/m ³
Material Retained 37.5mm	0	%
Material Retained 20mm	0	%

Operator

Conor





ONE DIMENSIONAL CONSOLIDATION TEST
BS1377:Part 5:1990, clause 3

Contract Number 70925

Borehole/Trialpit No. BH101

Project Name Sakura, Wrexham

Sample No. 9

Soil Description Brown silty CLAY

Depth Top (m) 2.00

Depth Base (m) 2.45

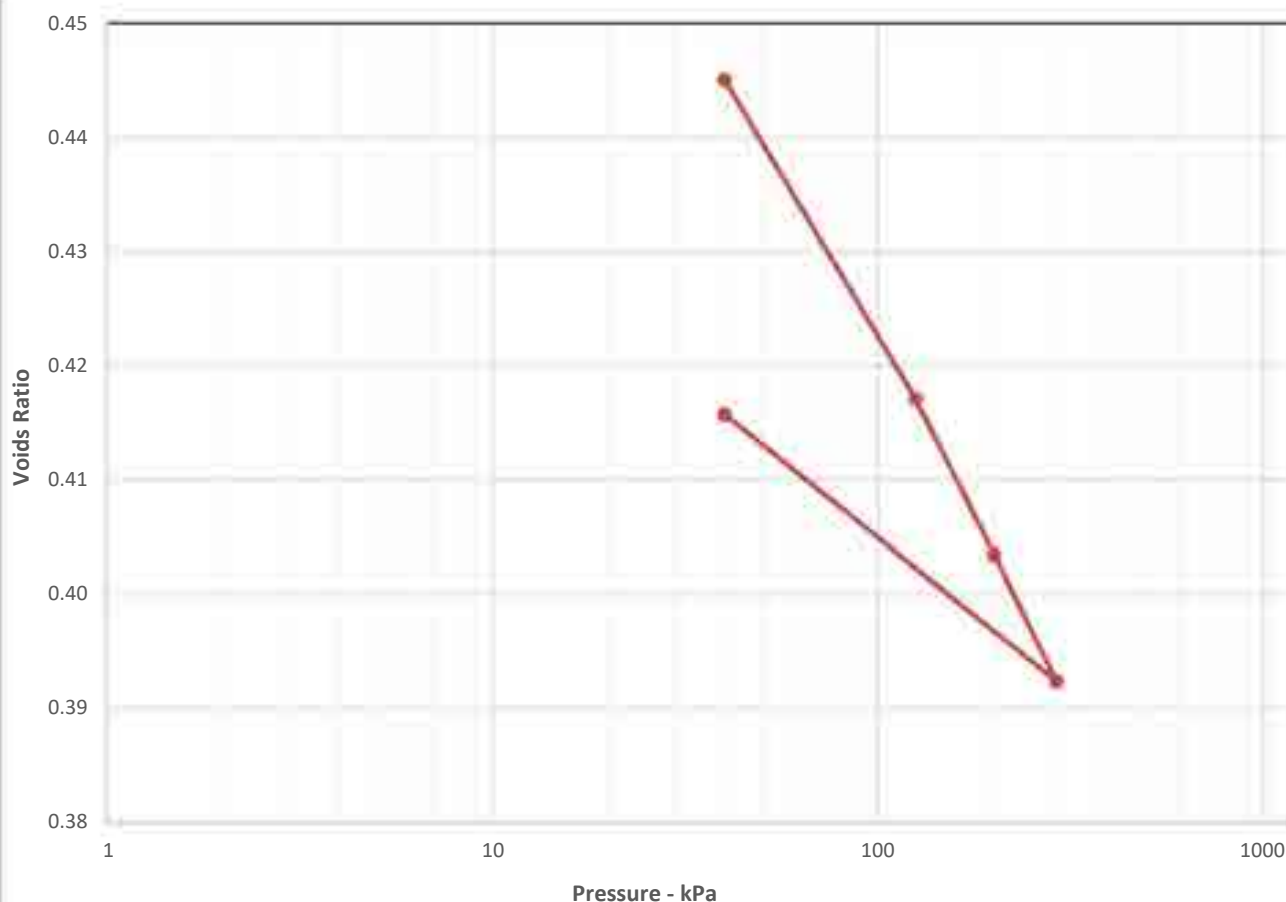
Lab Temperature 20°C

Sample Location Top

Remarks Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type UT

Date Tested 02/02/2024



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	21	0	-	40	0.31	1.8		-			
Bulk Density (Mg/m3)	2.19	40	-	125	0.23	2.9		-			
Dry Density (Mg/m3)	1.81	125	-	200	0.13	2.1		-			
Voids Ratio	0.4630	200	-	290	0.088	3.3		-			
Degree of saturation	120.9	290	-	40	0.067	2.6		-			
Height (mm)	20.1		-					-			
Diameter (mm)	74.93		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operator

Wayne W



2788



ONE DIMENSIONAL CONSOLIDATION TEST
BS1377:Part 5:1990, clause 3

Contract Number 70925

Borehole/Trialpit No. BH101

Project Name Sakura, Wrexham

Sample No. 14

Soil Description Brown silty CLAY

Depth Top (m) 4.00

Depth Base (m) 4.45

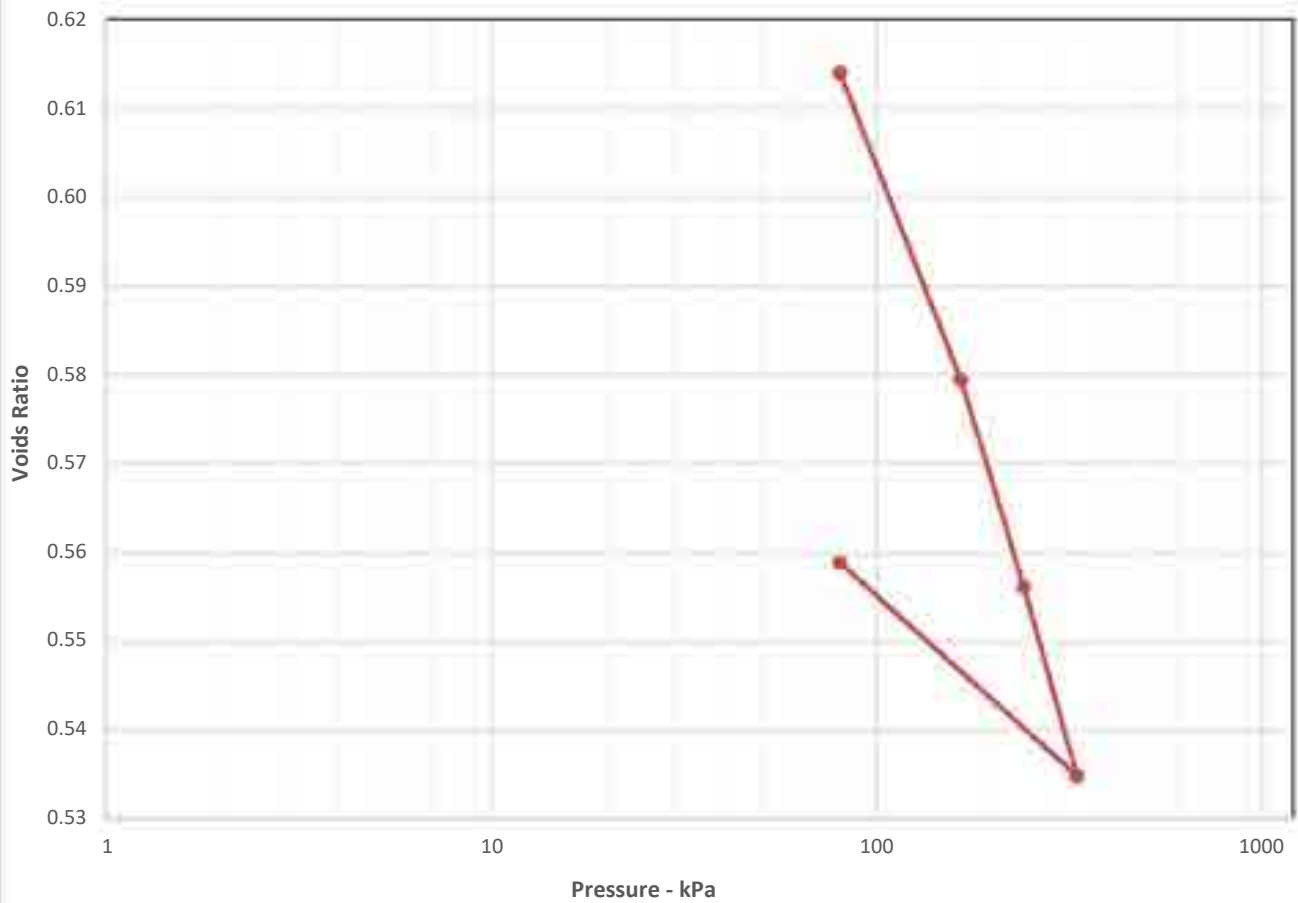
Lab Temperature 20°C

Sample Location Top

Remarks Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type UT

Date Tested 02/02/2024



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	33	0	-	80	0.97	0.73		-			
Bulk Density (Mg/m3)	2.02	80	-	165	0.25	1.1		-			
Dry Density (Mg/m3)	1.51	165	-	240	0.20	0.67		-			
Voids Ratio	0.7498	240	-	330	0.15	1.1		-			
Degree of saturation	118.0	330	-	80	0.063	2.3		-			
Height (mm)	20		-					-			
Diameter (mm)	74.96		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operator

Wayne W



2788



ONE DIMENSIONAL CONSOLIDATION TEST
BS1377:Part 5:1990, clause 3

Contract Number

70925

Borehole/Trialpit No.

BH102

Project Name

Sakura, Wrexham

Sample No.

24

Soil Description

Grey silty CLAY

Depth Top (m)

2.00

Depth Base (m)

2.45

Lab Temperature

20°C

Sample Location

Top

Remarks

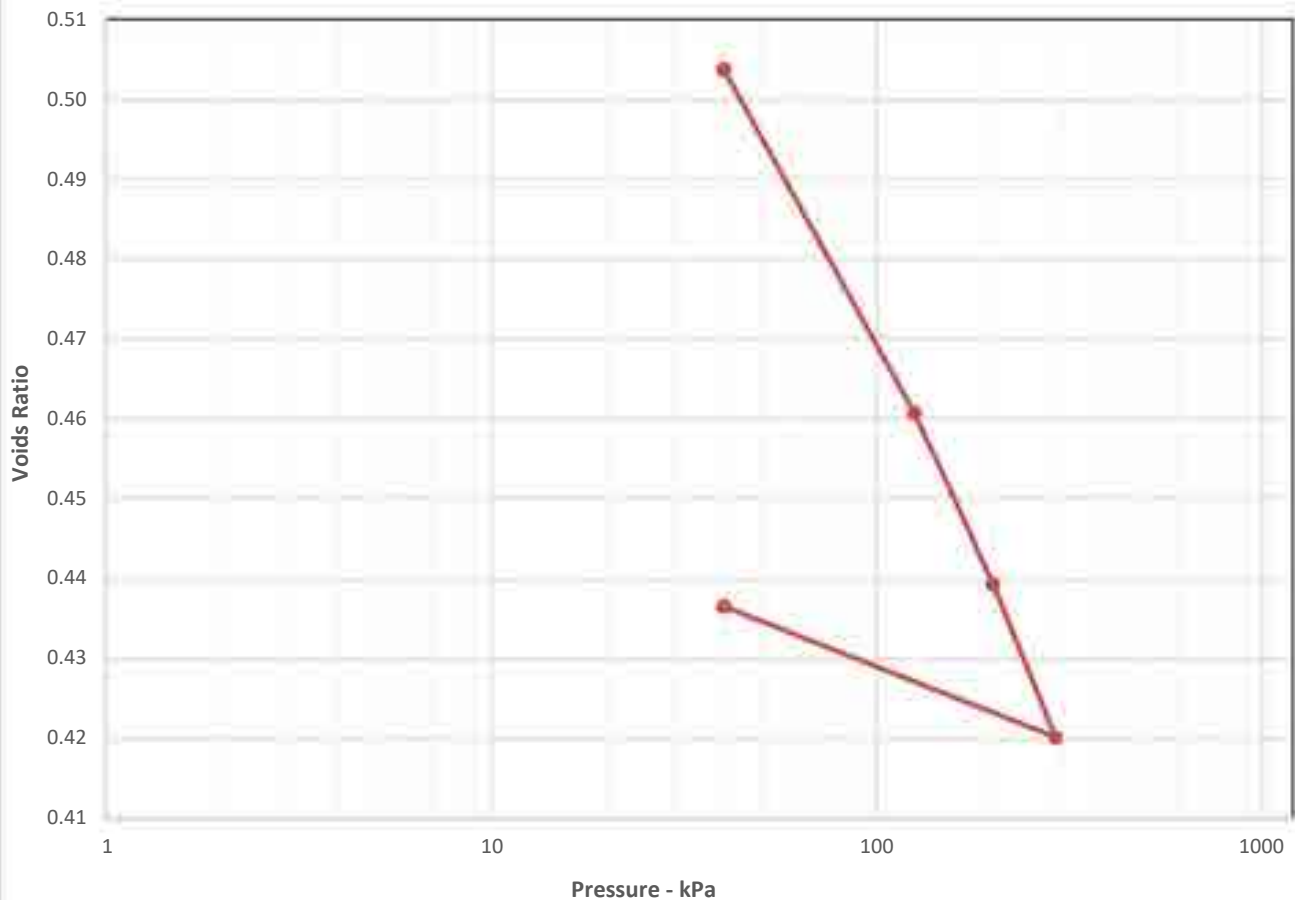
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

UT

Date Tested

02/02/2024



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	27	0	-	40	1.2	0.41		-			
Bulk Density (Mg/m3)	2.13	40	-	125	0.34	0.42		-			
Dry Density (Mg/m3)	1.68	125	-	200	0.19	0.33		-			
Voids Ratio	0.5795	200	-	290	0.15	0.32		-			
Degree of saturation	123.4	290	-	40	0.046	2.1		-			
Height (mm)	20.03		-					-			
Diameter (mm)	74.91		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operator

Wayne W



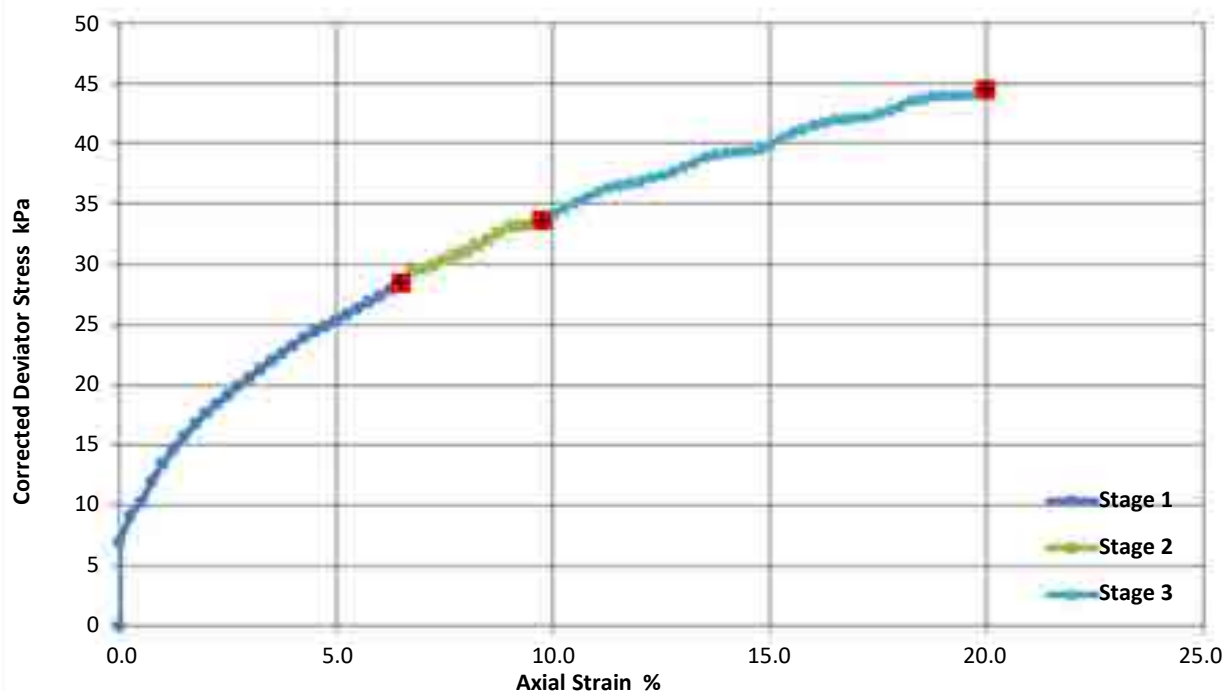
2788



Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number	70925
Borehole/Pit No.	BH101
Sample No.	44
Depth Top	24.00
Depth Base	24.45
Sample Type	UT
Operator	Jordan

Project Name	Sakura, Wrexham
Soil Description	Red slightly sandy silty CLAY
Date Tested	05/02/2024



Moisture Content (%)	13		
Bulk Density (Mg/m^3)	2.25		
Dry Density (Mg/m^3)	1.98		
Specimen Length (mm)	207.8		
Specimen Diameter (mm)	98.7		
Stage Number	1	2	3
Cell Pressures (kPa)	480	580	680
Deviator Stress (kPa)	28	34	44
Undrained Shear Strength (kPa)	14	17	22
Failure Strain (%)	6.5	9.7	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.



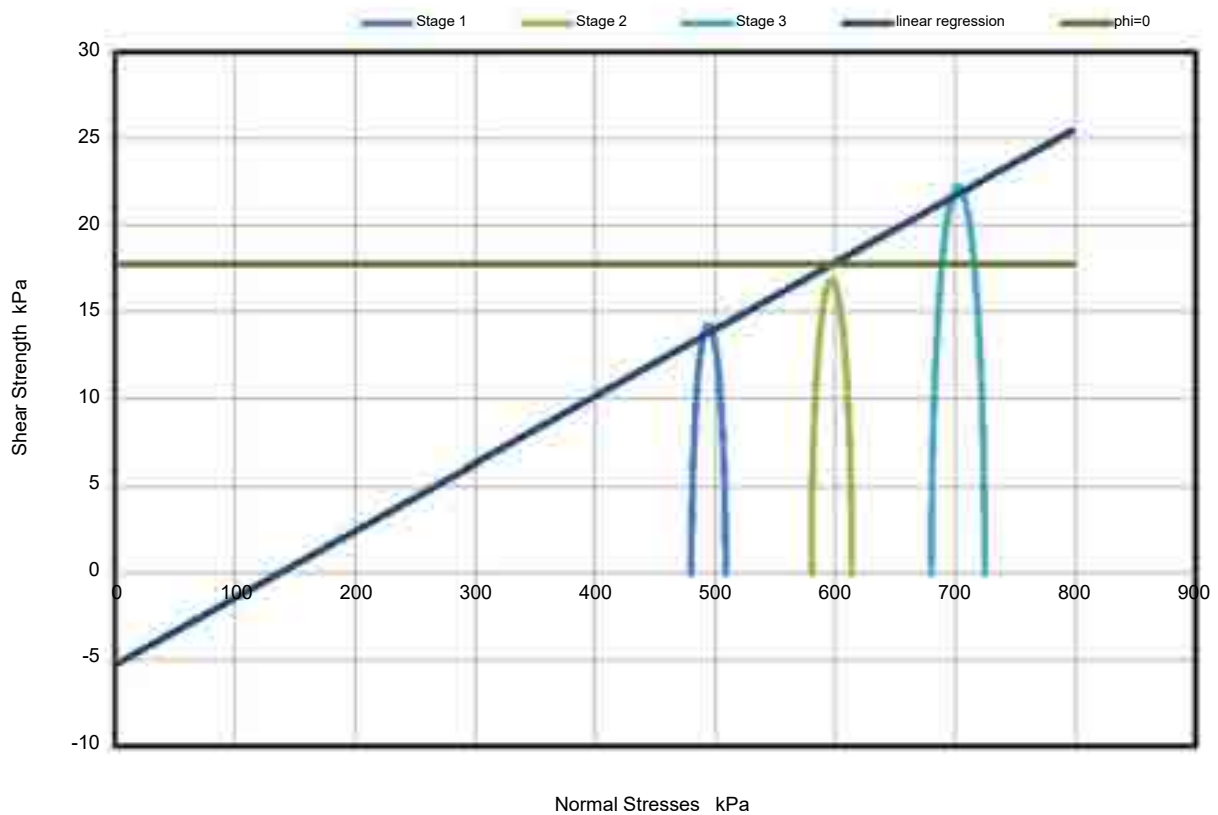


Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number	70925
Borehole/Pit No.	BH101
Sample No.	44
Depth Top	24.00
Depth Base	24.45
Sample Type	UT
Technician	Jordan

Project Name	Sakura, Wrexham
Soil Description	Red slightly sandy silty CLAY
Date Tested	05/02/2024

Mohr Circles



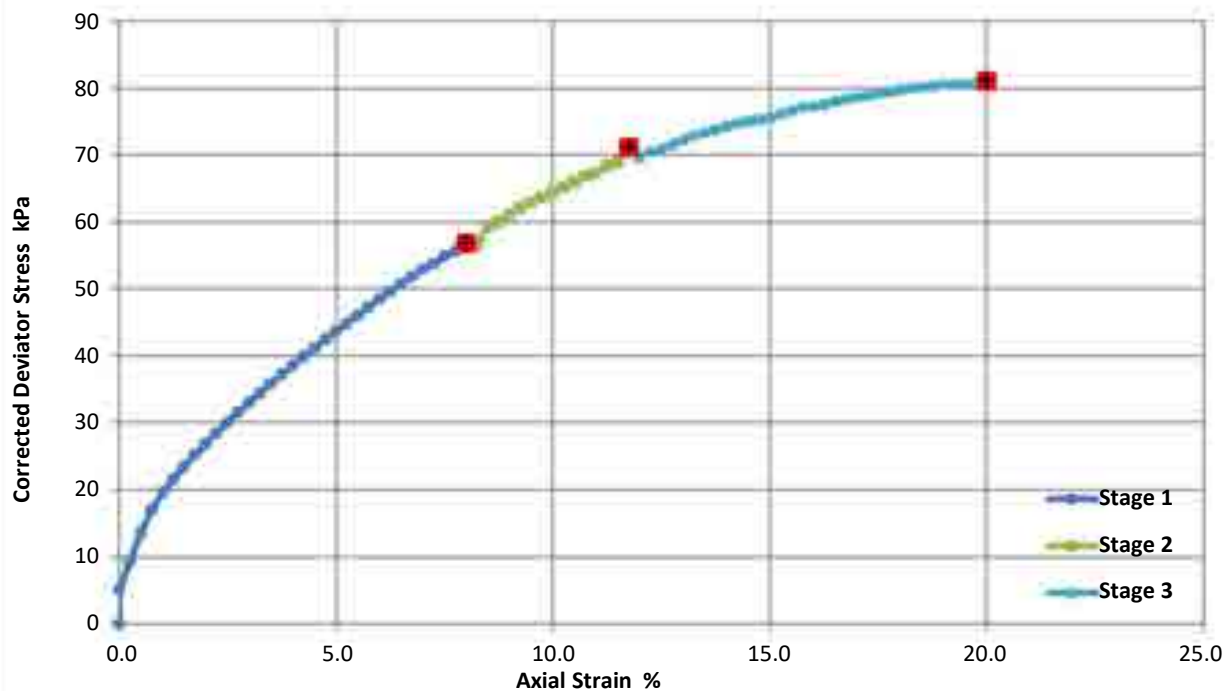
$\phi_u = 0$		Linear Regression	
Average c_u	18 kPa	ϕ_u	2.2 °
		c_u	-5 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



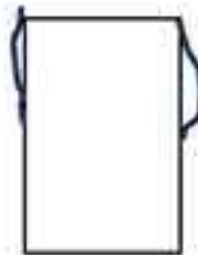
Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

 Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9	Contract Number	70925	
	Borehole/Pit No.	BH101	
Project Name	Sakura, Wrexham	Sample No.	16
Soil Description	Red slightly sandy silty CLAY	Depth Top	7.50
		Depth Base	7.95
Date Tested	05/02/2024	Sample Type	UT
		Operator	Jordan



Moisture Content (%)	24		
Bulk Density (Mg/m ³)	2.11		
Dry Density (Mg/m ³)	1.70		
Specimen Length (mm)	208.6		
Specimen Diameter (mm)	100.8		
Stage Number	1	2	3
Cell Pressures (kPa)	150	250	350
Deviator Stress (kPa)	57	71	81
Undrained Shear Strength (kPa)	28	36	41
Failure Strain (%)	8.0	12	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.



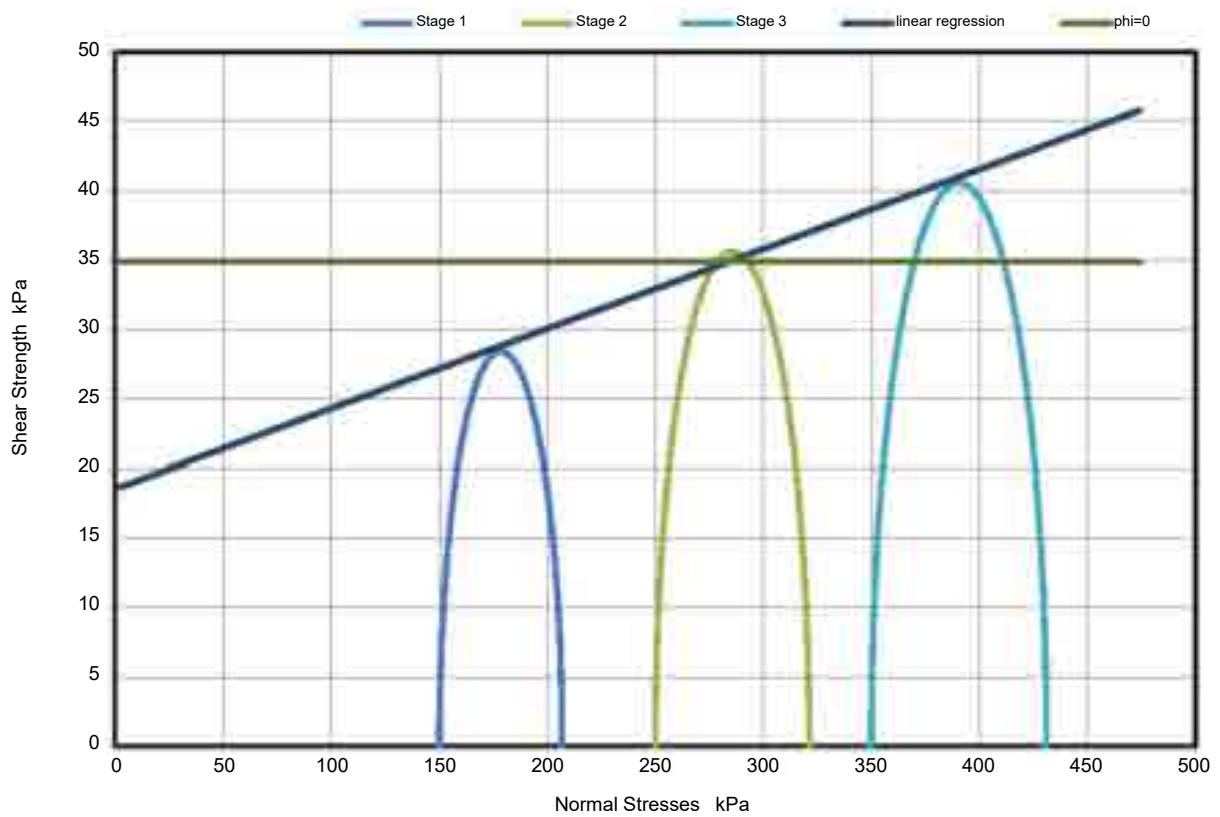


Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number	70925
Borehole/Pit No.	BH101
Sample No.	16
Depth Top	7.50
Depth Base	7.95
Sample Type	UT
Technician	Jordan

Project Name	Sakura, Wrexham
Soil Description	Red slightly sandy silty CLAY
Date Tested	05/02/2024

Mohr Circles



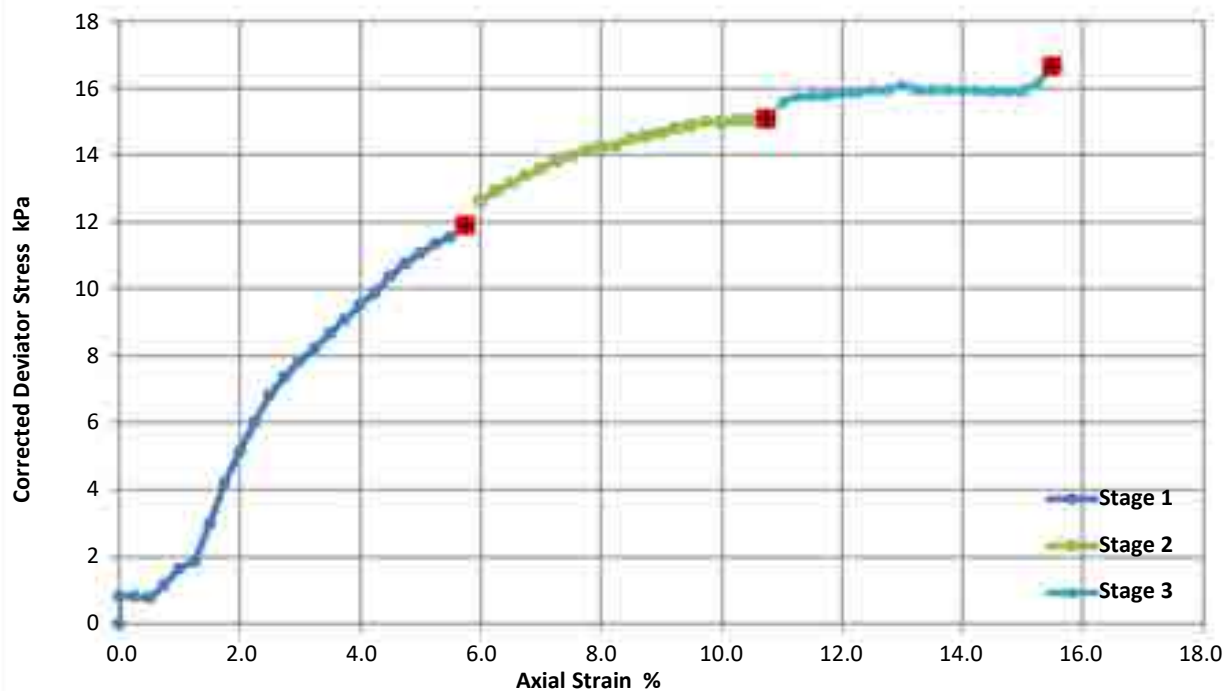
$\phi_u = 0$		Linear Regression	
Average c_u	35 kPa	ϕ_u	3.3 °
		c_u	19 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



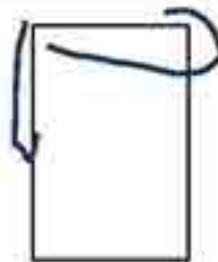
Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number	70925	Project Name	Sakura, Wrexham	Sample No.	27
Borehole/Pit No.	BH102	Soil Description	Red CLAY	Depth Top	12.00
				Depth Base	12.45
Date Tested	06/02/2024			Sample Type	UT
				Operator	Jordan



Moisture Content (%)	28		
Bulk Density (Mg/m ³)	1.90		
Dry Density (Mg/m ³)	1.48		
Specimen Length (mm)	208.8		
Specimen Diameter (mm)	104.1		
Stage Number	1	2	3
Cell Pressures (kPa)	240	340	440
Deviator Stress (kPa)	12	15	17
Undrained Shear Strength (kPa)	5.9	7.5	8.3
Failure Strain (%)	5.8	11	15
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.



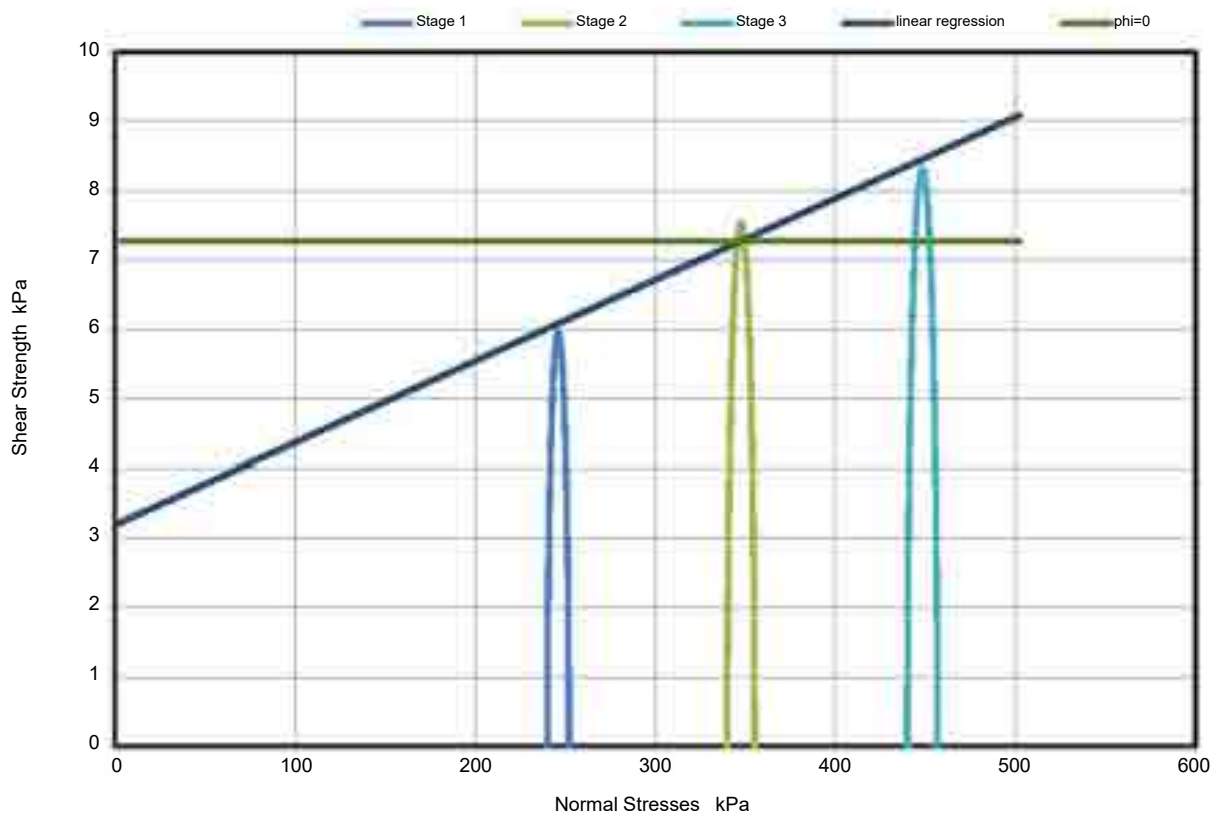


**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

Contract Number	70925
Borehole/Pit No.	BH102
Sample No.	27
Depth Top	12.00
Depth Base	12.45
Sample Type	UT
Technician	Jordan

Project Name	Sakura, Wrexham
Soil Description	Red CLAY
Date Tested	06/02/2024

Mohr Circles



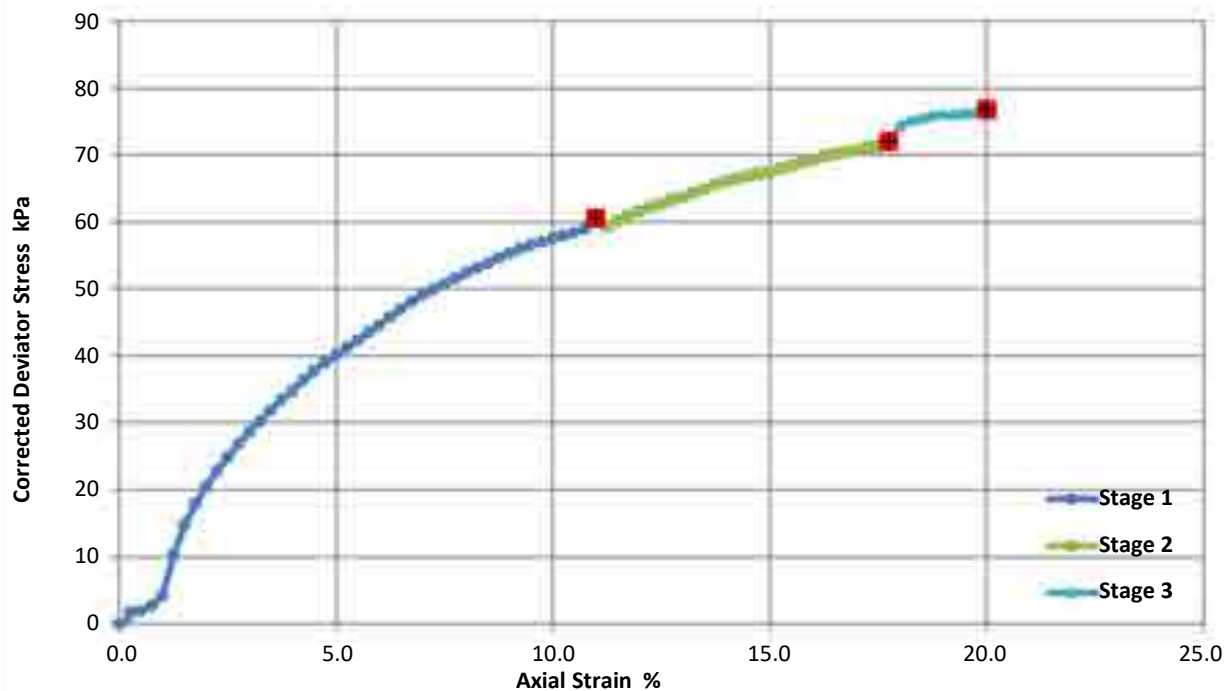
$\phi_u = 0$		Linear Regression	
Average c_u	7 kPa	ϕ_u	0.7 °
		c_u	3 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

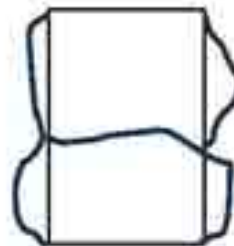
Contract Number	70925	Project Name	Sakura, Wrexham	Sample No.	25
Borehole/Pit No.	BH102	Soil Description	Red slightly silty sandy CLAY	Depth Top	4.00
				Depth Base	4.45
Date Tested	06/02/2024			Sample Type	UT
				Operator	Jordan



Moisture Content (%)	21		
Bulk Density (Mg/m ³)	1.98		
Dry Density (Mg/m ³)	1.64		
Specimen Length (mm)	208.9		
Specimen Diameter (mm)	104.3		
Stage Number	1	2	3
Cell Pressures (kPa)	80	180	280
Deviator Stress (kPa)	60	72	77
Undrained Shear Strength (kPa)	30	36	38
Failure Strain (%)	11	18	20
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

--



Failure Sketch.



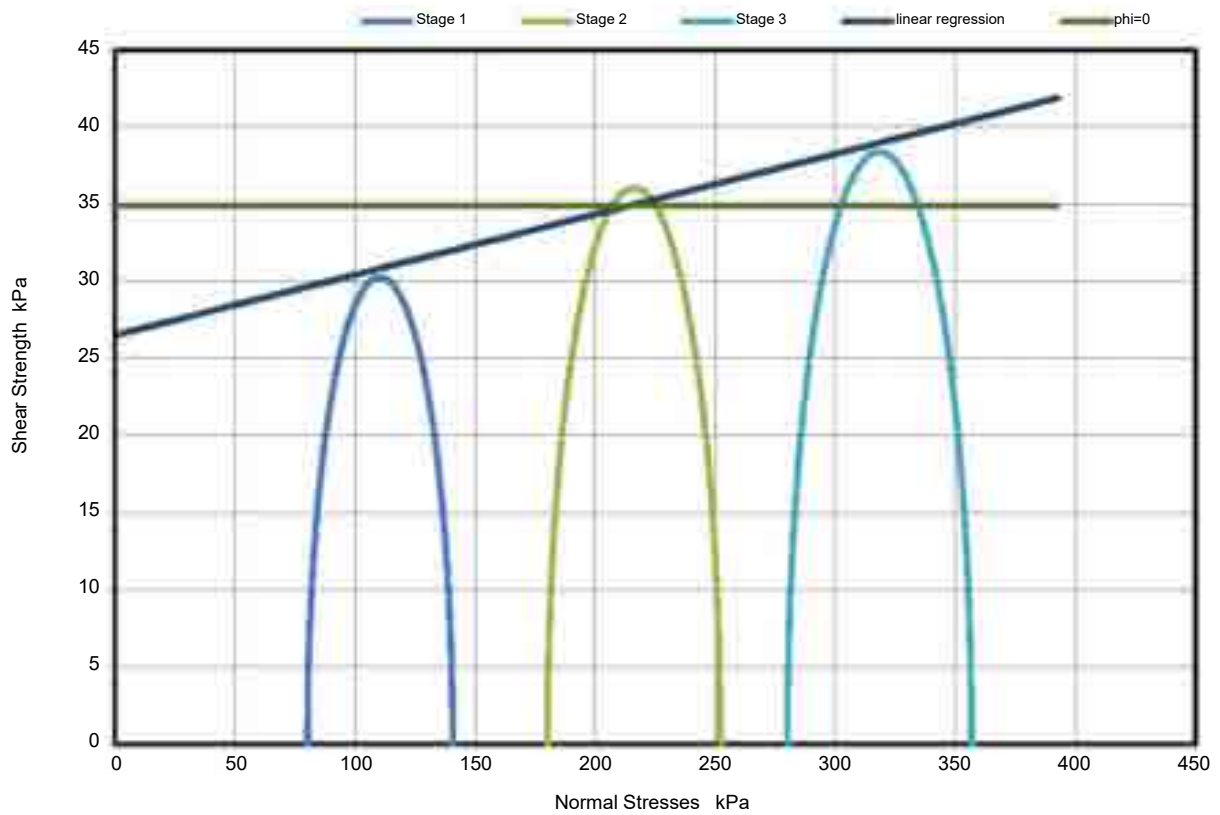


Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number	70925
Borehole/Pit No.	BH102
Sample No.	25
Depth Top	4.00
Depth Base	4.45
Sample Type	UT
Technician	Jordan

Project Name	Sakura, Wrexham
Soil Description	Red slightly silty sandy CLAY
Date Tested	06/02/2024

Mohr Circles



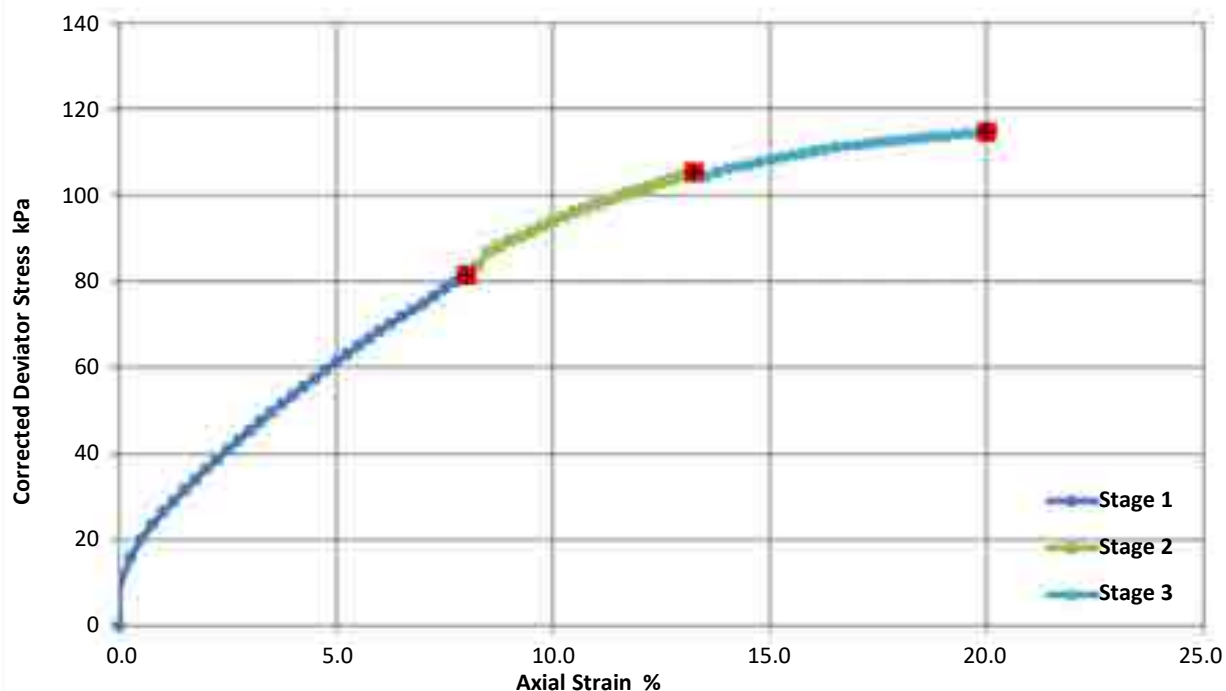
$\phi_u = 0$		Linear Regression	
Average c_u	35 kPa	ϕ_u	2.2 °
		c_u	26 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



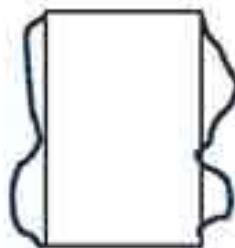
**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

	Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9	Contract Number	70925
		Borehole/Pit No.	BH102
Project Name	Sakura, Wrexham	Sample No.	26
Soil Description	Red Silty CLAY	Depth Top	9.00
		Depth Base	9.45
Date Tested	06/02/2024	Sample Type	UT
		Operator	Jordan



Moisture Content (%)	26		
Bulk Density (Mg/m ³)	2.17		
Dry Density (Mg/m ³)	1.72		
Specimen Length (mm)	206.9		
Specimen Diameter (mm)	99.4		
Stage Number	1	2	3
Cell Pressures (kPa)	180	280	380
Deviator Stress (kPa)	81	105	115
Undrained Shear Strength (kPa)	41	53	57
Failure Strain (%)	8.0	13	20
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.



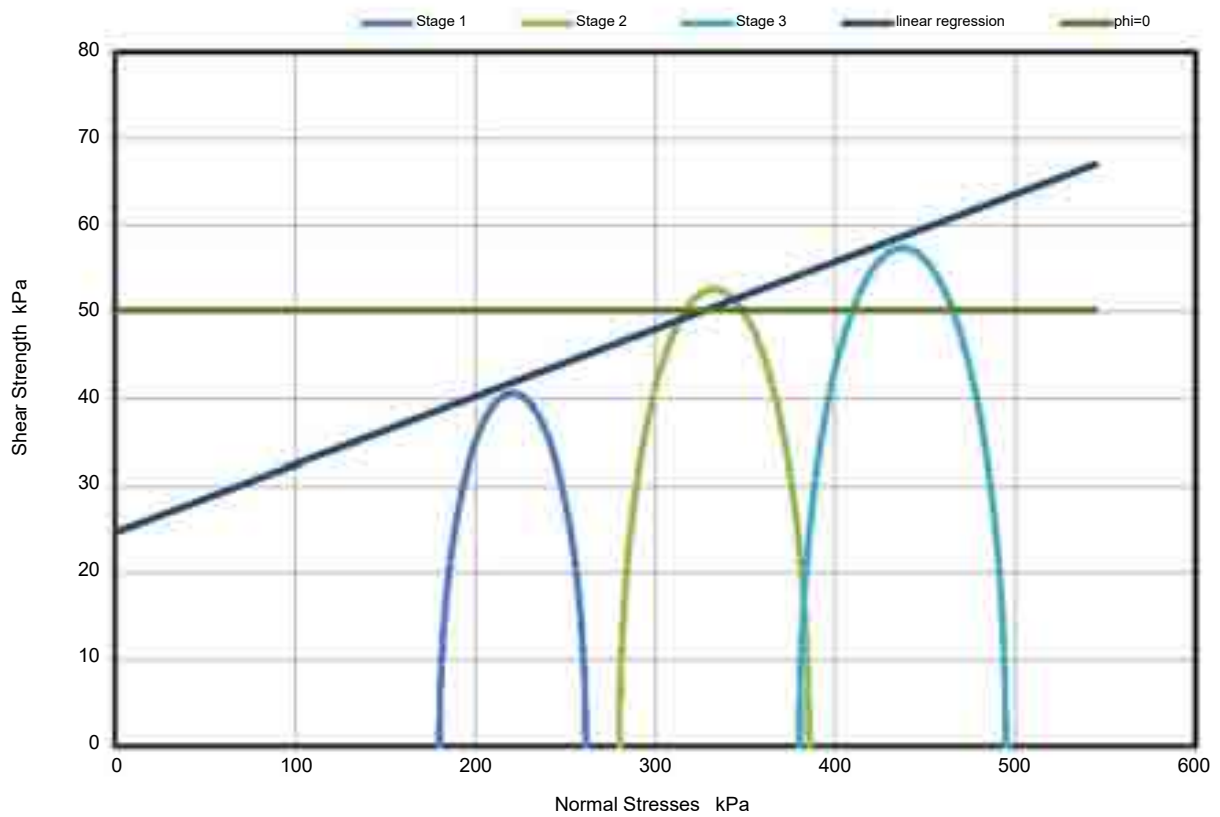


**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

Contract Number	70925
Borehole/Pit No.	BH102
Sample No.	26
Depth Top	9.00
Depth Base	9.45
Sample Type	UT
Technician	Jordan

Project Name	Sakura, Wrexham
Soil Description	Red Silty CLAY
Date Tested	06/02/2024

Mohr Circles



$\phi_u = 0$		Linear Regression	
Average c_u	50 kPa	ϕ_u	4.4 °
		c_u	25 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



Laboratory Report



Contract Number: 72769

Client Ref: **TF-24-148**

Client PO:

Date Received: **21-05-2024**

Date Completed: **11-06-2024**

Report Date: **11-06-2024**

Client: **Terrafirma South**

This report has been checked and approved by:

Contract Title: **Project Sakura**

For the attention of: **Paul Standish**

Brendan Evans
Office Administrator

Description	Qty
Quick Undrained Triaxial Compression Test - Multi-stage Loading of a single specimen (100mm diameter)	14
BS 1377:1990 - Part 7 : 9 - * UKAS	
Disposal of samples for job	1

Notes: Observations and Interpretations are outside the UKAS Accreditation

* - denotes test included in laboratory scope of accreditation

- denotes test carried out by approved contractor

@ - denotes non accredited tests

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 test report/certificate shall not be reproduced except in full, without the approval of GEO Site & Testing Services Ltd. Any opinions or interpretations stated - within this report/certificate are excluded from the laboratories UKAS accreditation.

Approved Signatories:

Brendan Evans (Office Administrator) - Darren Bourne (Quality Senior Technician) - Paul Evans (Director)

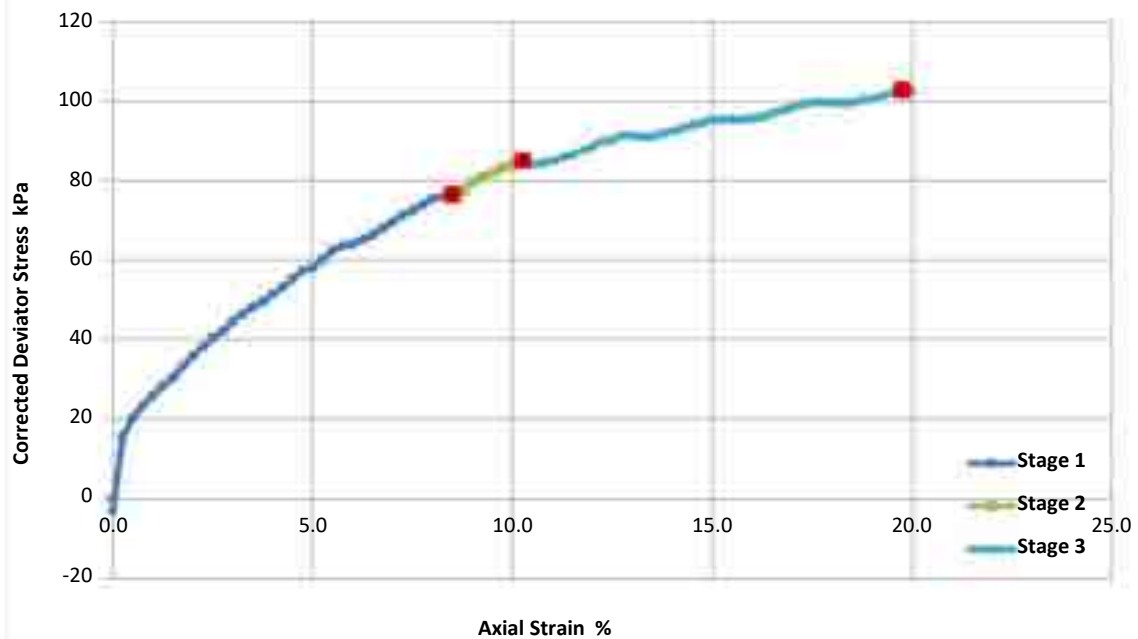
Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager)

Wayne Honey (HR & HSE Manager)



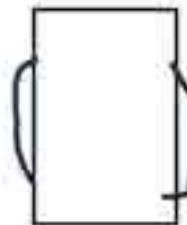
Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number	72769	Project Name	Project Sakura	Sample No.	18
Borehole/Pit No.	BH201	Soil Description	Brown Sandy Silty CLAY	Depth Top	13.50
				Depth Base	13.95
Date Tested	25/05/2024			Sample Type	U
				Operator	David E



Moisture Content (%)	20		
Bulk Density (Mg/m^3)	2.17		
Dry Density (Mg/m^3)	1.82		
Specimen Length (mm)	209.5		
Specimen Diameter (mm)	100.9		
Stage Number	1	2	3
Cell Pressures (kPa)	121	242	363
Deviator Stress (kPa)	76	85	103
Undrained Shear Strength (kPa)	38	43	51
Failure Strain (%)	8.5	10	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number 72769

Borehole/Pit No. BH201

Project Name Project Sakura

Sample No. 18

Soil Description Brown Sandy Silty CLAY

Depth Top 13.50

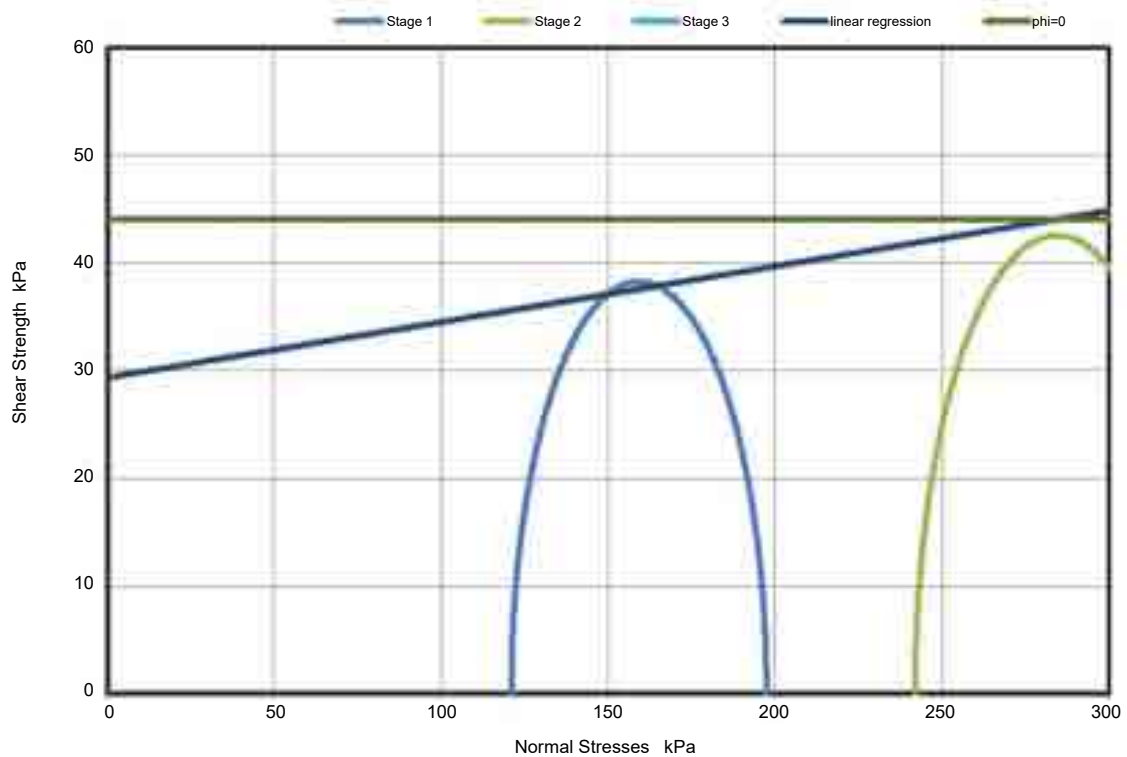
Depth Base 13.95

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



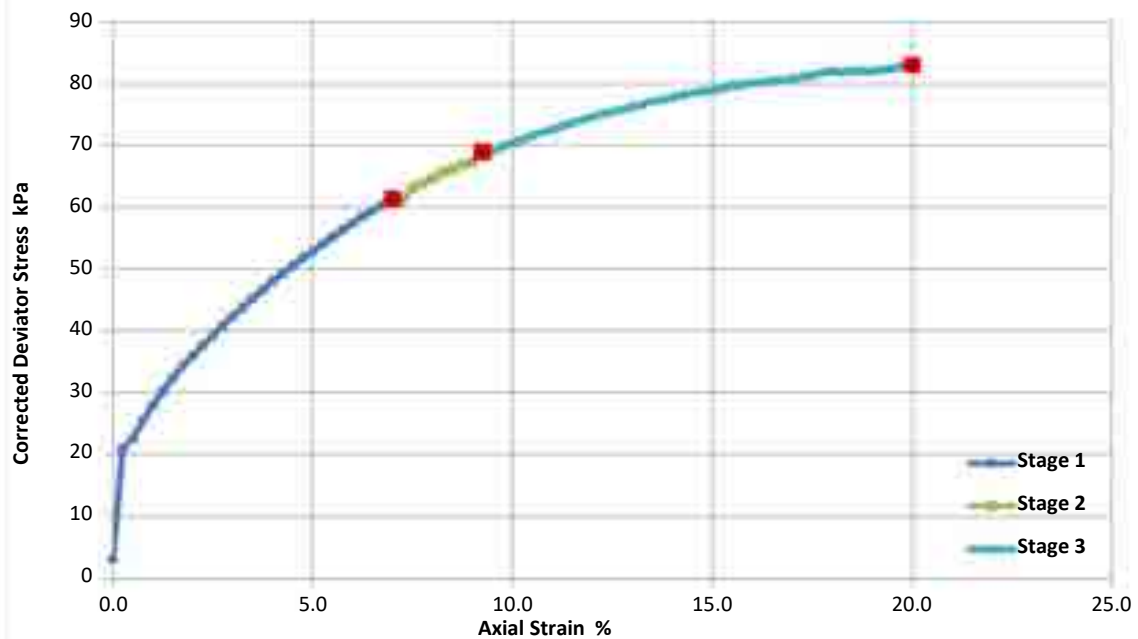
$\phi_u = 0$		Linear Regression	
Average c_u	44 kPa	ϕ_u	3 °
		c_u	29 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



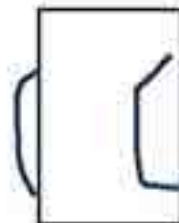
Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number	72769	Project Name	Project Sakura	Sample No.	22
Borehole/Pit No.	BH201	Soil Description	Brown Silty CLAY	Depth Top	16.50
				Depth Base	16.95
Date Tested	25/05/2024	Sample Type	U	Operator	David E



Moisture Content (%)	22		
Bulk Density (Mg/m^3)	2.33		
Dry Density (Mg/m^3)	1.91		
Specimen Length (mm)	209.8		
Specimen Diameter (mm)	96.3		
Stage Number	1	2	3
Cell Pressures (kPa)	150	300	450
Deviator Stress (kPa)	61	69	83
Undrained Shear Strength (kPa)	31	34	41
Failure Strain (%)	7.0	9.2	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

Contract Number 72769

Borehole/Pit No. BH201

Project Name Project Sakura

Sample No. 22

Soil Description Brown Silty CLAY

Depth Top 16.50

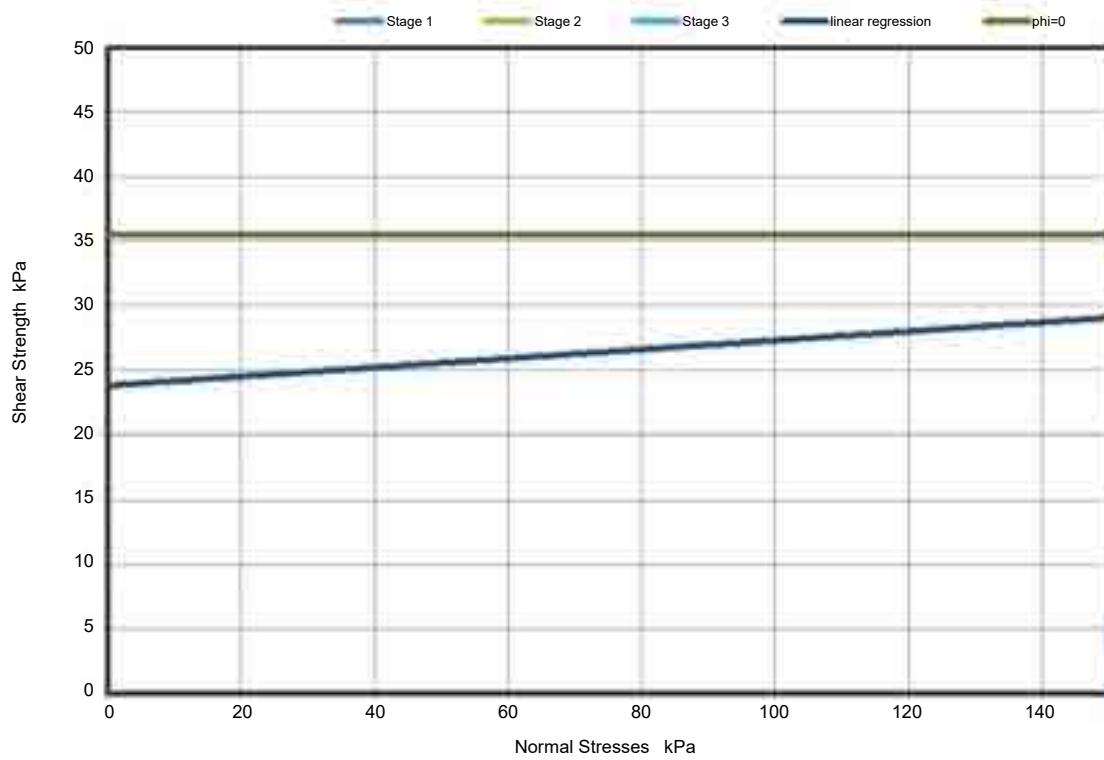
Depth Base 16.95

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



$\phi_u = 0$

Average c_u 36 kPa

Linear Regression

ϕ_u 2 °

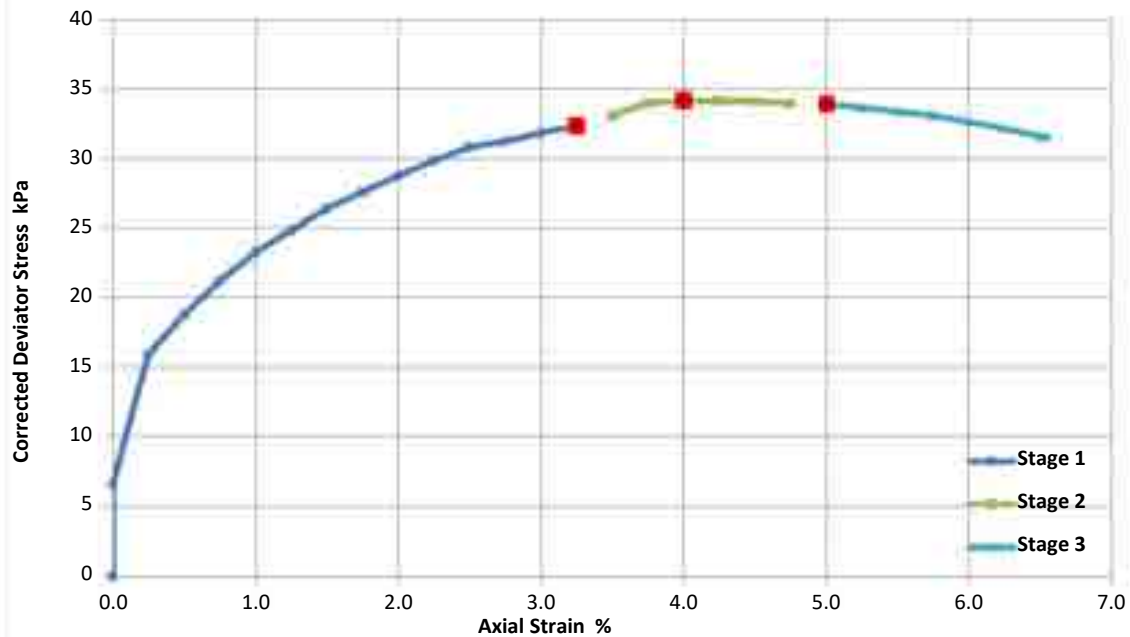
c_u 24 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



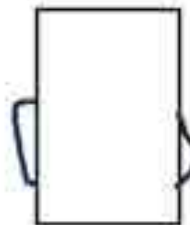
**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

Project Name	Project Sakura	Contract Number	72769
Soil Description	Brown Silty CLAY	Borehole/Pit No.	BH201
Date Tested	25/05/2024	Sample No.	25
		Depth Top	19.50
		Depth Base	19.95
		Sample Type	U
		Operator	David E



Moisture Content (%)	25		
Bulk Density (Mg/m^3)	2.03		
Dry Density (Mg/m^3)	1.63		
Specimen Length (mm)	210.2		
Specimen Diameter (mm)	101.7		
Stage Number	1	2	3
Cell Pressures (kPa)	175	350	525
Deviator Stress (kPa)	32	34	34
Undrained Shear Strength (kPa)	16	17	17
Failure Strain (%)	3.2	4.0	5.0
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number 72769

Borehole/Pit No. BH201

Project Name Project Sakura

Sample No. 25

Soil Description Brown Silty CLAY

Depth Top 19.50

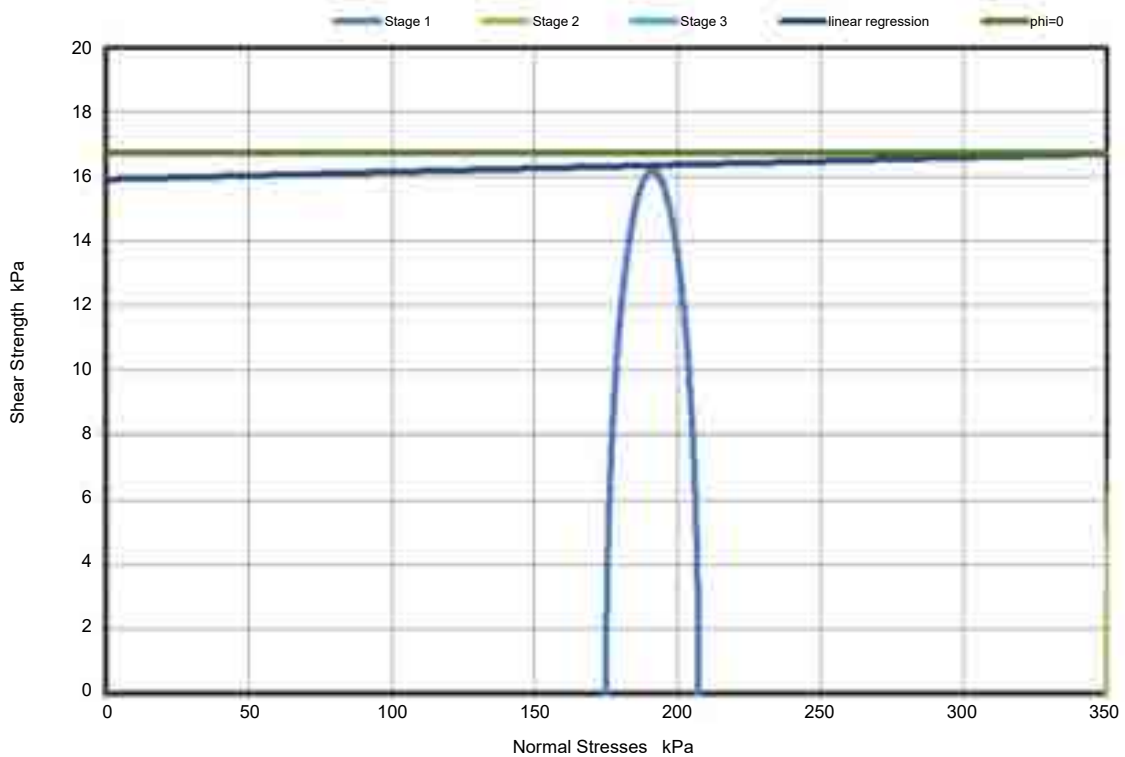
Depth Base 19.95

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



$\phi_u = 0$

Average c_u 17 kPa

Linear Regression

ϕ_u 0.1 °

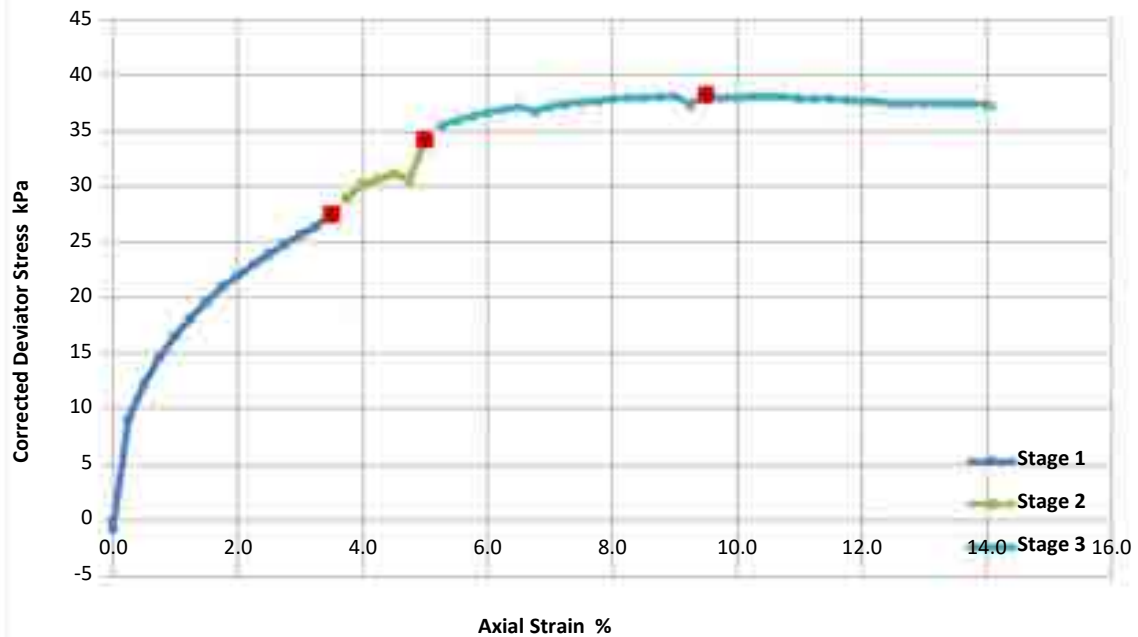
c_u 16 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



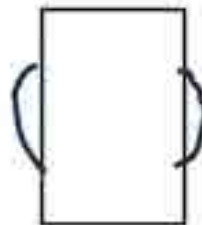
Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Project Name	Project Sakura	Contract Number	72769
		Borehole/Pit No.	BH202
Soil Description	Brown Silty CLAY	Sample No.	19
		Depth Top	10.50
		Depth Base	10.95
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	23		
Bulk Density (Mg/m^3)	1.86		
Dry Density (Mg/m^3)	1.52		
Specimen Length (mm)	210.0		
Specimen Diameter (mm)	105.9		
Stage Number	1	2	3
Cell Pressures (kPa)	95	190	286
Deviator Stress (kPa)	28	34	38
Undrained Shear Strength (kPa)	14	17	19
Failure Strain (%)	3.5	5.0	9.5
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number 72769

Borehole/Pit No. BH202

Project Name Project Sakura

Sample No. 19

Soil Description Brown Silty CLAY

Depth Top 10.50

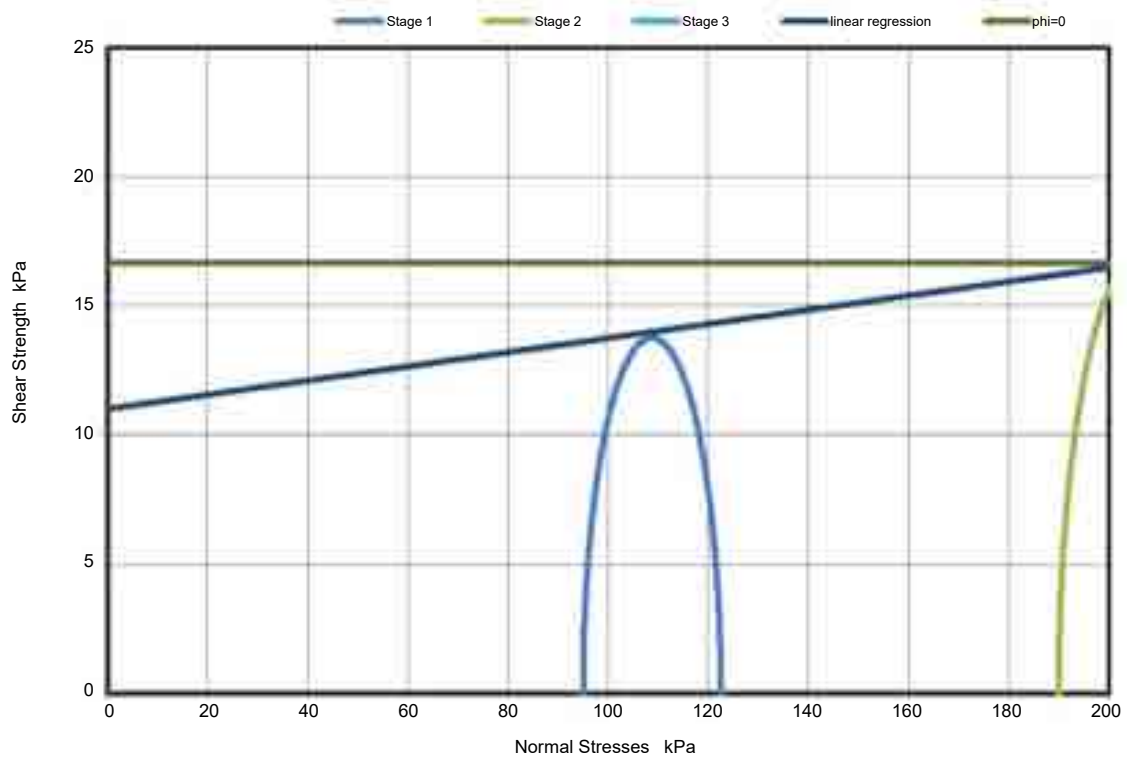
Depth Base 10.95

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



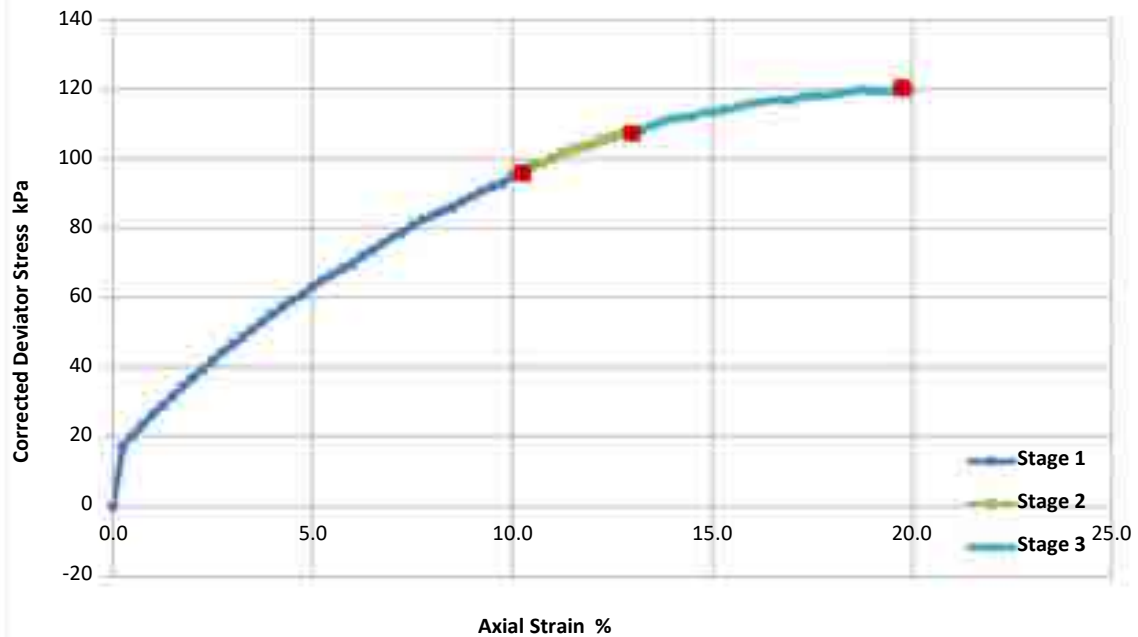
$\phi_u = 0$		Linear Regression	
Average c_u	17 kPa	ϕ_u	1.6 °
		c_u	11 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



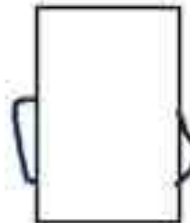
**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

Project Name	Project Sakura	Contract Number	72769
Soil Description	Brown sandy Silty CLAY	Borehole/Pit No.	BH202
Date Tested	25/05/2024	Sample No.	11
		Depth Top	5.00
		Depth Base	5.45
		Sample Type	U
		Operator	David E



Moisture Content (%)	24		
Bulk Density (Mg/m^3)	2.04		
Dry Density (Mg/m^3)	1.65		
Specimen Length (mm)	208.0		
Specimen Diameter (mm)	100.9		
Stage Number	1	2	3
Cell Pressures (kPa)	45	90	135
Deviator Stress (kPa)	96	107	120
Undrained Shear Strength (kPa)	48	54	60
Failure Strain (%)	10	13	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number 72769

Borehole/Pit No. BH202

Project Name Project Sakura

Sample No. 11

Soil Description Brown sandy Silty CLAY

Depth Top 5.00

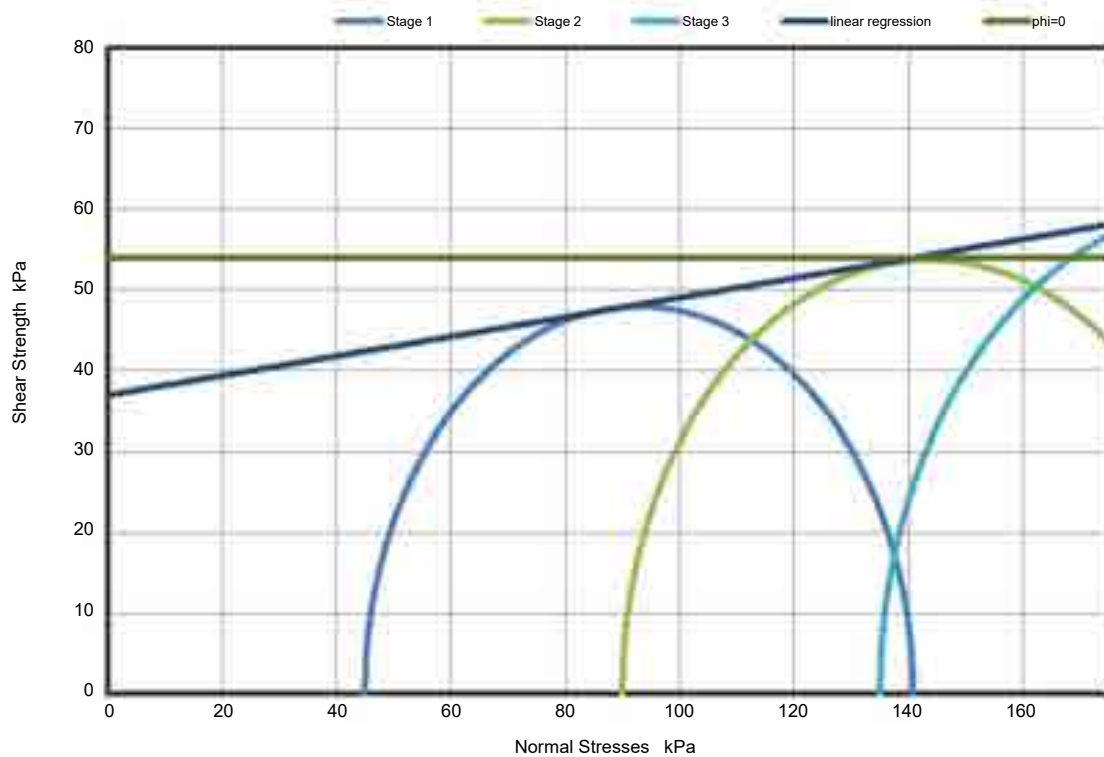
Depth Base 5.45

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



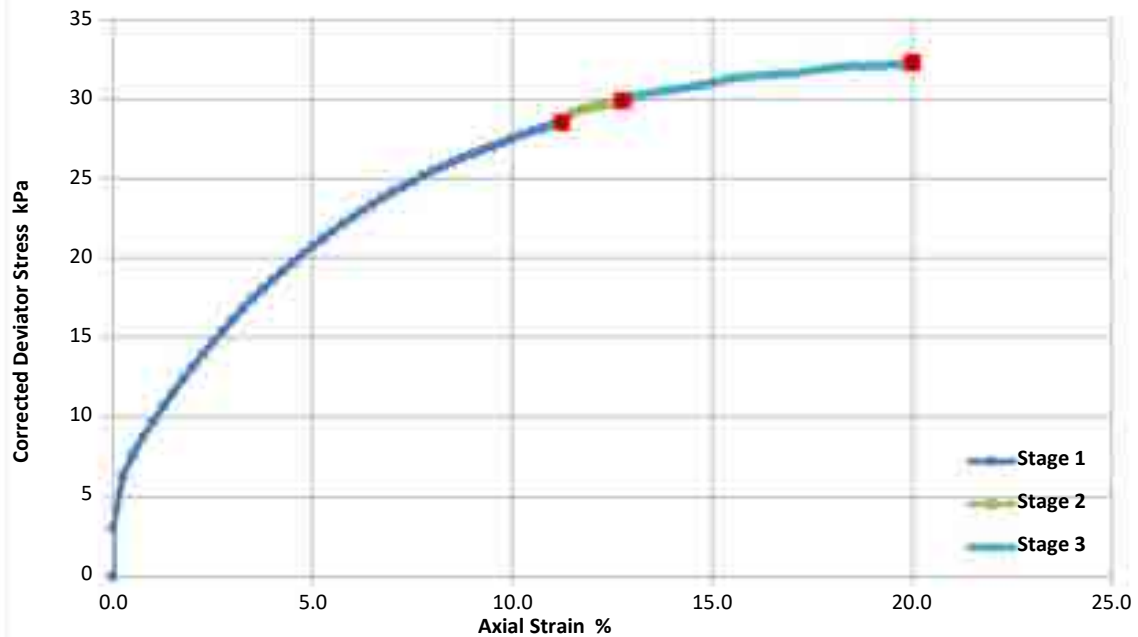
$\phi_u = 0$		Linear Regression	
Average c_u	54 kPa	ϕ_u	6.9 °
		c_u	37 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



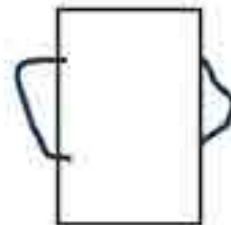
**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

Project Name	Project Sakura	Contract Number	72769
Soil Description	Brown Gravelly Silty Sandy CLAY	Borehole/Pit No.	BH202
Date Tested	25/05/2024	Sample No.	15
		Depth Top	7.50
		Depth Base	7.95
		Sample Type	U
		Operator	David E



Moisture Content (%)	20		
Bulk Density (Mg/m^3)	0.41		
Dry Density (Mg/m^3)	0.34		
Specimen Length (mm)	243.0		
Specimen Diameter (mm)	211.6		
Stage Number	1	2	3
Cell Pressures (kPa)	68	135	203
Deviator Stress (kPa)	29	30	32
Undrained Shear Strength (kPa)	14	15	16
Failure Strain (%)	11	13	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number 72769

Borehole/Pit No. BH202

Project Name Project Sakura

Sample No. 15

Soil Description Brown Gravelly Silty Sandy CLAY

Depth Top 7.50

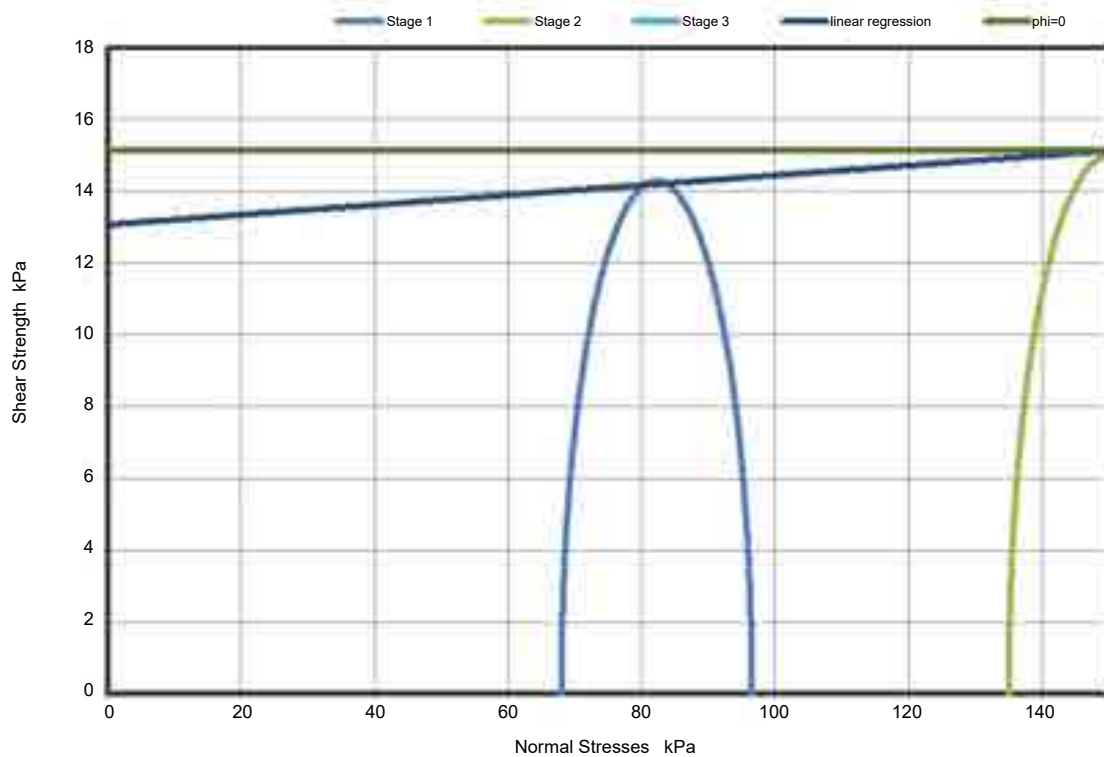
Depth Base 7.95

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



$\phi_u = 0$

Average c_u 15 kPa

Linear Regression

ϕ_u 0.8 °

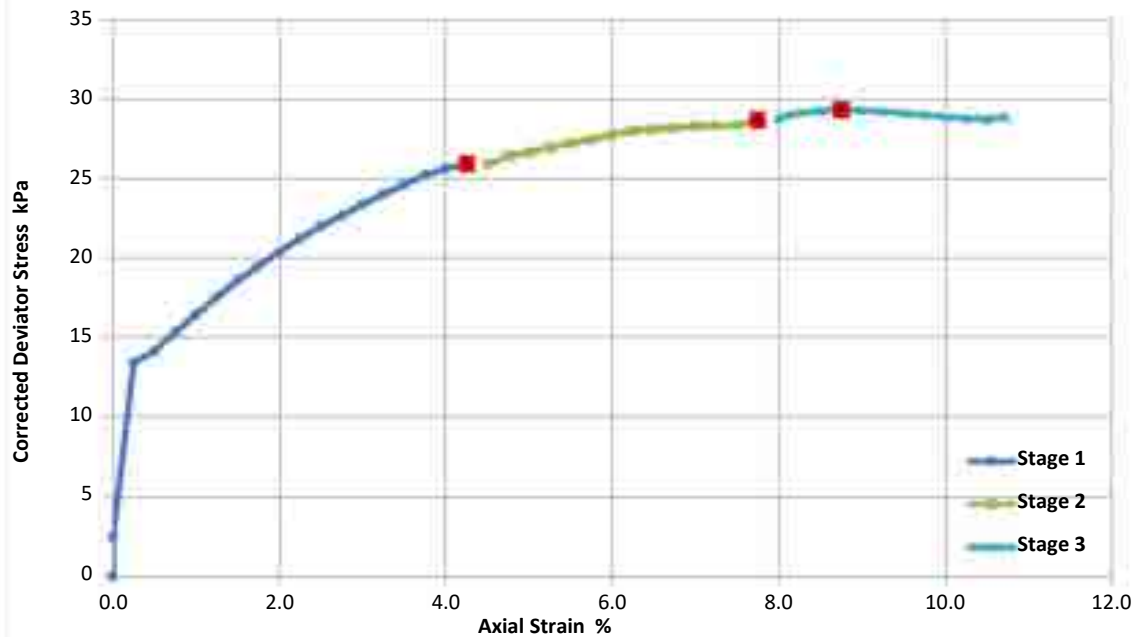
c_u 13 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



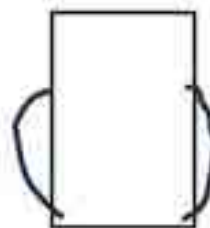
Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number	72769	Project Name	Project Sakura	Sample No.	15
Borehole/Pit No.	BH203	Soil Description	Brown Silty CLAY	Depth Top	13.00
				Depth Base	13.45
Date Tested	25/05/2024			Sample Type	U
				Operator	David E



Moisture Content (%)	17		
Bulk Density (Mg/m^3)	2.19		
Dry Density (Mg/m^3)	1.86		
Specimen Length (mm)	209.5		
Specimen Diameter (mm)	100.6		
Stage Number	1	2	3
Cell Pressures (kPa)	75	150	300
Deviator Stress (kPa)	26	29	29
Undrained Shear Strength (kPa)	13	14	15
Failure Strain (%)	4.3	7.7	8.7
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number 72769

Borehole/Pit No. BH203

Project Name Project Sakura

Sample No. 15

Soil Description Brown Silty CLAY

Depth Top 13.00

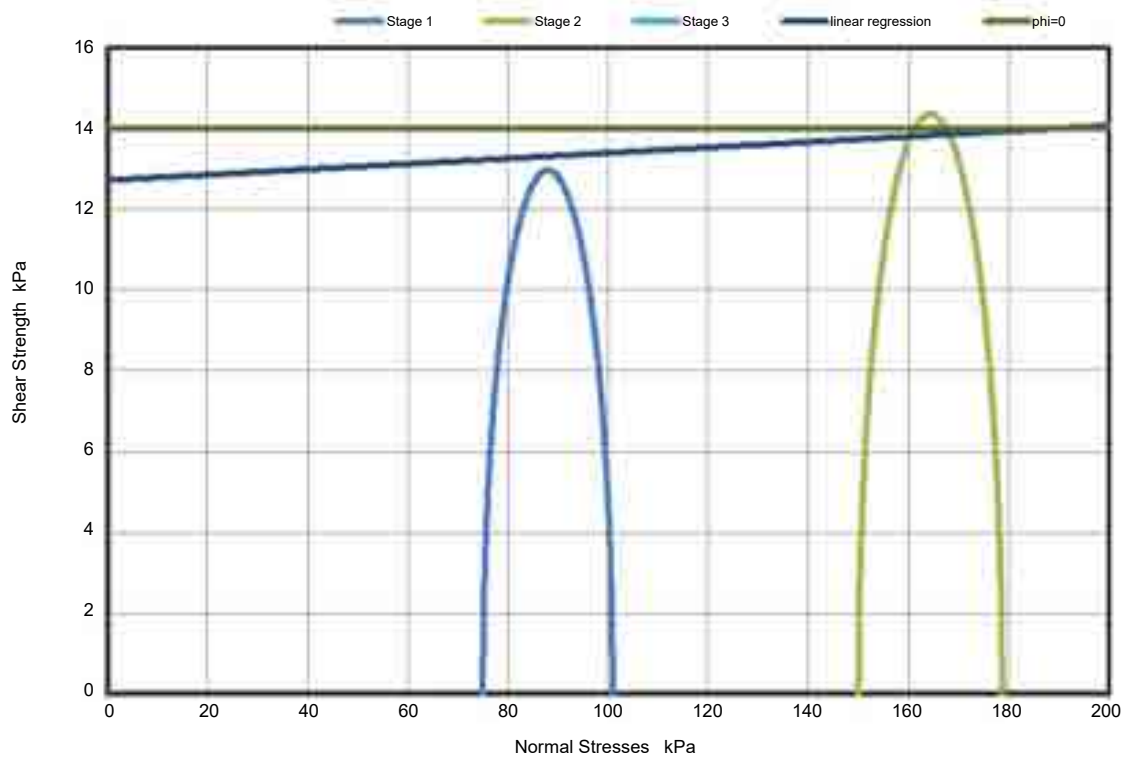
Depth Base 13.45

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



$\phi_u = 0$

Average c_u 14 kPa

Linear Regression

ϕ_u 0.4 °

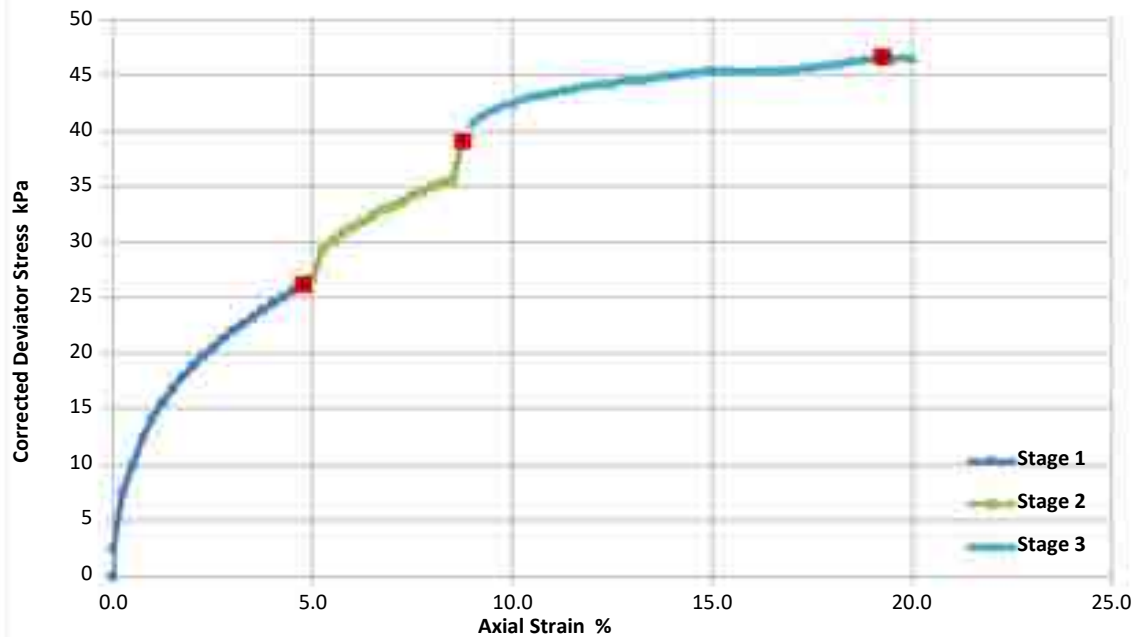
c_u 13 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



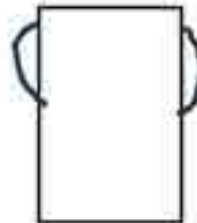
**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

Project Name	Project Sakura	Contract Number	72769
Soil Description	Brown Sandy Silty Wet CLAY	Borehole/Pit No.	BH203
Date Tested	25/05/2024	Sample No.	22
		Depth Top	19.00
		Depth Base	19.45
		Sample Type	U
		Operator	David E



Moisture Content (%)	25		
Bulk Density (Mg/m^3)	1.99		
Dry Density (Mg/m^3)	1.59		
Specimen Length (mm)	210.9		
Specimen Diameter (mm)	104.9		
Stage Number	1	2	3
Cell Pressures (kPa)	170	340	510
Deviator Stress (kPa)	26	39	47
Undrained Shear Strength (kPa)	13	20	23
Failure Strain (%)	4.8	8.8	19
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number 72769

Borehole/Pit No. BH203

Project Name Project Sakura

Sample No. 22

Soil Description Brown Sandy Silty Wet CLAY

Depth Top 19.00

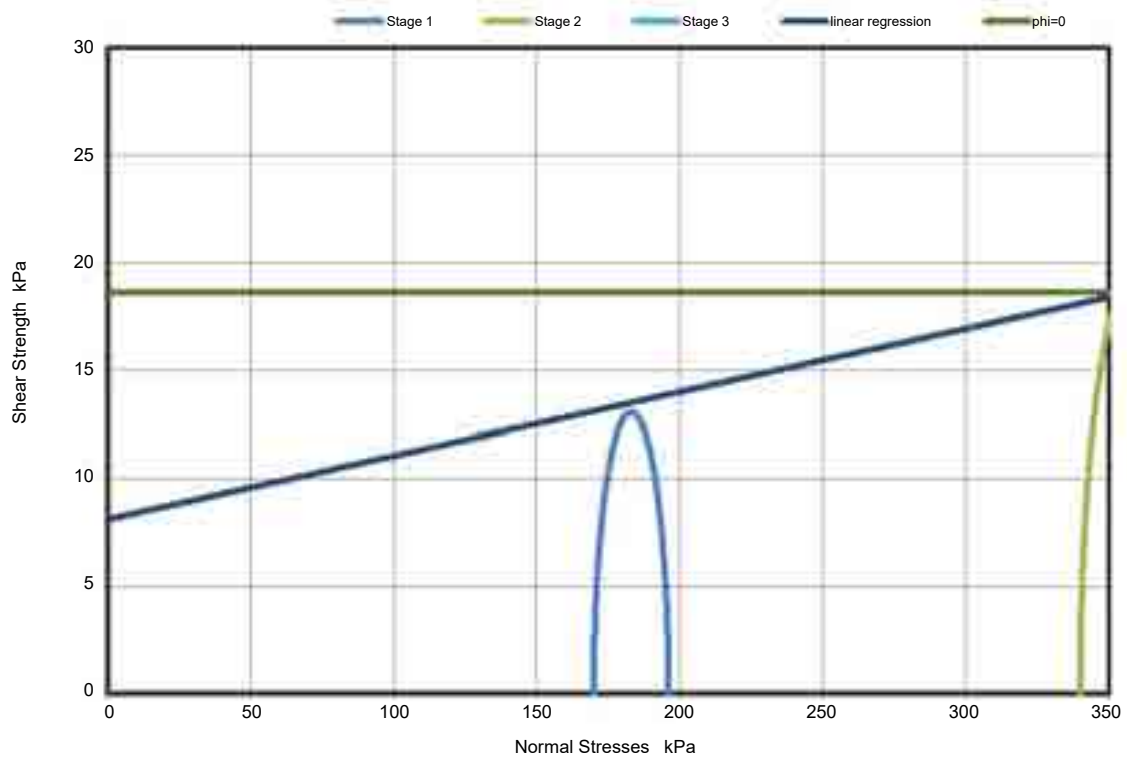
Depth Base 19.45

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



$\phi_u = 0$

Average c_u 19 kPa

Linear Regression

ϕ_u 1.7 °

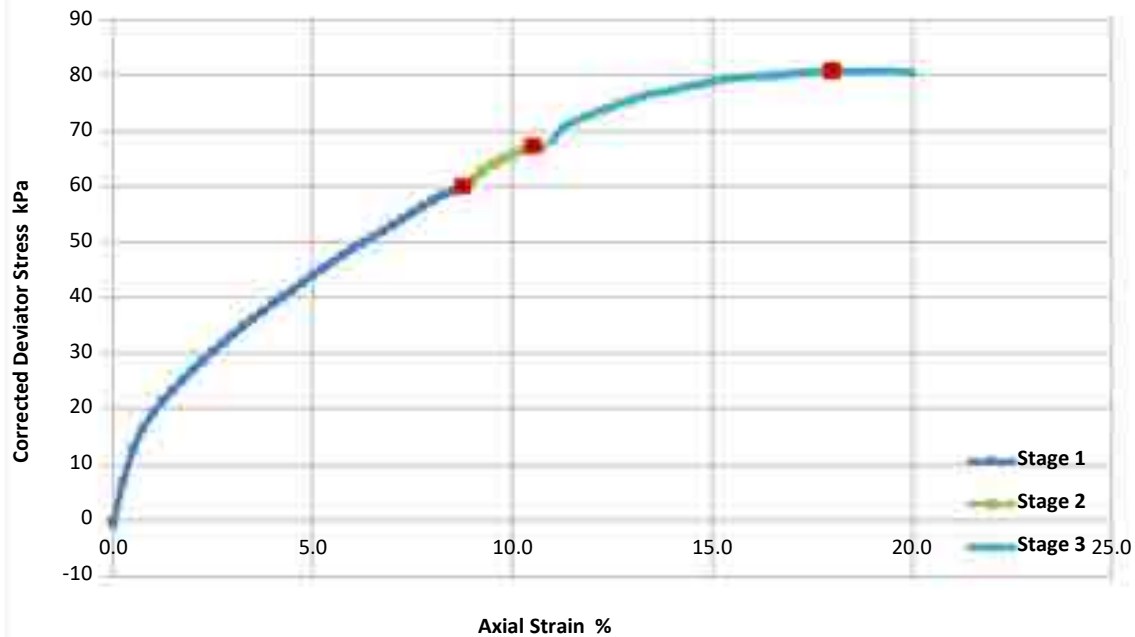
c_u 8 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



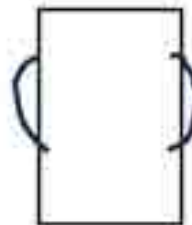
Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Project Name	Project Sakura	Contract Number	72769
Soil Description	Brown Silty CLAY	Borehole/Pit No.	BH203
Date Tested	25/05/2024	Sample No.	7
		Depth Top	7.00
		Depth Base	7.45
		Sample Type	U
		Operator	David E



Moisture Content (%)	24		
Bulk Density (Mg/m^3)	2.06		
Dry Density (Mg/m^3)	1.66		
Specimen Length (mm)	206.8		
Specimen Diameter (mm)	100.8		
Stage Number	1	2	3
Cell Pressures (kPa)	63	125	250
Deviator Stress (kPa)	60	67	81
Undrained Shear Strength (kPa)	30	34	40
Failure Strain (%)	8.8	10	18
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number 72769

Borehole/Pit No. BH203

Project Name Project Sakura

Sample No. 7

Soil Description Brown Silty CLAY

Depth Top 7.00

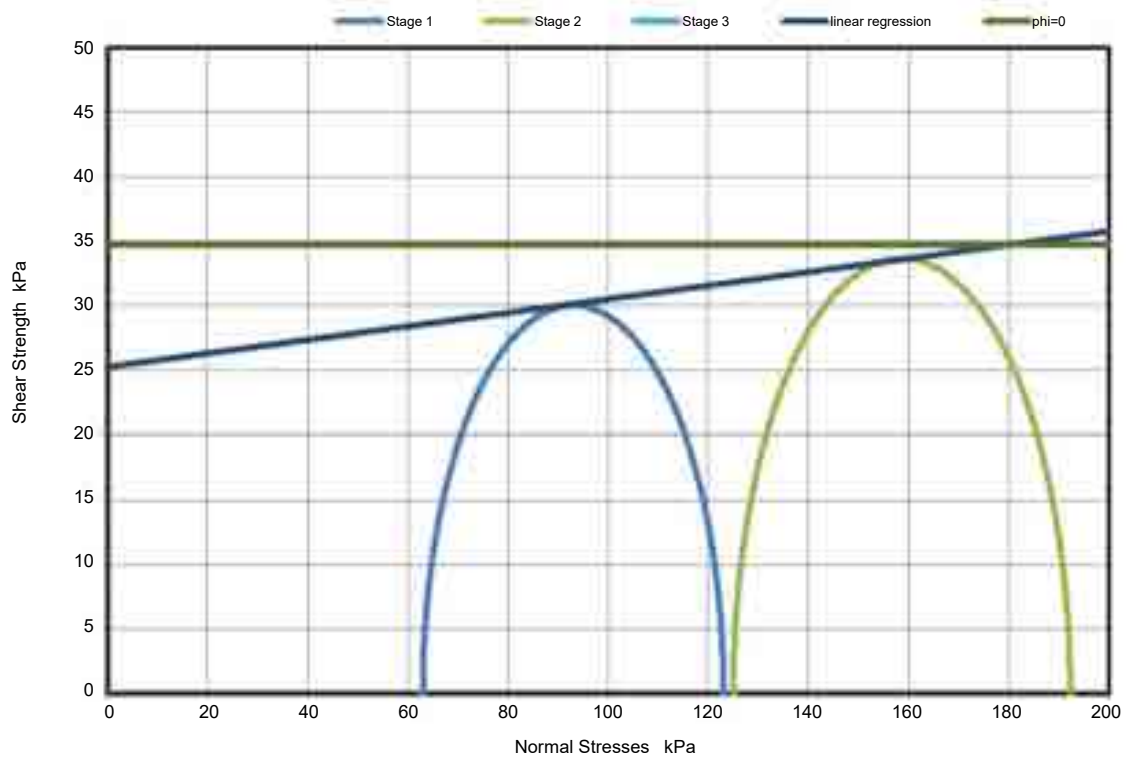
Depth Base 7.45

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



$\phi_u = 0$

Average c_u 35 kPa

Linear Regression

ϕ_u 3 °

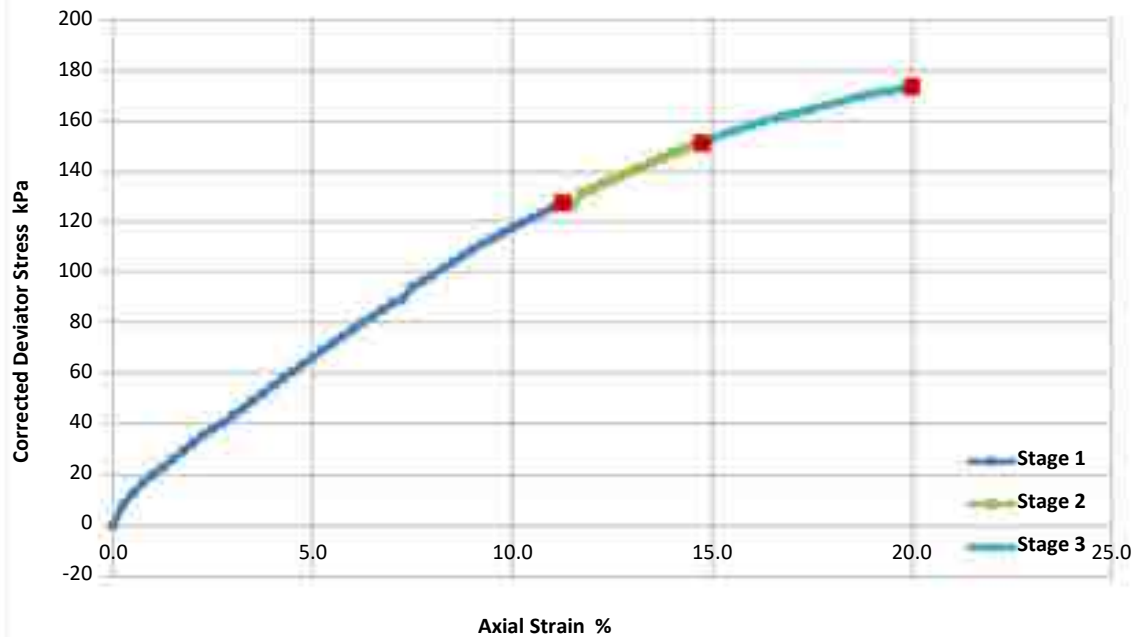
c_u 25 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



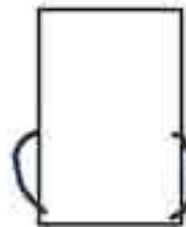
Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Project Name	Project Sakura	Contract Number	72769
Soil Description	Brown Silty Sandy CLAY	Borehole/Pit No.	BH204
Date Tested	25/05/2024	Sample No.	15
		Depth Top	10.00
		Depth Base	10.45
		Sample Type	U
		Operator	David E



Moisture Content (%)	25		
Bulk Density (Mg/m^3)	1.99		
Dry Density (Mg/m^3)	1.59		
Specimen Length (mm)	210.9		
Specimen Diameter (mm)	104.9		
Stage Number	1	2	3
Cell Pressures (kPa)	95	190	285
Deviator Stress (kPa)	128	151	174
Undrained Shear Strength (kPa)	64	76	87
Failure Strain (%)	11	15	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number 72769

Borehole/Pit No. BH204

Project Name Project Sakura

Sample No. 15

Soil Description Brown Silty Sandy CLAY

Depth Top 10.00

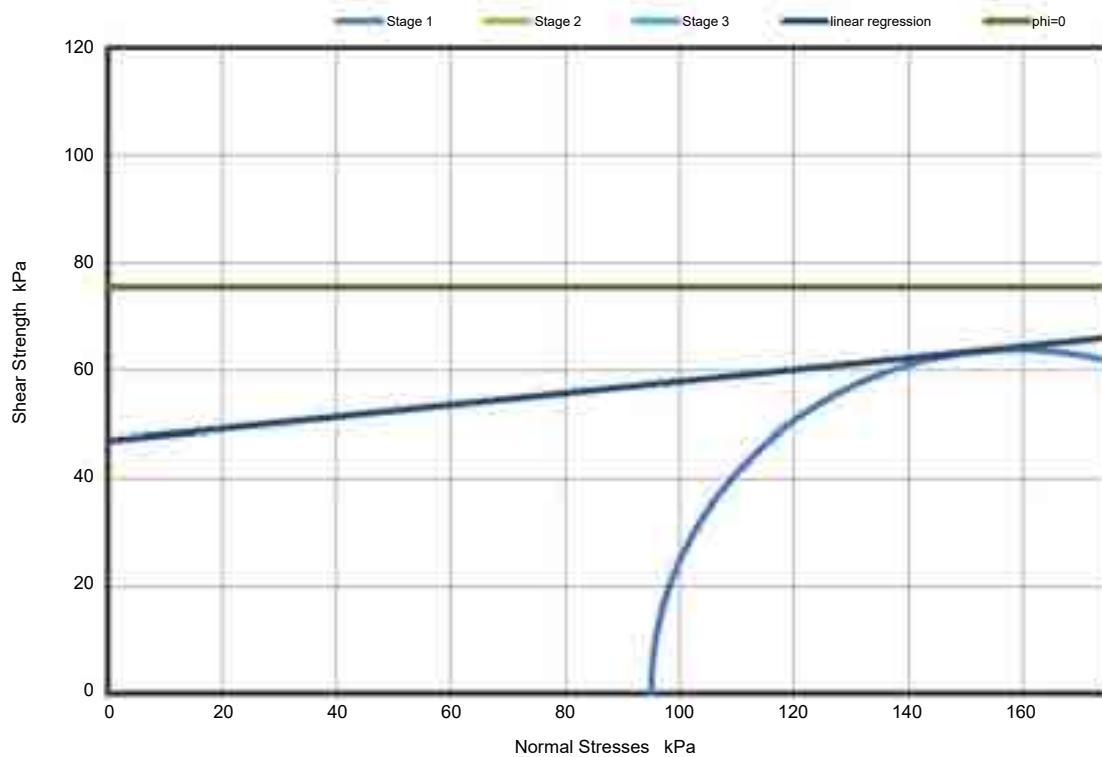
Depth Base 10.45

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



$\phi_u = 0$

Average c_u 75 kPa

Linear Regression

ϕ_u 6.2 °

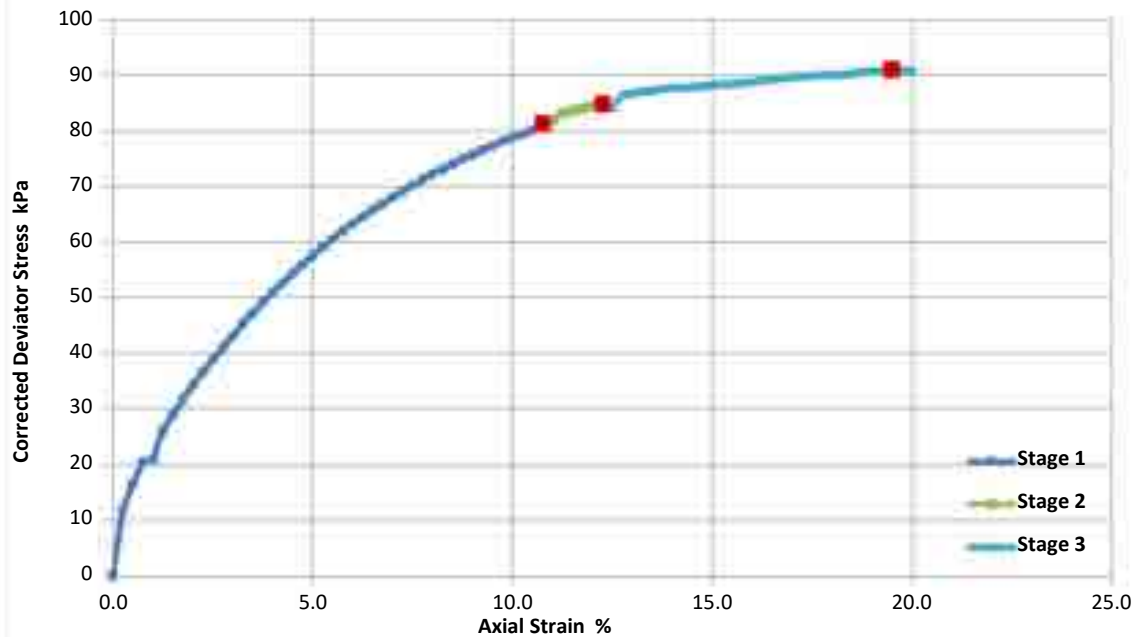
c_u 47 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



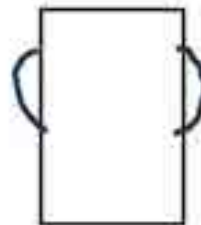
**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

Project Name	Project Sakura	Contract Number	72769
Soil Description	Brown Silty Sandy CLAY	Borehole/Pit No.	BH204
Date Tested	25/05/2024	Sample No.	21
		Depth Top	16.50
		Depth Base	16.95
		Sample Type	U
		Operator	David E



Moisture Content (%)	25		
Bulk Density (Mg/m^3)	1.80		
Dry Density (Mg/m^3)	1.44		
Specimen Length (mm)	210.5		
Specimen Diameter (mm)	102.0		
Stage Number	1	2	3
Cell Pressures (kPa)	75	150	300
Deviator Stress (kPa)	81	85	91
Undrained Shear Strength (kPa)	41	42	46
Failure Strain (%)	11	12	19
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number 72769

Borehole/Pit No. BH204

Project Name Project Sakura

Sample No. 21

Soil Description Brown Silty Sandy CLAY

Depth Top 16.50

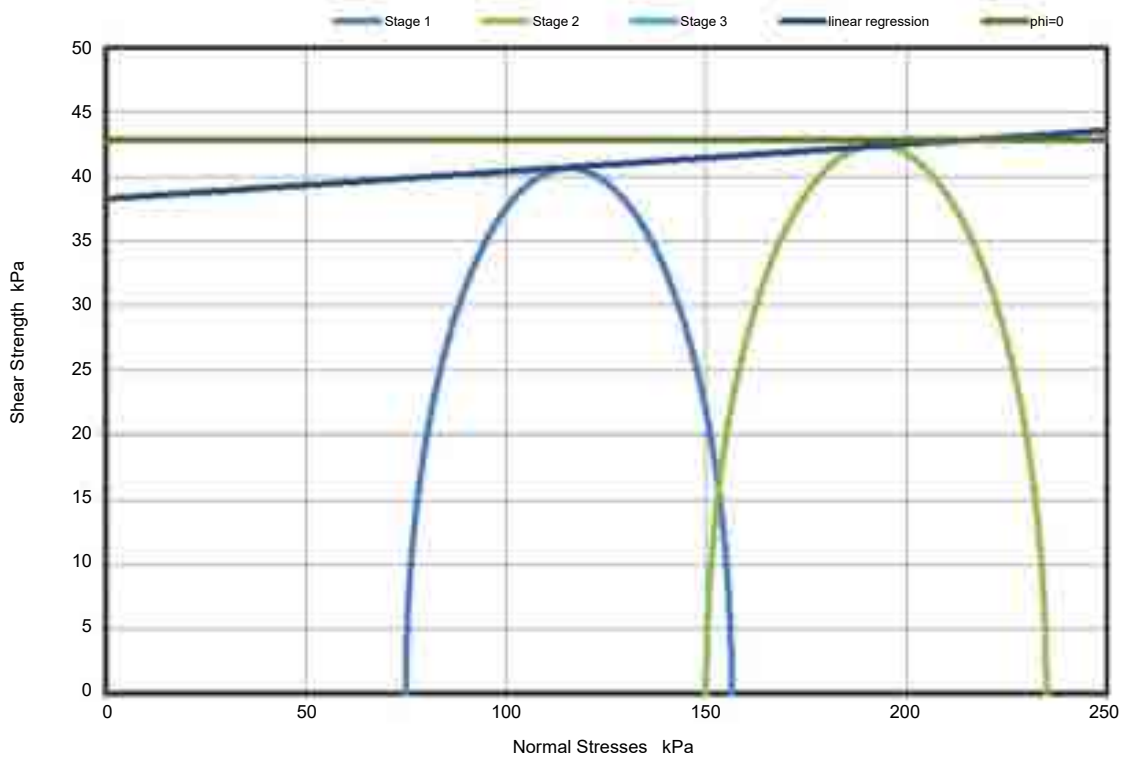
Depth Base 16.95

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



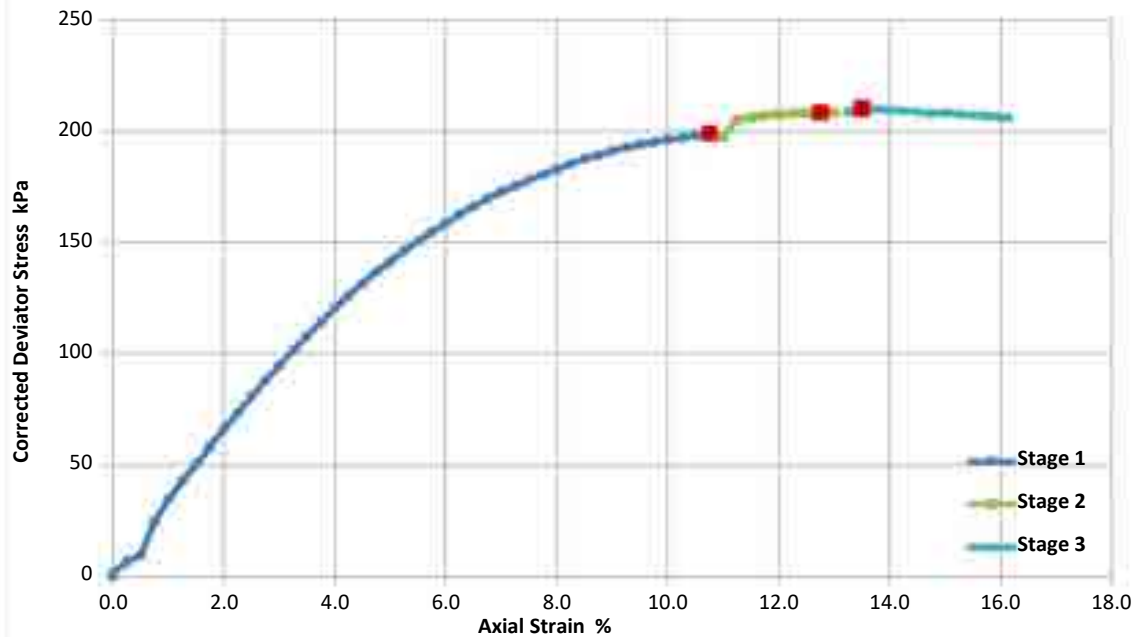
$\phi_u = 0$			Linear Regression	
Average c_u	43	kPa	ϕ_u	1.2 °
			c_u	38 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



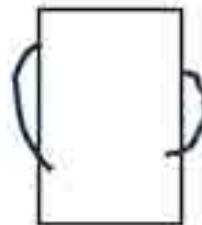
**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

Project Name	Project Sakura	Contract Number	72769
Soil Description	Brown Sandy Silty CLAY	Borehole/Pit No.	BH204
Date Tested	25/05/2024	Sample No.	26
		Depth Top	22.50
		Depth Base	22.95
		Sample Type	U
		Operator	David E



Moisture Content (%)	20		
Bulk Density (Mg/m^3)	2.12		
Dry Density (Mg/m^3)	1.77		
Specimen Length (mm)	209.9		
Specimen Diameter (mm)	100.6		
Stage Number	1	2	3
Cell Pressures (kPa)	203	405	608
Deviator Stress (kPa)	199	208	210
Undrained Shear Strength (kPa)	100	104	105
Failure Strain (%)	11	13	13
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number 72769

Borehole/Pit No. BH204

Project Name Project Sakura

Sample No. 26

Soil Description Brown Sandy Silty CLAY

Depth Top 22.50

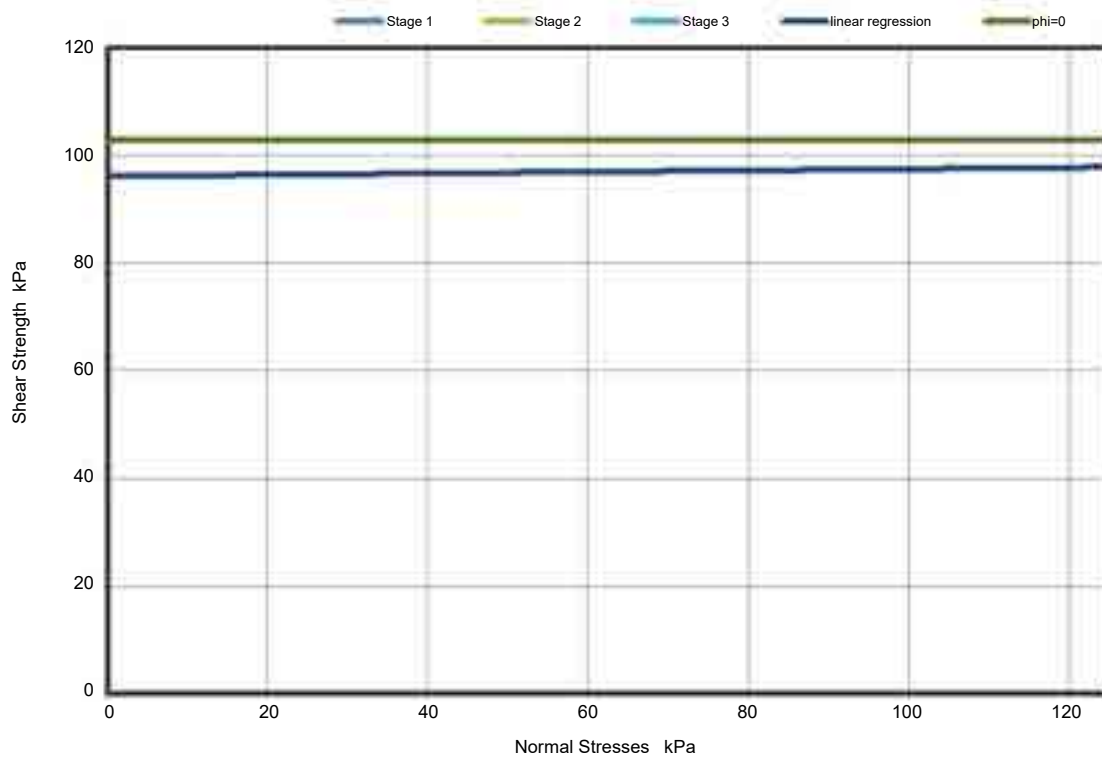
Depth Base 22.95

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



$\phi_u = 0$

Average c_u 103 kPa

Linear Regression

ϕ_u 0.8 °

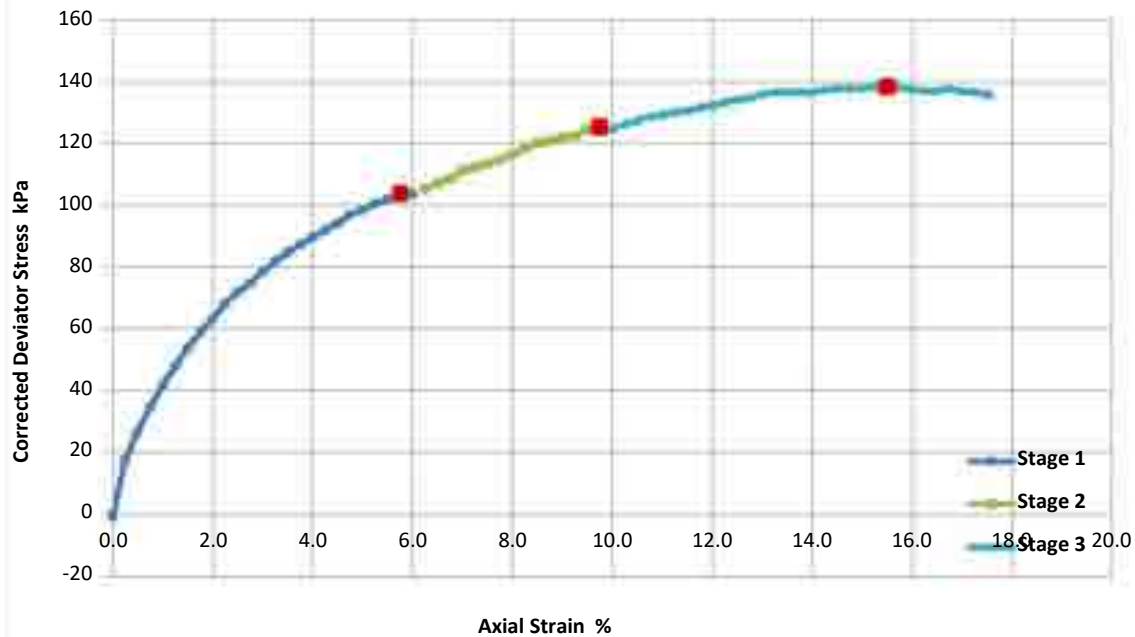
c_u 96 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



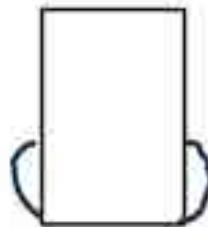
Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Project Name	Project Sakura	Contract Number	72769
Soil Description	Brown Gravelly Silty CLAY	Borehole/Pit No.	BH205
Date Tested	25/05/2024	Sample No.	7
		Depth Top	3.00
		Depth Base	3.45
		Sample Type	U
		Operator	David E



Moisture Content (%)	22		
Bulk Density (Mg/m^3)	2.01		
Dry Density (Mg/m^3)	1.65		
Specimen Length (mm)	210.2		
Specimen Diameter (mm)	101.2		
Stage Number	1	2	3
Cell Pressures (kPa)	28	55	83
Deviator Stress (kPa)	104	125	138
Undrained Shear Strength (kPa)	52	63	69
Failure Strain (%)	5.7	9.7	15
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number 72769

Borehole/Pit No. BH205

Project Name Project Sakura

Sample No. 7

Soil Description Brown Gravelly Silty CLAY

Depth Top 3.00

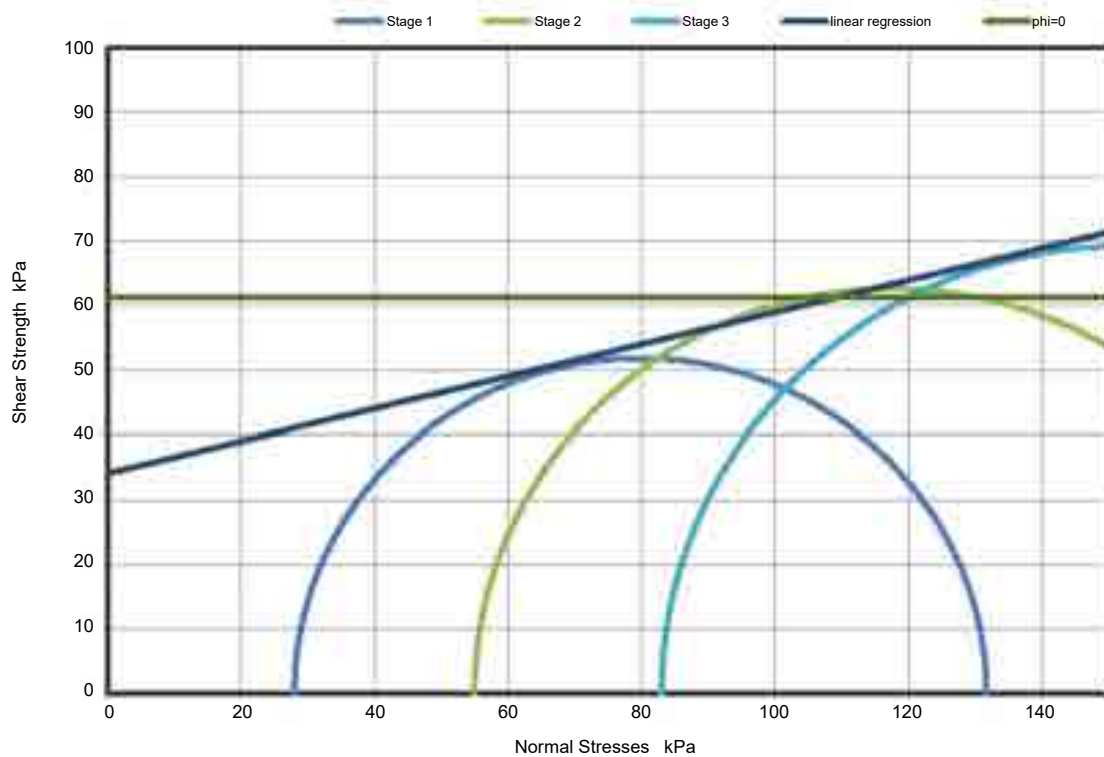
Depth Base 3.45

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



$\phi_u = 0$

Average c_u 61 kPa

Linear Regression

ϕ_u 13.9 °

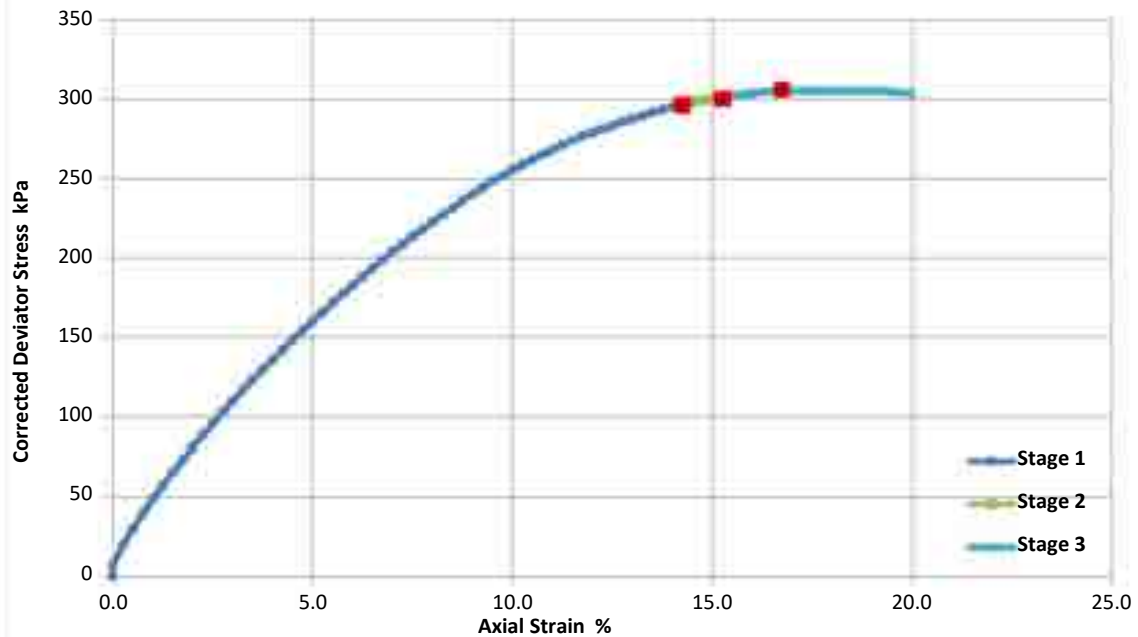
c_u 34 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

Project Name	Project Sakura	Contract Number	72769
Soil Description	Brown Sandy Silty CLAY	Borehole/Pit No.	BH205
Date Tested	25/05/2024	Sample No.	11
		Depth Top	5.00
		Depth Base	5.45
		Sample Type	U
		Operator	David E



Moisture Content (%)	18		
Bulk Density (Mg/m^3)	1.92		
Dry Density (Mg/m^3)	1.63		
Specimen Length (mm)	210.2		
Specimen Diameter (mm)	103.2		
Stage Number	1	2	3
Cell Pressures (kPa)	45	90	135
Deviator Stress (kPa)	296	300	306
Undrained Shear Strength (kPa)	148	150	153
Failure Strain (%)	14	15	17
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.



Failure Sketch.





Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number 72769

Borehole/Pit No. BH205

Project Name Project Sakura

Sample No. 11

Soil Description Brown Sandy Silty CLAY

Depth Top 5.00

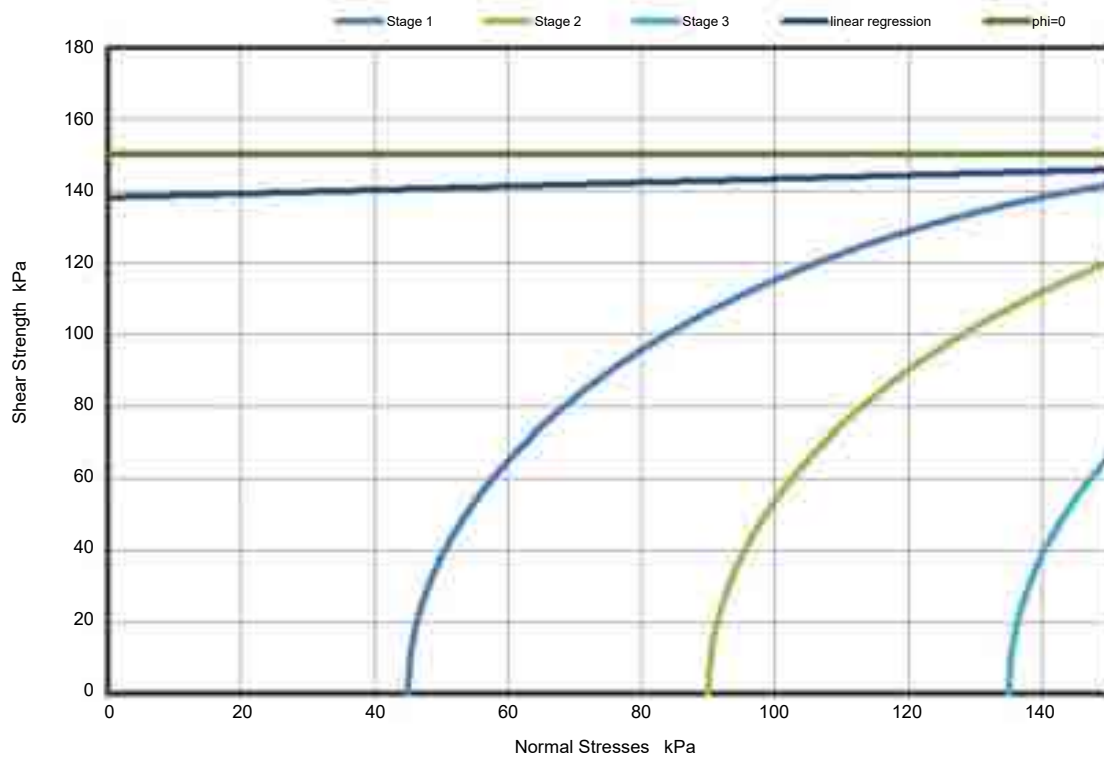
Depth Base 5.45

Date Tested 25/05/2024

Sample Type U

Technician David E

Mohr Circles



$\phi_u = 0$			Linear Regression	
Average c_u	150	kPa	ϕ_u	3 °
			c_u	138 kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.



Chemtest

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL

Tel: 01638 606070

Email: info@chemtest.com

Final Report

Report No.: 24-01464-1

Initial Date of Issue: 29-Jan-2024

Re-Issue Details:

Client Jackson Geo Services

Client Address: Unit B3
Fram Enterprise Centre
Parc Busnes Edwards
Llantrisant
Pontyclun
CF72 8QZ

Contact(s): Adam Putt
Filip Taylor

Project G24001 Sakura, Wrexham

Quotation No.: Q23-32820

Date Received: 19-Jan-2024

Order No.:

Date Instructed: 23-Jan-2024

No. of Samples: 4

Turnaround (Wkdays): 5

Results Due: 29-Jan-2024

Date Approved: 29-Jan-2024

Approved By:

Details: Nick Watson, Operations Director

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services		Chemtest Job No.:		24-01464	24-01464	24-01464	24-01464
Quotation No.: Q23-32820		Chemtest Sample ID.:		1755627	1755628	1755629	1755631
Order No.:		Client Sample Ref.:		4	1	1	8
		Client Sample ID.:		#47648943284 30004	#52898402117 50001	#55133006467 90001	#55133006467 90008
		Sample Location:		TP101	TP101A	TP104	TP104
		Sample Type:		SOIL	SOIL	SOIL	SOIL
		Top Depth (m):		1.00	1.50	0.50	3.40
		Bottom Depth (m):		1.20	1.60	0.70	3.50
		Date Sampled:		17-Jan-2024	17-Jan-2024	17-Jan-2024	17-Jan-2024
		Time Sampled:		11:33	11:59	13:45	13:50
		Asbestos Lab:		NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
ACM Type		U	2192		N/A	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	14	13
Soil Colour		N	2040		N/A	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones
Soil Texture		N	2040		N/A	Clay	Clay
pH at 20C		M	2010		4.0	8.6	8.8
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	< 0.40	0.55
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010	0.031
Cyanide (Total)		M	2300	mg/kg	0.50	0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	13	8.7
Cadmium		M	2455	mg/kg	0.10	0.31	0.34
Chromium		M	2455	mg/kg	0.5	34	32
Copper		M	2455	mg/kg	0.50	21	20
Mercury		M	2455	mg/kg	0.05	0.08	0.05
Nickel		M	2455	mg/kg	0.50	38	28
Lead		M	2455	mg/kg	0.50	45	67
Selenium		M	2455	mg/kg	0.25	0.70	0.45
Vanadium		U	2455	mg/kg	0.5	33	27
Zinc		M	2455	mg/kg	0.50	110	140
Chromium (Trivalent)		N	2490	mg/kg	1.0	34	32
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00	< 1.0	< 1.0
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00	< 3.0	< 3.0
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services				Chemtest Job No.:	24-01464	24-01464	24-01464	24-01464
Quotation No.: Q23-32820				Chemtest Sample ID.:	1755627	1755628	1755629	1755631
Order No.:				Client Sample Ref.:	4	1	1	8
				Client Sample ID.:	#47648943284 30004	#52898402117 50001	#55133006467 90001	#55133006467 90008
				Sample Location:	TP101	TP101A	TP104	TP104
				Sample Type:	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	1.00	1.50	0.50	3.40
				Bottom Depth (m):	1.20	1.60	0.70	3.50
				Date Sampled:	17-Jan-2024	17-Jan-2024	17-Jan-2024	17-Jan-2024
				Time Sampled:	11:33	11:59	13:45	13:50
				Asbestos Lab:	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD			
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	< 5.0	< 5.0	< 5.0
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	< 1.0	1.0	1.8
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	< 5.0	< 5.0	< 5.0
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35 NC	EH_Total_2D_#1	U	2690	mg/kg	10.00	< 10	< 10	< 10
Total EPH >C10-C40 NC	EH_Total_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10
Total Organic Carbon		M	2625	%	0.20	1.1	0.74	0.82
Naphthalene		M	2800	mg/kg	0.10	0.11	< 0.10	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	0.12	0.20	< 0.10
Anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	0.22	0.50	< 0.10
Pyrene		M	2800	mg/kg	0.10	0.24	0.45	< 0.10
Benzo[a]anthracene		M	2800	mg/kg	0.10	0.13	0.24	< 0.10
Chrysene		M	2800	mg/kg	0.10	0.14	0.22	< 0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	0.27	0.35	< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10	0.12	< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	0.16	0.27	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	0.18	< 0.10	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services		Chemtest Job No.:	24-01464	24-01464	24-01464	24-01464
Quotation No.: Q23-32820		Chemtest Sample ID.:	1755627	1755628	1755629	1755631
Order No.:		Client Sample Ref.:	4	1	1	8
		Client Sample ID.:	#47648943284 30004	#52898402117 50001	#55133006467 90001	#55133006467 90008
		Sample Location:	TP101	TP101A	TP104	TP104
		Sample Type:	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):	1.00	1.50	0.50	3.40
		Bottom Depth (m):	1.20	1.60	0.70	3.50
		Date Sampled:	17-Jan-2024	17-Jan-2024	17-Jan-2024	17-Jan-2024
		Time Sampled:	11:33	11:59	13:45	13:50
		Asbestos Lab:	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD	
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	0.15
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0
Total Phenols		M	2920	mg/kg	0.10	0.39
						< 0.10
						< 0.10
						< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH at 20°C	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8–C10 Aromatics: >C5–C7,>C7–C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com



Chemtest

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL

Tel: 01638 606070

Email: info@chemtest.com

Final Report

Report No.: 24-01576-1

Initial Date of Issue: 29-Jan-2024

Re-Issue Details:

Client Jackson Geo Services

Client Address: Unit B3
Fram Enterprise Centre
Parc Busnes Edwards
Llantrisant
Pontyclun
CF72 8QZ

Contact(s): Adam Putt
Filip Taylor

Project G24001 Sakura, Wrexham

Quotation No.: Q23-32820

Date Received: 19-Jan-2024

Order No.:

Date Instructed: 23-Jan-2024

No. of Samples: 1

Turnaround (Wkdays): 5

Results Due: 29-Jan-2024

Date Approved: 29-Jan-2024

Approved By:

Details: Stuart Henderson, Technical
Manager

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services		Chemtest Job No.:		24-01576	
Quotation No.: Q23-32820		Chemtest Sample ID.:		1755988	
Order No.:		Client Sample Ref.:		1	
		Client Sample ID.:		#17897457032 30001	
		Sample Location:		HP101	
		Sample Type:		SOIL	
		Top Depth (m):		0.20	
		Bottom Depth (m):		0.40	
		Date Sampled:		16-Jan-2024	
		Time Sampled:		10:45	
		Asbestos Lab:		NEW-ASB	
Determinand	HWOL Code	Accred.	SOP	Units	LOD
ACM Type		U	2192		N/A
Asbestos Identification		U	2192		N/A
Moisture		N	2030	%	0.020
Soil Colour		N	2040		N/A
Other Material		N	2040		N/A
Soil Texture		N	2040		N/A
pH at 20C		M	2010		4.0
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010
Cyanide (Total)		M	2300	mg/kg	0.50
Arsenic		M	2455	mg/kg	0.5
Cadmium		M	2455	mg/kg	0.10
Chromium		M	2455	mg/kg	0.5
Copper		M	2455	mg/kg	0.50
Mercury		M	2455	mg/kg	0.05
Nickel		M	2455	mg/kg	0.50
Lead		M	2455	mg/kg	0.50
Selenium		M	2455	mg/kg	0.25
Vanadium		U	2455	mg/kg	0.5
Zinc		M	2455	mg/kg	0.50
Chromium (Trivalent)		N	2490	mg/kg	1.0
Chromium (Hexavalent)		N	2490	mg/kg	0.50
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services		Chemtest Job No.:				24-01576
Quotation No.: Q23-32820		Chemtest Sample ID.:				1755988
Order No.:		Client Sample Ref.:				1
		Client Sample ID.:				#17897457032 30001
		Sample Location:				HP101
		Sample Type:				SOIL
		Top Depth (m):				0.20
		Bottom Depth (m):				0.40
		Date Sampled:				16-Jan-2024
		Time Sampled:				10:45
		Asbestos Lab:				NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD	
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	< 5.0
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	< 2.0
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	7.5
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	2.8
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	9.4
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	12
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50
Total EPH >C10-C35 NC	EH_Total_2D_#1	U	2690	mg/kg	10.00	12
Total EPH >C10-C40 NC	EH_Total_2D_#1	N	2690	mg/kg	10.00	15
Total Organic Carbon		M	2625	%	0.20	2.2
Naphthalene		M	2800	mg/kg	0.10	0.85
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	0.35
Anthracene		M	2800	mg/kg	0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	0.17
Pyrene		M	2800	mg/kg	0.10	0.17
Benzo[a]anthracene		M	2800	mg/kg	0.10	< 0.10
Chrysene		M	2800	mg/kg	0.10	< 0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services		Chemtest Job No.:	24-01576			
Quotation No.: Q23-32820		Chemtest Sample ID.:	1755988			
Order No.:		Client Sample Ref.:	1			
		Client Sample ID.:	#17897457032 30001			
		Sample Location:	HP101			
		Sample Type:	SOIL			
		Top Depth (m):	0.20			
		Bottom Depth (m):	0.40			
		Date Sampled:	16-Jan-2024			
		Time Sampled:	10:45			
		Asbestos Lab:	NEW-ASB			
Determinand	HWOL Code	Accred.	SOP	Units	LOD	
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH at 20°C	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8–C10 Aromatics: >C5–C7,>C7–C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com



Chemtest

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL

Tel: 01638 606070

Email: info@chemtest.com

Final Report

Report No.: 24-01628-1

Initial Date of Issue: 29-Jan-2024

Re-Issue Details:

Client Jackson Geo Services

Client Address: Unit B3
Fram Enterprise Centre
Parc Busnes Edwards
Llantrisant
Pontyclun
CF72 8QZ

Contact(s): Adam Putt
Filip Taylor

Project G24001 Sakura

Quotation No.: Q23-32820

Date Received: 22-Jan-2024

Order No.:

Date Instructed: 23-Jan-2024

No. of Samples: 2

Turnaround (Wkdays): 5

Results Due: 29-Jan-2024

Date Approved: 29-Jan-2024

Approved By:

Details: Stuart Henderson, Technical
Manager

Results - Soil

Project: G24001 Sakura

Client: Jackson Geo Services		Chemtest Job No.:				24-01628	24-01628
Quotation No.: Q23-32820		Chemtest Sample ID.:				1756173	1756174
		Sample Location:				HP103	HP104
		Sample Type:				SOIL	SOIL
		Top Depth (m):				0.50	0.30
		Bottom Depth (m):				0.70	0.50
		Date Sampled:				18-Jan-2024	18-Jan-2024
		Asbestos Lab:				NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
ACM Type		U	2192		N/A	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	15	17
Soil Colour		N	2040		N/A	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones
Soil Texture		N	2040		N/A	Clay	Clay
pH at 20C		M	2010		4.0	7.9	8.8
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	0.62	0.77
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010	0.011
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	9.6	4.9
Cadmium		M	2455	mg/kg	0.10	1.0	0.28
Chromium		M	2455	mg/kg	0.5	29	21
Copper		M	2455	mg/kg	0.50	22	9.2
Mercury		M	2455	mg/kg	0.05	0.05	< 0.05
Nickel		M	2455	mg/kg	0.50	29	15
Lead		M	2455	mg/kg	0.50	82	25
Selenium		M	2455	mg/kg	0.25	0.53	0.27
Vanadium		U	2455	mg/kg	0.5	27	14
Zinc		M	2455	mg/kg	0.50	160	52
Chromium (Trivalent)		N	2490	mg/kg	1.0	29	21
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	3.7	3.5
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00	2.3	1.2
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00	< 3.0	< 3.0
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	11	8.1
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	11	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05

Results - Soil

Project: G24001 Sakura

Client: Jackson Geo Services		Chemtest Job No.:				24-01628	24-01628
Quotation No.: Q23-32820		Chemtest Sample ID.:				1756173	1756174
		Sample Location:				HP103	HP104
		Sample Type:				SOIL	SOIL
		Top Depth (m):				0.50	0.30
		Bottom Depth (m):				0.70	0.50
		Date Sampled:				18-Jan-2024	18-Jan-2024
		Asbestos Lab:				NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	3.5	3.1
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	17	17
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	5.5	3.0
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	21	20
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	26	23
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50
Total EPH >C10-C35 NC	EH_Total_2D_#1	U	2690	mg/kg	10.00	31	28
Total EPH >C10-C40 NC	EH_Total_2D_#1	N	2690	mg/kg	10.00	37	31
Total Organic Carbon		M	2625	%	0.20	0.95	0.94
Naphthalene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[a]anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Chrysene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0	< 2.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH at 20°C	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8–C10 Aromatics: >C5–C7,>C7–C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

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- A - Date of sampling not supplied
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Chemtest

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL

Tel: 01638 606070

Email: info@chemtest.com

Final Report

Report No.: 24-01635-1

Initial Date of Issue: 29-Jan-2024

Re-Issue Details:

Client Jackson Geo Services

Client Address: Unit B3
Fram Enterprise Centre
Parc Busnes Edwards
Llantrisant
Pontyclun
CF72 8QZ

Contact(s): Adam Putt

Project G24001 Sakura

Quotation No.: Q23-32820

Date Received: 22-Jan-2024

Order No.:

Date Instructed: 23-Jan-2024

No. of Samples: 2

Turnaround (Wkdays): 5

Results Due: 29-Jan-2024

Date Approved: 29-Jan-2024

Approved By:

Details: Stuart Henderson, Technical
Manager

Results - Soil

Project: G24001 Sakura

Client: Jackson Geo Services		Chemtest Job No.:				24-01635	24-01635
Quotation No.: Q23-32820		Chemtest Sample ID.:				1756183	1756185
Order No.:		Client Sample Ref.:				1	1
		Sample Location:				TP105	TP103
		Sample Type:				SOIL	SOIL
		Top Depth (m):				0.50	0.30
		Bottom Depth (m):				0.60	0.50
		Date Sampled:				17-Jan-2024	17-Jan-2024
		Asbestos Lab:				DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
ACM Type		U	2192		N/A	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	9.5	15
Soil Colour		N	2040		N/A	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones
Soil Texture		N	2040		N/A	Clay	Clay
pH at 20C		M	2010		4.0	5.5	8.3
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	0.67	0.60
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.046	< 0.010
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	6.7	10
Cadmium		M	2455	mg/kg	0.10	0.22	0.64
Chromium		M	2455	mg/kg	0.5	19	31
Copper		M	2455	mg/kg	0.50	15	28
Mercury		M	2455	mg/kg	0.05	0.05	0.06
Nickel		M	2455	mg/kg	0.50	22	34
Lead		M	2455	mg/kg	0.50	30	85
Selenium		M	2455	mg/kg	0.25	0.61	0.78
Vanadium		U	2455	mg/kg	0.5	17	31
Zinc		M	2455	mg/kg	0.50	64	350
Chromium (Trivalent)		N	2490	mg/kg	1.0	19	31
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	2.0	2.8
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00	3.0	< 1.0
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	2.9	2.1
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00	< 3.0	4.6
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	9.9	10
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05

Results - Soil

Project: G24001 Sakura

Client: Jackson Geo Services		Chemtest Job No.:				24-01635	24-01635
Quotation No.: Q23-32820		Chemtest Sample ID.:				1756183	1756185
Order No.:		Client Sample Ref.:				1	1
		Sample Location:				TP105	TP103
		Sample Type:				SOIL	SOIL
		Top Depth (m):				0.50	0.30
		Bottom Depth (m):				0.60	0.50
		Date Sampled:				17-Jan-2024	17-Jan-2024
		Asbestos Lab:				DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	< 2.0	6.8
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	6.7	17
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	1.8	1.9
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	7.8	23
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	< 10	25
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50
Total EPH >C10-C35 NC	EH_Total_2D_#1	U	2690	mg/kg	10.00	18	33
Total EPH >C10-C40 NC	EH_Total_2D_#1	N	2690	mg/kg	10.00	19	35
Total Organic Carbon		M	2625	%	0.20	1.5	1.1
Naphthalene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	0.22	0.18
Anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	0.18	0.41
Pyrene		M	2800	mg/kg	0.10	0.17	0.40
Benzo[a]anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Chrysene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0	< 2.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH at 20°C	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8–C10 Aromatics: >C5–C7,>C7–C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

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SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

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Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com



Final Report

Report No.: 24-02664-1

Initial Date of Issue: 02-Feb-2024

Re-Issue Details:

Client Jackson Geo Services

Client Address: Unit B3
Fram Enterprise Centre
Parc Busnes Edwards
Llantrisant
Pontyclun
CF72 8QZ

Contact(s): Adam Putt

Project G24001 Sakura, Wrexham

Quotation No.: Q22-29781

Date Received: 30-Jan-2024

Order No.:

Date Instructed: 30-Jan-2024

No. of Samples: 10

Turnaround (Wkdays): 5

Results Due: 05-Feb-2024

Date Approved: 02-Feb-2024

Approved By:

Details: Stuart Henderson, Technical
Manager

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services		Chemtest Job No.:	24-02664	24-02664	24-02664	24-02664	24-02664	24-02664	24-02664
Quotation No.: Q22-29781		Chemtest Sample ID.:	1759746	1759747	1759748	1759749	1759750	1759751	1759752
Order No.:		Client Sample Ref.:	6	19	29	9	14	9	12
		Client Sample ID.:	#43904495166 50006	#43904495166 50019	#43904495166 50029	#81523093851 90009	#81523093851 90014	#99023331514 90009	#99023331514 90012
		Sample Location:	BH101	BH101	BH101	BH102	BH102	TP102	TP102
		Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):	1.20	8.00	15.00	2.50	3.70	1.00	3.00
		Bottom Depth (m):	1.65		15.45			1.30	3.50
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
Moisture		N	2030	%	0.020	17	19	16	19
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones	Roots	Stones	Stones
Soil Texture		N	2040		N/A	Clay	Clay	Loam	Clay
pH (2.5:1) at 20C		N	2010		4.0	[A] 8.0	[A] 8.5	[A] 8.2	[A] 8.0
Sulphate (2:1 Water Soluble) as SO4		U	2120	g/l	0.010	[A] 0.013	[A] 0.022	[A] 0.024	[A] < 0.010
Total Sulphur		U	2175	%	0.010	[A] 0.076	[A] 0.075	[A] 0.052	[A] 0.058
Sulphate (Acid Soluble)		U	2430	%	0.010	[A] 0.039	[A] 0.024	[A] 0.026	[A] 0.054

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services		Chemtest Job No.:				24-02664	24-02664	24-02664
Quotation No.: Q22-29781		Chemtest Sample ID.:				1759753	1759754	1759755
Order No.:		Client Sample Ref.:				4	2	6
		Client Sample ID.:				#16425496766 50004	#47648943284 30002	#55133006467 90006
		Sample Location:				TP105	TP101	TP104
		Sample Type:				SOIL	SOIL	SOIL
		Top Depth (m):				1.50	0.50	3.00
		Bottom Depth (m):				1.80	0.70	3.20
Determinand	HWOL Code	Accred.	SOP	Units	LOD			
Moisture		N	2030	%	0.020	18	18	16
Soil Colour		N	2040		N/A	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones and Roots	Stones
Soil Texture		N	2040		N/A	Clay	Clay	Clay
pH (2.5:1) at 20C		N	2010		4.0	[A] 8.3	[A] 8.2	[A] 8.3
Sulphate (2:1 Water Soluble) as SO4		U	2120	g/l	0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Total Sulphur		U	2175	%	0.010	[A] 0.049	[A] 0.035	[A] 0.029
Sulphate (Acid Soluble)		U	2430	%	0.010	[A] 0.036	[A] 0.055	[A] 0.033

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1759746	6	#4390449516650006	BH101		A	Plastic Tub 500g
1759747	19	#4390449516650019	BH101		A	Plastic Tub 500g
1759748	29	#4390449516650029	BH101		A	Plastic Tub 500g
1759749	9	#8152309385190009	BH102		A	Plastic Tub 500g
1759750	14	#8152309385190014	BH102		A	Plastic Tub 500g
1759751	9	#9902333151490009	TP102		A	Plastic Tub 500g
1759752	12	#9902333151490012	TP102		A	Plastic Tub 500g
1759753	4	#1642549676650004	TP105		A	Plastic Tub 500g
1759754	2	#4764894328430002	TP101		A	Plastic Tub 500g
1759755	6	#5513300646790006	TP104		A	Plastic Tub 500g

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	

Report Information

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None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

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Sample Deviation Codes

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Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable
- PL - Prepared Leachate
- PW - Processed Water

Report Information

RE - Recreational Water

SA - Saline Water

SW - Surface Water

TE - Treated Effluent

TS - Treated Sewage

UL - Unspecified Liquid

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 24-16425-1

Initial Date of Issue: 31-May-2024

Re-Issue Details:

Client Terra Firma

Client Address: 5 Deryn Court
Wharfedale Road
Pentwyn
Cardiff
CF23 7HA

Contact(s): Exeter Group

Project TF-24-148 Project Sakura

Quotation No.: **Date Received:** 23-May-2024

Order No.: TF-24-148 **Date Instructed:** 23-May-2024

No. of Samples: 2

Turnaround (Wkdays): 5 **Results Due:** 30-May-2024

Date Approved: 31-May-2024

Approved By:

A handwritten signature in black ink, appearing to read 'David Smith', with a horizontal line drawn underneath it.

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: TF-24-148 Project Sakura

Client: Terra Firma		Chemtest Job No.:				24-16425	24-16425
Quotation No.:		Chemtest Sample ID.:				1812263	1812264
Order No.: TF-24-148		Client Sample Ref.:				101	102
		Sample Location:				BH205	BH205
		Sample Type:				SOIL	SOIL
		Top Depth (m):				0.30	0.60
		Asbestos Lab:				DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
ACM Type		U	2192		N/A	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	20	19
Soil Colour		N	2040		N/A	Brown	Brown
Other Material		N	2040		N/A	None	None
Soil Texture		N	2040		N/A	Clay	Clay
pH at 20C		M	2010		4.0	[A] 7.9	[A] 8.2
Cyanide (Total)		M	2300	mg/kg	0.50	[A] < 0.50	[A] < 0.50
Sulphate (Total)		U	2430	%	0.010	[A] 0.089	[A] 0.032
Arsenic		M	2455	mg/kg	0.5	8.3	8.5
Cadmium		M	2455	mg/kg	0.10	0.21	0.14
Chromium		M	2455	mg/kg	0.5	28	28
Copper		M	2455	mg/kg	0.50	23	25
Mercury		M	2455	mg/kg	0.05	< 0.05	< 0.05
Nickel		M	2455	mg/kg	0.50	36	37
Lead		M	2455	mg/kg	0.50	23	23
Selenium		M	2455	mg/kg	0.25	0.74	0.74
Zinc		M	2455	mg/kg	0.50	72	70
Chromium (Trivalent)		N	2490	mg/kg	1.0	28	28
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50
Organic Matter		M	2625	%	0.40	[A] 0.90	[A] 1.5
Total TPH >C6-C40	EH_1D_Total	M	2670	mg/kg	10	[A] < 10	[A] < 10
Naphthalene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Acenaphthylene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Acenaphthene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Fluorene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Phenanthrene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Anthracene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Fluoranthene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Pyrene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Benzo[a]anthracene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Chrysene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Benzo[a]pyrene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10

Results - Soil

Project: TF-24-148 Project Sakura

Client: Terra Firma		Chemtest Job No.:				24-16425	24-16425
Quotation No.:		Chemtest Sample ID.:				1812263	1812264
Order No.: TF-24-148		Client Sample Ref.:				101	102
		Sample Location:				BH205	BH205
		Sample Type:				SOIL	SOIL
		Top Depth (m):				0.30	0.60
		Asbestos Lab:				DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
Total Of 16 PAH's		M	2700	mg/kg	2.0	[A] < 2.0	[A] < 2.0
Total Phenols		M	2920	mg/kg	0.10	0.25	< 0.10

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1812263	101		BH205		A	Amber Glass 250ml
1812263	101		BH205		A	Amber Glass 60ml
1812263	101		BH205		A	Plastic Tub 500g
1812264	102		BH205		A	Amber Glass 250ml
1812264	102		BH205		A	Amber Glass 60ml
1812264	102		BH205		A	Plastic Tub 500g

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

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Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

The following tests were analysed on samples 'as received' and the results subsequently corrected to a dry weight basis EPH, VPH, TPH, BTEX, VOCs, SVOCs, PCBs, Phenols.

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1.

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

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All water samples will be retained for 14 days from the date of receipt.

Charges may apply to extended sample storage.

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable

Report Information

PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Appendix E – In-situ Test Results and Ground Gas Monitoring Results



SOIL SOAKAWAY INFILTRATION TEST

Project	Sakura, Wrexham		Project No	G24001	Client	Thermotrafic		
Exploratory Hole ID	Test No	Easting	Northing	Ground Level	Depth (m)	Length (m)	Width (m)	
TP101A	1	337992.30	350283.10	31.29	2.20	2.00	0.50	

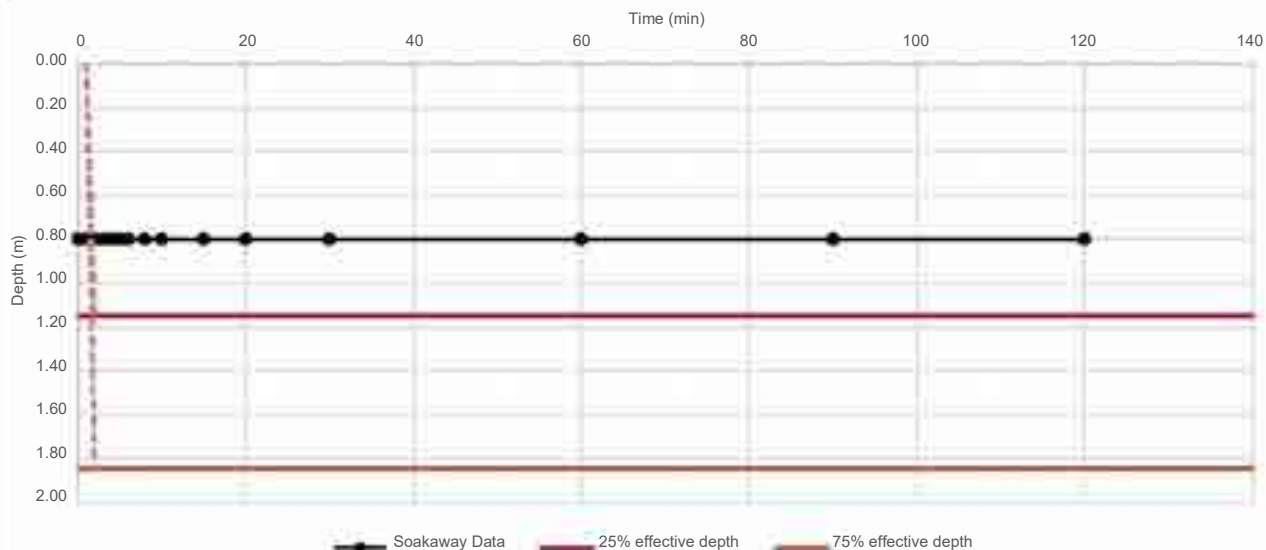
Test Data		Soakaway Construction	Vertical sides trimmed square. No fill material.	
Time Elapsed (mins)	Water Depth (m bgl)	Date of Test	Weather	Cold, dry
0.00	0.80	17/01/2024		
1.00	0.80	Fill Porosity	Test Duration (mins)	120
2.00	0.80	Operative	RM	Checked by
3.00	0.80			
4.00	0.80			
5.00	0.80			
6.00	0.80			
8.00	0.80			
10.00	0.80			
15.00	0.80			
20.00	0.80			
30.00	0.80			
60.00	0.80			
90.00	0.80			
120.00	0.80			

Water Depth Test Start (m)	0.8	Area of Base (m ²)	1
Water Depth Test End (m)	0.8	Effective Area of Sides (m ²)	7
75% effective depth (m)	1.15	Vp75-25 (m ³)	0.7
50% effective depth (m)	1.50	as50 (m ²)	4.5
25% effective depth (m)	1.85		

Time water level reaches 75% effective depth (Tp75) (mins)	
Time water level reaches 25% effective depth (Tp25) (mins)	

Soil Infiltration Rate (f) (m/s)	Unable to determine
---	---------------------

Remarks
 Undertaken in accordance with BRE digest 365 (2016)
 No infiltration. Terminated after 2 hours on agreement with Jubbs.





GAS AND GROUNDWATER MONITORING DATA

Project	Sakura, Wrexham		Project No	G24001	Client	Thermotrafic		
Exploratory Hole	Pipe Ref.	Date and Time	Reading Type	Reading	Units	Detection Limit	Instrument	Remarks
BH101	1	26/01/2024 11:00	Barometric Pressure	1025	mbar	5	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Peak Carbon Dioxide	0.2	%	0.5	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Steady Carbon Dioxide	0.1	%	0.5	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Carbon Monoxide	0	ppm	2	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Gas Flow Rate	11.1	l/hr	0.3	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Hydrogen Sulphide	0	ppm	1.5	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Differential Pressure	2.13	mbar	4	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Peak Methane	0.9	%	0.5	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Steady Methane	0.9	%	0.5	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Steady Oxygen	20.9	%	1	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Peak Oxygen	20.9	%	1	GA5000 SN:G508511	
BH101	1	26/01/2024 11:08	Water Level	0.8	m	0.01	Dip Meter	Base dipped at 5.00m
BH101	1	02/02/2024 11:58	Steady Oxygen	20.4	%	1	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Carbon Monoxide	0	ppm	2	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Steady Methane	0.1	%	0.5	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Peak Methane	0.1	%	0.5	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Differential Pressure	4.43	mbar	4	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Hydrogen Sulphide	0	ppm	1.5	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Gas Flow Rate	-1	l/hr	0.3	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Barometric Pressure	1020	mbar	5	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Steady Carbon Dioxide	0.5	%	0.5	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Peak Carbon Dioxide	0.5	%	0.5	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Water Level	0.37	m	0.01	Dip Meter	Base dipped at 4.97m
BH101	1	02/02/2024 11:58	Peak Oxygen	20.4	%	1	GA5000 SN:G504748	
BH101	1	12/02/2024 10:54	Water Level	0.45	m	0.01	Dip Meter	Base dipped at 5.00m
BH101	1	12/02/2024 10:55	Steady Oxygen	20.7	%	1	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Peak Oxygen	20.6	%	1	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Peak Methane	1.1	%	0.5	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Steady Methane	1.1	%	0.5	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Peak Carbon Dioxide	0.2	%	0.5	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Barometric Pressure	1001	mbar	5	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Steady Carbon Dioxide	0.2	%	0.5	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Carbon Monoxide	0	ppm	2	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Gas Flow Rate	0.3	l/hr	0.3	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Hydrogen Sulphide	0	ppm	1.5	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Differential Pressure	3.48	mbar	4	GA5000 SN:G508511	
BH102	1	26/01/2024 11:00	Water Level	0	m	0.01	Dip Meter	Base dipped at 4.97m, unable to monitor gases due to flooded headworks.
BH102	1	02/02/2024 12:00	Water Level	0	m	0.01	Dip Meter	Base dipped at 4.98m, unable to monitor gases due to flooded headworks.
BH102	1	12/02/2024 10:53	Water Level	0	m	0.01	Dip Meter	Base dipped at 4.98m, unable to monitor gases due to flooded headworks.



QMS ref: GEO-Q026



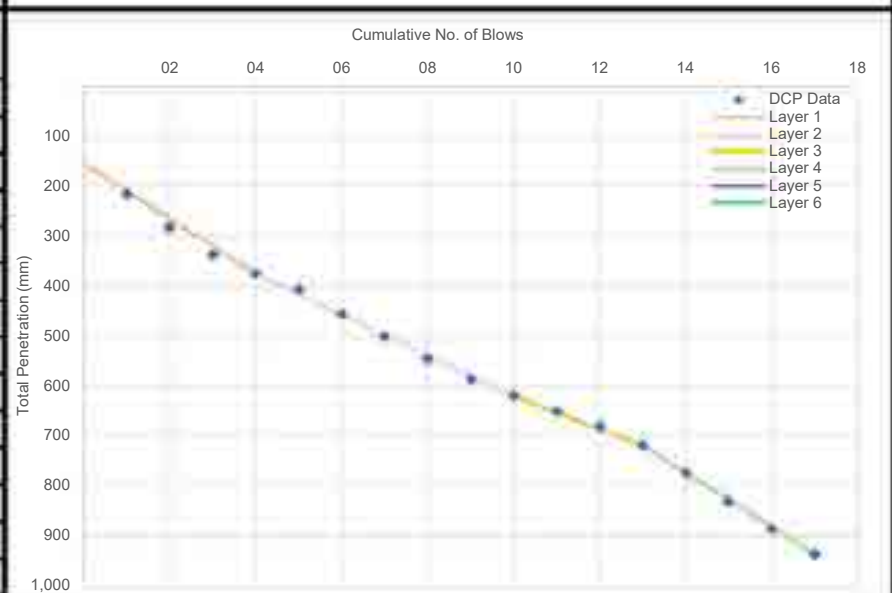
DYNAMIC CONE PENETROMETER (DCP) REPORT

Project	Sakura	Project No	G24001	Client	Thermotrafic Ltd.
Exploratory Hole ID	TRL101	Test No	1	Date and Time	16/01/2024 09:00
Easting		Northing		Level (m AOD)	
Section Reference	N/A	Chainage	N/A	Traffic Direction	N/A
Lane and Offset	N/A	Weather	Dry, cold	Operator	FT

Test Data

Cumulative Blows	Total Penetration (mm bgl)	Cumulative Blows	Total Penetration (mm bgl)
01	215		
02	281		
03	336		
04	374		
05	406		
06	456		
07	501		
08	545		
09	586		
10	620		
11	650		
12	680		
13	719		
14	774		
15	831		
16	887		
17	936		

Cumulative Number of Blows Vs Total Penetration (mm)



16	887			Layer 1							
17	936			Top Depth	153	Blows	0	Base Depth	374	Blows	4
				DCP (mm/blow)		55.25		CBR Value		4	
				Layer 2							
				Top Depth	374	Blows	4	Base Depth	620	Blows	10
				DCP (mm/blow)		41.00		CBR Value		6	
				Layer 3							
				Top Depth	620	Blows	10	Base Depth	719	Blows	13
				DCP (mm/blow)		33.00		CBR Value		7	
				Layer 4							
				Top Depth	719	Blows	13	Base Depth	936	Blows	17
				DCP (mm/blow)		54.25		CBR Value		4	
				Layer 5							
				Top Depth		Blows		Base Depth		Blows	
				DCP (mm/blow)				CBR Value			
				Layer 6							
				Top Depth		Blows		Base Depth		Blows	
				DCP (mm/blow)				CBR Value			

Remarks:
Test undertaken in accordance with CS229 Rev0 (March 2020)

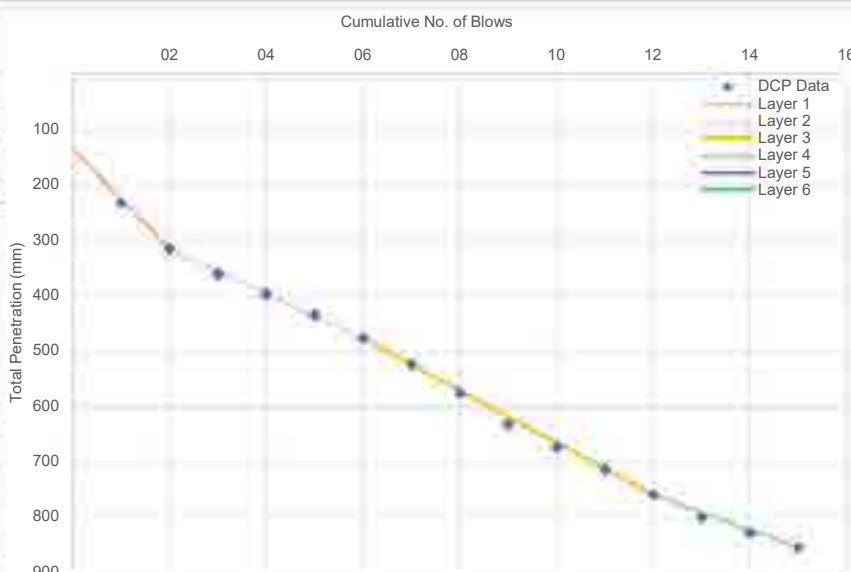


QMS ref: GEO-Q026



DYNAMIC CONE PENETROMETER (DCP) REPORT

Project	Sakura	Project No	G24001	Client	Thermotraffic Ltd.
Exploratory Hole ID	TRL102	Test No	1	Date and Time	16/01/2024 11:00
Easting		Northing		Level (m AOD)	
Section Reference	N/A	Chainage	N/A	Traffic Direction	N/A
Lane and Offset	N/A	Weather	Dry, cold	Operator	FT

Test Data				Cumulative Number of Blows Vs Total Penetration (mm)	
Cumulative Blows	Total Penetration (mm bgl)	Cumulative Blows	Total Penetration (mm bgl)		
01	233				
02	316				
03	361				
04	397				
05	435				
06	477				
07	524				
08	576				
09	632				
10	674				
11	714				
12	759				
13	801				
14	829				
15	854				

				Layer 1							
				Top Depth	135	Blows	0	Base Depth	316	Blows	2
				DCP (mm/blow)		90.50		CBR Value		3	
				Layer 2							
				Top Depth	316	Blows	2	Base Depth	477	Blows	6
				DCP (mm/blow)		40.25		CBR Value		6	
				Layer 3							
				Top Depth	477	Blows	6	Base Depth	759	Blows	12
				DCP (mm/blow)		47.00		CBR Value		5	
				Layer 4							
				Top Depth	759	Blows	12	Base Depth	854	Blows	15
				DCP (mm/blow)		31.67		CBR Value		8	
				Layer 5							
				Top Depth		Blows		Base Depth		Blows	
				DCP (mm/blow)				CBR Value			
				Layer 6							
				Top Depth		Blows		Base Depth		Blows	
				DCP (mm/blow)				CBR Value			

Remarks:

Test undertaken in accordance with CS229 Rev0 (March 2020)



QMS ref: GEO-Q026



Project	Sakura	Project No	G24001	Client	Thermotrafic Ltd.
Exploratory Hole ID	TRL103	Test No	1	Date and Time	16/01/2024 13:00
Easting		Northing		Level (m AOD)	
Section Reference	N/A	Chainage	N/A	Traffic Direction	N/A
Lane and Offset	N/A	Weather	Dry, cold	Operator	FT

[illegible]

Remarks:	Test undertaken in accordance with CS229 Rev0 (March 2020)
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DYNAMIC CONE PENETROMETER (DCP) FIELD TEST RECORD

Project	Sakura	Project No	G24001	Client	Thermotrafic Ltd.						
Exploratory Hole ID	TRL104	Test No	1	Date and Time	16/01/2024 15:00						
Easting		Northing		Level (m AOD)							
Section Reference	N/A	Chainage	N/A	Traffic Direction	N/A						
Lane and Offset	N/A	Weather	Dry, cold	Operator	FT						
Test Data											
Ruler Scale Zero Reading		186	Ruler Scale Reset Zero Reading								
Depth Test started Below Ground Level (mm)		146	Cumulative Blows pre Reset		Total Penetration pre Reset						
Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)	Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)
0.15	1	255	69	1	215						
0.22	1	271	16	2	231						
0.23	5	283	12	7	243						
0.24	10	296	13	17	256						
0.26	10	321	25	27	281						
0.28	2	331	10	29	291						
0.29	2	339	8	31	299						
0.30	5	351	12	36	311						
0.31	5	385	34	41	345						
0.35	1	400	15	42	360						
0.36	1	430	30	43	390						
0.39	1	465	35	44	425						
0.43	1	500	35	45	460						
0.46	1	530	30	46	490						
0.49	1	555	25	47	515						
0.52	1	579	24	48	539						
0.54	1	603	24	49	563						
0.56	1	620	17	50	580						
0.58	1	647	27	51	607						
0.61	1	677	30	52	637						
0.64	1	706	29	53	666						
0.67	1	746	40	54	706						
0.71	1	768	22	55	728						
0.73	1	789	21	56	749						
0.75	1	812	23	57	772						
0.77	1	836	24	58	796						
0.80	1	858	22	59	818						
0.82	1	880	22	60	840						
0.84	1	900	20	61	860						
0.86	1	916	16	62	876						
0.88	1	931	15	63	891						
0.89	1	942	11	64	902						



DYNAMIC CONE PENETROMETER (DCP) REPORT

Project	Sakura	Project No	G24001	Client	Thermotrafic Ltd.
Exploratory Hole ID	TRL104	Test No	1	Date and Time	16/01/2024 15:00
Easting		Northing		Level (m AOD)	
Section Reference	N/A	Chainage	N/A	Traffic Direction	N/A
Lane and Offset	N/A	Weather	Dry, cold	Operator	FT

Test Data				Cumulative Number of Blows Vs Total Penetration (mm)							
Cumulative Blows	Total Penetration (mm bgl)	Cumulative Blows	Total Penetration (mm bgl)	Cumulative No. of Blows							

Remarks:

Test undertaken in accordance with CS229 Rev0 (March 2020)



QMS ref: GEO-Q026



DYNAMIC CONE PENETROMETER (DCP) REPORT

Project	Sakura	Project No	G24001		Client	Thermotraffic Ltd.	
Exploratory Hole ID	TRL105	Test No	1		Date and Time	16/01/2024 10:00	
Easting		Northing			Level (m AOD)		
Section Reference	N/A	Chainage	N/A		Traffic Direction	N/A	
Lane and Offset	N/A	Weather	Dry, cold		Operator	FT	

Test Data				Cumulative Number of Blows Vs Total Penetration (mm)							
Cumulative Blows	Total Penetration (mm bgl)	Cumulative Blows	Total Penetration (mm bgl)								
01	219			Cumulative No. of Blows							
02	266										
03	307										
04	357										
05	388										
06	401										
07	433										
08	460										
09	485										
10	508										
11	533										
12	564										
13	599										
14	629										
15	655										
16	679			Layer 1							
17	705			Top Depth	132	Blows	0	Base Depth	357	Blows	4
18	727			DCP (mm/blow)		56.25		CBR Value		4	
19	751			Layer 2							
20	775			Top Depth	357	Blows	4	Base Depth	599	Blows	13
21	799			DCP (mm/blow)		26.89		CBR Value		9	
22	821			Layer 3							
23	849			Top Depth	599	Blows	13	Base Depth	933	Blows	26
24	875			DCP (mm/blow)		25.69		CBR Value		10	
25	904			Layer 4							
26	933			Top Depth		Blows		Base Depth		Blows	
				DCP (mm/blow)				CBR Value			
				Layer 5							
				Top Depth		Blows		Base Depth		Blows	
				DCP (mm/blow)				CBR Value			
				Layer 6							
				Top Depth		Blows		Base Depth		Blows	
				DCP (mm/blow)				CBR Value			

Remarks:
 Test undertaken in accordance with CS229 Rev0 (March 2020)



QMS ref: GEO-Q026



DYNAMIC CONE PENETROMETER (DCP) REPORT

Project	Sakura	Project No	G24001	Client	Thermotraffic Ltd.
Exploratory Hole ID	TRL106	Test No	1	Date and Time	16/01/2024 14:00
Easting		Northing		Level (m AOD)	
Section Reference	N/A	Chainage	N/A	Traffic Direction	N/A
Lane and Offset	N/A	Weather	Dry, cold	Operator	FT

Test Data				Cumulative Number of Blows Vs Total Penetration (mm)							
Cumulative Blows	Total Penetration (mm bgl)	Cumulative Blows	Total Penetration (mm bgl)	Cumulative No. of Blows DCP Data Layer 1 Layer 2 Layer 3 Layer 4 Layer 5 Layer 6							
01	170										
02	231										
03	280										
04	293										
05	305										
06	320										
07	335										
08	360										
09	389										
10	428										
11	446										
12	471										
13	496										
14	523										
15	548										
16	577			Layer 1							
17	601			Top Depth	110	Blows	0	Base Depth	280	Blows	3
18	624			DCP (mm/blow)	56.67			CBR Value	4		
19	648			Layer 2							
20	671			Top Depth	280	Blows	3	Base Depth	360	Blows	8
21	695			DCP (mm/blow)	16.00			CBR Value	16		
22	720			Layer 3							
23	746			Top Depth	360	Blows	8	Base Depth	936	Blows	30
24	773			DCP (mm/blow)	26.18			CBR Value	10		
25	799			Layer 4							
26	823			Top Depth		Blows		Base Depth		Blows	
27	850			DCP (mm/blow)				CBR Value			
28	874			Layer 5							
29	903			Top Depth		Blows		Base Depth		Blows	
30	936			DCP (mm/blow)				CBR Value			
				Layer 6							
				Top Depth		Blows		Base Depth		Blows	
				DCP (mm/blow)				CBR Value			

Remarks:

Test undertaken in accordance with CS229 Rev0 (March 2020)

Appendix F – Haz Waste Assessment



HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- a) understand the origin of the waste
- b) select the correct List of Waste code(s)
- c) confirm that the list of determinands, results and sampling plan are fit for purpose
- d) select and justify the chosen metal species (Appendix B)
- e) correctly apply moisture correction and other available corrections
- f) add the meta data for their user-defined substances (Appendix A)
- g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

Job name

Project Sakura

Description/Comments

Project

23284

Site

Norish Cold Store, Wrexham

Classified by

Purpose of classification

2 - Material Characterisation

Address of the waste

Norish Wrexham, Ash Rd S, Wrexham LL13 9UG

Post Code LL13 9UG

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Demolition, industrial use and earthwork activities

Description of the specific process, sub-process and/or activity that created the waste

Demolition of historic structures, manufacturing/ storage of explosives, Presence of Made Ground from earthwork activities

Description of the waste

Made Ground derived from natural deposits



Job summary

Location	Volume	Material
HP101	0.20	
TP105	0.50	
TP103	0.30	
TP101	1.00	
TP101A	1.50	
TP104	0.50	
TP104[2]	3.40	
HP103	0.50	
HP104	0.30	
BH205(1)	0.3	
BH205(2)	0.6	

Related documents

Document	Description
General Brownfield Soils	waste stream template used to create this Job

Report

Document	Description
Appendix A: Classifier defined and non GB MCL determinands	
Appendix B: Rationale for selection of metal species	
Appendix C: Version	



Classification of sample: HP101



Non Hazardous Waste

17 05 04

Sample details

HP101	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.20 m	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
12% (no correction)	

Hazard properties

Determinands

12% No Moisture Correction applied (MC)

				User entered data					
	EU CLP index number	EC Number	CAS Number						
1	arsenic trioxide			13	mg/kg				
	033-003-00-0	215-481-4	1327-53-3						
2	cadmium sulfide			0.4	mg/kg				
	048-010-00-4	215-147-8	1306-23-6						
3	chromium(III) oxide (worst case)			27	mg/kg				
		215-160-9	1308-38-9						
4	oxide		chromium(VI)	<0.5	mg/kg	<0.962	mg/kg	<0.0000962 %	<LOD
	024-001-00-0	215-607-8	1333-82-0						
5	lead chromate			51	mg/kg				
	082-004-00-2	231-846-0	7758-97-6						
6	mercury dichloride			0.07	mg/kg				
	080-010-00-X	231-299-8	7487-94-7						
7	dicopper oxide; copper (I) oxide			22	mg/kg				
	029-002-00-X	215-270-7	1317-39-1						
8	nickel dihydroxide			38	mg/kg				
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]						
9	selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex			1.3	mg/kg				
	034-002-00-8								
10	zinc oxide			220	mg/kg				
	030-013-00-7	215-222-5	1314-13-2						
11			PH	8.3	pH				
12				0.85	mg/kg				
	601-052-00-2	202-049-5	91-20-3						
13				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		205-917-1	208-96-8						
14				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-469-6	83-32-9						
15				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-695-5	86-73-7						



				User entered data				
	EU CLP index number	EC Number	CAS Number					
16		201-581-5	85-01-8	0.35	mg/kg			
17		204-371-1	120-12-7	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
18		205-912-4	206-44-0	0.17	mg/kg			
19		204-927-3	129-00-0	0.17	mg/kg			
20	601-033-00-9	200-280-6	56-55-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
21	601-048-00-0	205-923-4	218-01-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
22	601-034-00-4	205-911-9	205-99-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
23	601-036-00-5	205-916-6	207-08-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
24	601-032-00-3	200-028-5	50-32-8	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
25		205-893-2	193-39-5	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
26	601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
27		205-883-8	191-24-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
28			TPH	15	mg/kg			



Supplementary Hazardous Property Information

Force this Hazardous property to non hazardous because Not flammable at this concentration



Classification of sample: TP105



Sample details

TP105
0.50 m
9.5% (no correction)

17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

Determinands

9.5% No Moisture Correction applied (MC)

				User entered data					
	EU CLP index number	EC Number	CAS Number						
1	arsenic trioxide			6.7	mg/kg				
	033-003-00-0	215-481-4	1327-53-3						
2	cadmium sulfide			0.22	mg/kg				
	048-010-00-4	215-147-8	1306-23-6						
3	chromium(III) oxide (worst case)			19	mg/kg				
		215-160-9	1308-38-9						
4	oxide		chromium(VI)	<0.5	mg/kg	<0.962	mg/kg	<0.0000962 %	<LOD
	024-001-00-0	215-607-8	1333-82-0						
5	lead chromate			30	mg/kg				
	082-004-00-2	231-846-0	7758-97-6						
6	mercury dichloride			0.05	mg/kg				
	080-010-00-X	231-299-8	7487-94-7						
7	dicopper oxide; copper (I) oxide			15	mg/kg				
	029-002-00-X	215-270-7	1317-39-1						
8	nickel dihydroxide			22	mg/kg				
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]						
9	selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex			0.61	mg/kg				
	034-002-00-8								
10	zinc oxide			64	mg/kg				
	030-013-00-7	215-222-5	1314-13-2						
11			PH	5.5	pH				
12				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
	601-052-00-2	202-049-5	91-20-3						
13				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		205-917-1	208-96-8						
14				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-469-6	83-32-9						
15				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-695-5	86-73-7						



				User entered data					
	EU CLP index number	EC Number	CAS Number						
16		201-581-5	85-01-8	0.22	mg/kg				
17		204-371-1	120-12-7	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
18		205-912-4	206-44-0	0.18	mg/kg				
19		204-927-3	129-00-0	0.17	mg/kg				
20	601-033-00-9	200-280-6	56-55-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
21	601-048-00-0	205-923-4	218-01-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
22	601-034-00-4	205-911-9	205-99-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
23	601-036-00-5	205-916-6	207-08-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
24	601-032-00-3	200-028-5	50-32-8	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
25		205-893-2	193-39-5	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
26	601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
27		205-883-8	191-24-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
28			TPH	19	mg/kg				



Supplementary Hazardous Property Information

Force this Hazardous property to non hazardous because Not flammable at this concentration



Classification of sample: TP103



Sample details

TP103
0.30 m
15% (no correction)

17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

Determinands

15% No Moisture Correction applied (MC)

				User entered data					
	EU CLP index number	EC Number	CAS Number						
1	arsenic trioxide			10	mg/kg				
	033-003-00-0	215-481-4	1327-53-3						
2	cadmium sulfide			0.64	mg/kg				
	048-010-00-4	215-147-8	1306-23-6						
3	chromium(III) oxide (worst case)			31	mg/kg				
		215-160-9	1308-38-9						
4	oxide		chromium(VI)	<0.5	mg/kg	<0.962	mg/kg	<0.0000962 %	<LOD
	024-001-00-0	215-607-8	1333-82-0						
5	lead chromate			85	mg/kg				
	082-004-00-2	231-846-0	7758-97-6						
6	mercury dichloride			0.06	mg/kg				
	080-010-00-X	231-299-8	7487-94-7						
7	dicopper oxide; copper (I) oxide			28	mg/kg				
	029-002-00-X	215-270-7	1317-39-1						
8	nickel dihydroxide			34	mg/kg				
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]						
9	selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex			0.78	mg/kg				
	034-002-00-8								
10	zinc oxide			350	mg/kg				
	030-013-00-7	215-222-5	1314-13-2						
11			PH	8.3	pH				
12				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
	601-052-00-2	202-049-5	91-20-3						
13				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		205-917-1	208-96-8						
14				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-469-6	83-32-9						
15				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-695-5	86-73-7						



				User entered data				
	EU CLP index number	EC Number	CAS Number					
16		201-581-5	85-01-8	0.18	mg/kg			
17		204-371-1	120-12-7	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
18		205-912-4	206-44-0	0.41	mg/kg			
19		204-927-3	129-00-0	0.4	mg/kg			
20	601-033-00-9	200-280-6	56-55-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
21	601-048-00-0	205-923-4	218-01-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
22	601-034-00-4	205-911-9	205-99-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
23	601-036-00-5	205-916-6	207-08-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
24	601-032-00-3	200-028-5	50-32-8	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
25		205-893-2	193-39-5	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
26	601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
27		205-883-8	191-24-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
28			TPH	35	mg/kg			



Supplementary Hazardous Property Information

Force this Hazardous property to non hazardous because Not flammable at this concentration



Classification of sample: TP101



Sample details

TP101
1.00 m
14% (no correction)

17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

Determinands

14% No Moisture Correction applied (MC)

EU CLP index number				EC Number		CAS Number		User entered data					
1	arsenic trioxide	033-003-00-0	215-481-4	1327-53-3	13	mg/kg							
2	cadmium sulfide	048-010-00-4	215-147-8	1306-23-6	0.31	mg/kg							
3	chromium(III) oxide (worst case)		215-160-9	1308-38-9	34	mg/kg							
4	chromium(VI) oxide	024-001-00-0	215-607-8	1333-82-0	<0.5	mg/kg				<0.962	mg/kg	<0.0000962 %	<LOD
5	lead chromate	082-004-00-2	231-846-0	7758-97-6	45	mg/kg							
6	mercury dichloride	080-010-00-X	231-299-8	7487-94-7	0.08	mg/kg							
7	dicopper oxide; copper (I) oxide	029-002-00-X	215-270-7	1317-39-1	21	mg/kg							
8	nickel dihydroxide	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]	38	mg/kg							
9	selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex	034-002-00-8			0.7	mg/kg							
10	zinc oxide	030-013-00-7	215-222-5	1314-13-2	110	mg/kg							
11				PH	8.6	pH							
12		601-052-00-2	202-049-5	91-20-3	0.11	mg/kg							
13			205-917-1	208-96-8	<0.1	mg/kg				<0.1	mg/kg	<0.00001 %	<LOD
14			201-469-6	83-32-9	<0.1	mg/kg				<0.1	mg/kg	<0.00001 %	<LOD
15			201-695-5	86-73-7	<0.1	mg/kg				<0.1	mg/kg	<0.00001 %	<LOD



				User entered data			
	EU CLP index number	EC Number	CAS Number				
16		201-581-5	85-01-8	0.12	mg/kg		
17		204-371-1	120-12-7	<0.1	mg/kg	<0.1 mg/kg	<0.00001 %
18		205-912-4	206-44-0	0.22	mg/kg		
19		204-927-3	129-00-0	0.24	mg/kg		
20	601-033-00-9	200-280-6	56-55-3	0.13	mg/kg		
21	601-048-00-0	205-923-4	218-01-9	0.14	mg/kg		
22	601-034-00-4	205-911-9	205-99-2	0.27	mg/kg		
23	601-036-00-5	205-916-6	207-08-9	<0.1	mg/kg	<0.1 mg/kg	<0.00001 %
24	601-032-00-3	200-028-5	50-32-8	0.16	mg/kg		
25		205-893-2	193-39-5	0.18	mg/kg		
26	601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg	<0.1 mg/kg	<0.00001 %
27		205-883-8	191-24-2	0.15	mg/kg		
28			TPH	<10	mg/kg	<10 mg/kg	<0.001 %





Classification of sample: TP101A



Non Hazardous Waste
17 05 04

Sample details

TP101A

1.50 m

12%
(no correction)

17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

Determinands

12% No Moisture Correction applied (MC)

				User entered data					
	EU CLP index number	EC Number	CAS Number						
1	arsenic trioxide			8.7	mg/kg				
	033-003-00-0	215-481-4	1327-53-3						
2	cadmium sulfide			0.34	mg/kg				
	048-010-00-4	215-147-8	1306-23-6						
3	chromium(III) oxide (worst case)			32	mg/kg				
		215-160-9	1308-38-9						
4	oxide		chromium(VI)	<0.5	mg/kg	<0.962	mg/kg	<0.0000962 %	<LOD
	024-001-00-0	215-607-8	1333-82-0						
5	lead chromate			67	mg/kg				
	082-004-00-2	231-846-0	7758-97-6						
6	mercury dichloride			0.05	mg/kg				
	080-010-00-X	231-299-8	7487-94-7						
7	dicopper oxide; copper (I) oxide			20	mg/kg				
	029-002-00-X	215-270-7	1317-39-1						
8	nickel dihydroxide			28	mg/kg				
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]						
9	selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex			0.45	mg/kg				
	034-002-00-8								
10	zinc oxide			140	mg/kg				
	030-013-00-7	215-222-5	1314-13-2						
11			PH	8.5	pH				
12				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
	601-052-00-2	202-049-5	91-20-3						
13				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		205-917-1	208-96-8						
14				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-469-6	83-32-9						
15				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-695-5	86-73-7						



					User entered data					
		EU CLP index number	EC Number	CAS Number						
16			201-581-5	85-01-8	0.2	mg/kg				
17			204-371-1	120-12-7	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
18			205-912-4	206-44-0	0.5	mg/kg				
19			204-927-3	129-00-0	0.45	mg/kg				
20		601-033-00-9	200-280-6	56-55-3	0.24	mg/kg				
21		601-048-00-0	205-923-4	218-01-9	0.22	mg/kg				
22		601-034-00-4	205-911-9	205-99-2	0.35	mg/kg				
23		601-036-00-5	205-916-6	207-08-9	0.12	mg/kg				
24		601-032-00-3	200-028-5	50-32-8	0.27	mg/kg				
25			205-893-2	193-39-5	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
26		601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
27			205-883-8	191-24-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
28				TPH	<10	mg/kg	<10	mg/kg	<0.001 %	<LOD





Classification of sample: TP104



Non Hazardous Waste

17 05 04

Sample details

TP104
0.50 m
15% (no correction)

17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

Determinands

15% No Moisture Correction applied (MC)

				User entered data					
	EU CLP index number	EC Number	CAS Number						
1	arsenic trioxide			10	mg/kg				
	033-003-00-0	215-481-4	1327-53-3						
2	cadmium sulfide			0.17	mg/kg				
	048-010-00-4	215-147-8	1306-23-6						
3	chromium(III) oxide (worst case)			35	mg/kg				
		215-160-9	1308-38-9						
4	oxide		chromium(VI)	<0.5	mg/kg	<0.962	mg/kg	<0.0000962 %	<LOD
	024-001-00-0	215-607-8	1333-82-0						
5	lead chromate			32	mg/kg				
	082-004-00-2	231-846-0	7758-97-6						
6	mercury dichloride			<0.05	mg/kg	<0.0677	mg/kg	<0.00000677 %	<LOD
	080-010-00-X	231-299-8	7487-94-7						
7	dicopper oxide; copper (I) oxide			23	mg/kg				
	029-002-00-X	215-270-7	1317-39-1						
8	nickel dihydroxide			38	mg/kg				
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]						
9	selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex			0.56	mg/kg				
	034-002-00-8								
10	zinc oxide			81	mg/kg				
	030-013-00-7	215-222-5	1314-13-2						
11			PH	8.6	pH				
12				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
	601-052-00-2	202-049-5	91-20-3						
13				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		205-917-1	208-96-8						
14				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-469-6	83-32-9						
15				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-695-5	86-73-7						



				User entered data					
	EU CLP index number	EC Number	CAS Number						
16		201-581-5	85-01-8	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
17		204-371-1	120-12-7	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
18		205-912-4	206-44-0	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
19		204-927-3	129-00-0	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
20	601-033-00-9	200-280-6	56-55-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
21	601-048-00-0	205-923-4	218-01-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
22	601-034-00-4	205-911-9	205-99-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
23	601-036-00-5	205-916-6	207-08-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
24	601-032-00-3	200-028-5	50-32-8	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
25		205-893-2	193-39-5	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
26	601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
27		205-883-8	191-24-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
28			TPH	<10	mg/kg	<10	mg/kg	<0.001 %	<LOD





Classification of sample: TP104[2]



Sample details

TP104[2]
3.40 m
13% (no correction)

17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

Determinands

13% No Moisture Correction applied (MC)

				User entered data					
	EU CLP index number	EC Number	CAS Number						
1	arsenic trioxide			9.6	mg/kg				
	033-003-00-0	215-481-4	1327-53-3						
2	cadmium sulfide			0.27	mg/kg				
	048-010-00-4	215-147-8	1306-23-6						
3	chromium(III) oxide (worst case)			36	mg/kg				
		215-160-9	1308-38-9						
4	oxide		chromium(VI)	<0.5	mg/kg	<0.962	mg/kg	<0.0000962 %	<LOD
	024-001-00-0	215-607-8	1333-82-0						
5	lead chromate			22	mg/kg				
	082-004-00-2	231-846-0	7758-97-6						
6	mercury dichloride			<0.05	mg/kg	<0.0677	mg/kg	<0.00000677 %	<LOD
	080-010-00-X	231-299-8	7487-94-7						
7	dicopper oxide; copper (I) oxide			22	mg/kg				
	029-002-00-X	215-270-7	1317-39-1						
8	nickel dihydroxide			41	mg/kg				
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]						
9	selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex			0.57	mg/kg				
	034-002-00-8								
10	zinc oxide			64	mg/kg				
	030-013-00-7	215-222-5	1314-13-2						
11			PH	8.8	pH				
12				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
	601-052-00-2	202-049-5	91-20-3						
13				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		205-917-1	208-96-8						
14				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-469-6	83-32-9						
15				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-695-5	86-73-7						



				User entered data					
	EU CLP index number	EC Number	CAS Number						
16		201-581-5	85-01-8	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
17		204-371-1	120-12-7	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
18		205-912-4	206-44-0	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
19		204-927-3	129-00-0	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
20	601-033-00-9	200-280-6	56-55-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
21	601-048-00-0	205-923-4	218-01-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
22	601-034-00-4	205-911-9	205-99-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
23	601-036-00-5	205-916-6	207-08-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
24	601-032-00-3	200-028-5	50-32-8	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
25		205-893-2	193-39-5	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
26	601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
27		205-883-8	191-24-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
28			TPH	<10	mg/kg	<10	mg/kg	<0.001 %	<LOD





Classification of sample: HP103



Sample details

HP103
0.50 m
15% (no correction)

17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

Determinands

15% No Moisture Correction applied (MC)

				User entered data					
	EU CLP index number	EC Number	CAS Number						
1	arsenic trioxide			9.6	mg/kg				
	033-003-00-0	215-481-4	1327-53-3						
2	cadmium sulfide			1	mg/kg				
	048-010-00-4	215-147-8	1306-23-6						
3	chromium(III) oxide (worst case)			29	mg/kg				
		215-160-9	1308-38-9						
4	oxide		chromium(VI)	<0.5	mg/kg	<0.962	mg/kg	<0.0000962 %	<LOD
	024-001-00-0	215-607-8	1333-82-0						
5	lead chromate			82	mg/kg				
	082-004-00-2	231-846-0	7758-97-6						
6	mercury dichloride			0.05	mg/kg				
	080-010-00-X	231-299-8	7487-94-7						
7	dicopper oxide; copper (I) oxide			22	mg/kg				
	029-002-00-X	215-270-7	1317-39-1						
8	nickel dihydroxide			29	mg/kg				
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]						
9	selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex			0.53	mg/kg				
	034-002-00-8								
10	zinc oxide			160	mg/kg				
	030-013-00-7	215-222-5	1314-13-2						
11			PH	7.9	pH				
12				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
	601-052-00-2	202-049-5	91-20-3						
13				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		205-917-1	208-96-8						
14				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-469-6	83-32-9						
15				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-695-5	86-73-7						



				User entered data				
	EU CLP index number	EC Number	CAS Number					
16		201-581-5	85-01-8	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
17		204-371-1	120-12-7	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
18		205-912-4	206-44-0	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
19		204-927-3	129-00-0	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
20	601-033-00-9	200-280-6	56-55-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
21	601-048-00-0	205-923-4	218-01-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
22	601-034-00-4	205-911-9	205-99-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
23	601-036-00-5	205-916-6	207-08-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
24	601-032-00-3	200-028-5	50-32-8	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
25		205-893-2	193-39-5	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
26	601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
27		205-883-8	191-24-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %
28			TPH	37	mg/kg			



Supplementary Hazardous Property Information

Force this Hazardous property to non hazardous because Not flammable at this concentration



Classification of sample: HP104



Sample details

HP104
0.30 m
17% (no correction)

17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

Determinands

17% No Moisture Correction applied (MC)

				User entered data					
	EU CLP index number	EC Number	CAS Number						
1	arsenic trioxide			4.9	mg/kg				
	033-003-00-0	215-481-4	1327-53-3						
2	cadmium sulfide			0.28	mg/kg				
	048-010-00-4	215-147-8	1306-23-6						
3	chromium(III) oxide (worst case)			21	mg/kg				
		215-160-9	1308-38-9						
4	chromium(VI) oxide			<0.5	mg/kg	<0.962	mg/kg	<0.0000962 %	<LOD
	024-001-00-0	215-607-8	1333-82-0						
5	lead chromate			25	mg/kg				
	082-004-00-2	231-846-0	7758-97-6						
6	mercury dichloride			<0.05	mg/kg	<0.0677	mg/kg	<0.00000677 %	<LOD
	080-010-00-X	231-299-8	7487-94-7						
7	dicopper oxide; copper (I) oxide			9.2	mg/kg				
	029-002-00-X	215-270-7	1317-39-1						
8	nickel dihydroxide			15	mg/kg				
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]						
9	selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex			0.27	mg/kg				
	034-002-00-8								
10	zinc oxide			52	mg/kg				
	030-013-00-7	215-222-5	1314-13-2						
11			PH	8.8	pH				
12				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
	601-052-00-2	202-049-5	91-20-3						
13				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		205-917-1	208-96-8						
14				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-469-6	83-32-9						
15				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-695-5	86-73-7						



				User entered data			
	EU CLP index number	EC Number	CAS Number				
16		201-581-5	85-01-8	<0.1	mg/kg	<0.00001 %	<LOD
17		204-371-1	120-12-7	<0.1	mg/kg	<0.00001 %	<LOD
18		205-912-4	206-44-0	<0.1	mg/kg	<0.00001 %	<LOD
19		204-927-3	129-00-0	<0.1	mg/kg	<0.00001 %	<LOD
20	601-033-00-9	200-280-6	56-55-3	<0.1	mg/kg	<0.00001 %	<LOD
21	601-048-00-0	205-923-4	218-01-9	<0.1	mg/kg	<0.00001 %	<LOD
22	601-034-00-4	205-911-9	205-99-2	<0.1	mg/kg	<0.00001 %	<LOD
23	601-036-00-5	205-916-6	207-08-9	<0.1	mg/kg	<0.00001 %	<LOD
24	601-032-00-3	200-028-5	50-32-8	<0.1	mg/kg	<0.00001 %	<LOD
25		205-893-2	193-39-5	<0.1	mg/kg	<0.00001 %	<LOD
26	601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg	<0.00001 %	<LOD
27		205-883-8	191-24-2	<0.1	mg/kg	<0.00001 %	<LOD
28			TPH	31	mg/kg		



Supplementary Hazardous Property Information

Force this Hazardous property to non hazardous because Not flammable at this concentration



Classification of sample: BH205(1)



Sample details

BH205(1)
0.3 m
20% (no correction)

17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

Determinands

20% No Moisture Correction applied (MC)

				User entered data					
	EU CLP index number	EC Number	CAS Number						
1	arsenic trioxide			8.3	mg/kg				
	033-003-00-0	215-481-4	1327-53-3						
2	cadmium sulfide			0.21	mg/kg				
	048-010-00-4	215-147-8	1306-23-6						
3	chromium(III) oxide (worst case)			28	mg/kg				
		215-160-9	1308-38-9						
4	oxide		chromium(VI)	<0.5	mg/kg	<0.962	mg/kg	<0.0000962 %	<LOD
	024-001-00-0	215-607-8	1333-82-0						
5	lead chromate			23	mg/kg				
	082-004-00-2	231-846-0	7758-97-6						
6	mercury dichloride			<0.05	mg/kg	<0.0677	mg/kg	<0.00000677 %	<LOD
	080-010-00-X	231-299-8	7487-94-7						
7	dicopper oxide; copper (I) oxide			23	mg/kg				
	029-002-00-X	215-270-7	1317-39-1						
8	nickel dihydroxide			36	mg/kg				
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]						
9	selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex			0.74	mg/kg				
	034-002-00-8								
10	zinc oxide			72	mg/kg				
	030-013-00-7	215-222-5	1314-13-2						
11			PH	7.9	pH				
12				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
	601-052-00-2	202-049-5	91-20-3						
13				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		205-917-1	208-96-8						
14				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-469-6	83-32-9						
15				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-695-5	86-73-7						



				User entered data						
		EU CLP index number	EC Number	CAS Number						
16			201-581-5	85-01-8	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
17			204-371-1	120-12-7	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
18			205-912-4	206-44-0	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
19			204-927-3	129-00-0	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
20		601-033-00-9	200-280-6	56-55-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
21		601-048-00-0	205-923-4	218-01-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
22		601-034-00-4	205-911-9	205-99-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
23		601-036-00-5	205-916-6	207-08-9	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
24		601-032-00-3	200-028-5	50-32-8	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
25			205-893-2	193-39-5	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
26		601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
27			205-883-8	191-24-2	<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
28				TPH	<10	mg/kg	<10	mg/kg	<0.001 %	<LOD





Classification of sample: BH205(2)



Non Hazardous Waste
17 05 04

Sample details

BH205(2)

0.6 m

19%
(no correction)

17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

Determinands

19% No Moisture Correction applied (MC)

				User entered data					
	EU CLP index number	EC Number	CAS Number						
1	arsenic trioxide			8.5	mg/kg				
	033-003-00-0	215-481-4	1327-53-3						
2	cadmium sulfide			0.14	mg/kg				
	048-010-00-4	215-147-8	1306-23-6						
3	chromium(III) oxide (worst case)			28	mg/kg				
		215-160-9	1308-38-9						
4	oxide		chromium(VI)	<0.5	mg/kg	<0.962	mg/kg	<0.0000962 %	<LOD
	024-001-00-0	215-607-8	1333-82-0						
5	lead chromate			23	mg/kg				
	082-004-00-2	231-846-0	7758-97-6						
6	mercury dichloride			<0.05	mg/kg	<0.0677	mg/kg	<0.00000677 %	<LOD
	080-010-00-X	231-299-8	7487-94-7						
7	dicopper oxide; copper (I) oxide			25	mg/kg				
	029-002-00-X	215-270-7	1317-39-1						
8	nickel dihydroxide			37	mg/kg				
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]						
9	selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex			0.74	mg/kg				
	034-002-00-8								
10	zinc oxide			70	mg/kg				
	030-013-00-7	215-222-5	1314-13-2						
11			PH	8.2	pH				
12				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
	601-052-00-2	202-049-5	91-20-3						
13				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		205-917-1	208-96-8						
14				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-469-6	83-32-9						
15				<0.1	mg/kg	<0.1	mg/kg	<0.00001 %	<LOD
		201-695-5	86-73-7						



		User entered data						
		EU CLP index number	EC Number	CAS Number				
16			201-581-5	85-01-8	<0.1	mg/kg	<0.00001 %	<LOD
17			204-371-1	120-12-7	<0.1	mg/kg	<0.00001 %	<LOD
18			205-912-4	206-44-0	<0.1	mg/kg	<0.00001 %	<LOD
19			204-927-3	129-00-0	<0.1	mg/kg	<0.00001 %	<LOD
20		601-033-00-9	200-280-6	56-55-3	<0.1	mg/kg	<0.00001 %	<LOD
21		601-048-00-0	205-923-4	218-01-9	<0.1	mg/kg	<0.00001 %	<LOD
22		601-034-00-4	205-911-9	205-99-2	<0.1	mg/kg	<0.00001 %	<LOD
23		601-036-00-5	205-916-6	207-08-9	<0.1	mg/kg	<0.00001 %	<LOD
24		601-032-00-3	200-028-5	50-32-8	<0.1	mg/kg	<0.00001 %	<LOD
25			205-893-2	193-39-5	<0.1	mg/kg	<0.00001 %	<LOD
26		601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg	<0.00001 %	<LOD
27			205-883-8	191-24-2	<0.1	mg/kg	<0.00001 %	<LOD
28				TPH	<10	mg/kg	<0.001 %	<LOD





Appendix B: Rationale for selection of metal species

Worst case species based on hazard statements

Worst case species based on hazard statements

Worst case species based on hazard statements

Worst case species based on hazard statements

Worst case species based on hazard statements

Worst case species based on hazard statements

Most likely common species

Worst case species based on hazard statements

Worst case species based on hazard statements

Most likely to occur in oxides form in soils.

Appendix C: Version

WM3 1st Edition v1.2.GB - Oct 2021



Appendix G – Geotechnical Risk Register

Appendix H – Contamination Risk Assessment Methodology

CONTAMINATION ASSESSMENT METHODOLOGY

The DEFRA and Environment Agency Contaminated Land Report 11 (CLR11) 'Model Procedures for the Management of Land Contamination' provides a technical framework for structured decision making about land contamination.

A1. Definition of Risk

CLR11 defines risk as “a combination of probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence”.

A2. The Concept of the 'Pollutant Linkage'

In the context of contaminated land, there are three essential elements to any risk:

- a **contaminant (or source)** – a substance that is in, on or under land and has the potential to cause harm or cause pollution of controlled waters.
- a **receptor** - humans, ecological system, water body or property.
- a **pathway** – a route or means by which a receptor can be exposed to, or affected by, a contaminant.

Each of these elements can exist separately; however, they create a risk only where they are linked together forming a **pollutant linkage**.

A3. Conceptual Site Models

A conceptual site model represents the characteristics of the site in diagrammatic or written form that shows the possible relationships between contaminants, pathways and receptors (pollutant linkages).

For all potential pollutant linkages identified, the *consequence* and *probability* of occurrence is qualitatively assessed, and a *risk* assigned.

A4. The Tiered Risk Assessment Approach

CLR11 presents a tiered approach to risk:

Tier 1 *Preliminary risk assessment (PRA)*

The purpose of the preliminary risk assessment is to develop an initial conceptual model of the site and to establish whether or not there are potentially unacceptable risks. If potential risks are identified the initial conceptual model is developed in subsequent tiers of the risk assessment process.

Tier 2 *Generic quantitative risk assessment (GQRA)*

The purpose of the generic quantitative risk assessment is to establish whether generic assessment criteria and assumptions are appropriate for assessing the risks and, if so, to apply them to establish whether there are actual or potential unacceptable risks. It also determines whether further detailed quantitative risk assessment is required.

Tier 3 *Detailed quantitative risk assessment (DQRA)*

The purpose of the detailed quantitative risk assessment is to establish and use more detailed site specific information and criteria to decide whether there are unacceptable risks. It may be used as the sole method of quantitative assessments of risks, or it may be used to refine earlier assessments using generic assessment criteria.

B. RISK ASSESSMENT DEFINITIONS

B1. General

The following classification and definition of risk assessment has been based on that set out in NHBC and EA Publication R&D 66 – Guidance on the Safe Development of Housing on Land Affected by Contamination (2008).

The key to the classification is that the designation of risk is based upon the consideration of both:

- the magnitude of the potential consequence (i.e. severity)**, which considers both the potential severity of the hazard, and the sensitivity of the receptor.
- the magnitude of probability (i.e. likelihood)**, which considers both the presence of the hazard, the receptor, and the integrity of the pathway.

B2. Classification of Consequence

Classification	Definition	Examples
Severe	Highly elevated concentrations likely to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs. Equivalent to EA Category 1 pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population. Catastrophic damage to crops, buildings or property.	Significant harm to humans is defined in circular 01/2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Major fish kill in surface water from large spillage of contaminants from site. Highly elevated concentrations of List I and II substances present in groundwater close to small potable abstraction (high sensitivity). Explosion, causing building collapse (can also equate to immediate human health risk if buildings are occupied).
Medium	Elevated concentrations which could result in "significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs. Equivalent to EA Category 2 pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.	Significant harm to humans is defined in circular 01/2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Damage to building rendering it unsafe to occupy e.g. foundation damage resulting in instability. Ingress of contaminants through plastic potable water pipes.
Mild	Exposure to human health unlikely to lead to "significant harm". Equivalent to EA Category 3 pollution incident including minimal or short lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population. Minor damage to crops, buildings or property.	Exposure could lead to slight short-term effects (e.g. mild skin rash). Surface spalling of concrete.
Minor	No measurable effect on humans. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.	The loss of plants in a landscaping scheme. Discoloration of concrete.

* For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned.

B3. Classification of Probability

Only applies if there is a possibility of a pollutant linkage being present.

Classification	Definition	Examples
High likelihood	There is pollutant linkage and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution.	a) Elevated concentrations of toxic contaminants are present in soils in the top 0.5m in a residential garden. b) Ground/groundwater contamination could be present from chemical works, containing a number of USTs, having been in operation on the same site for over 50
Likely	There is pollutant linkage and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term.	a) Elevated concentrations of toxic contaminants are present in soils at depths of 0.5-1.0m in a residential garden, or the top 0.5m in public open space. b) Ground/groundwater contamination could be present from an industrial site containing a UST present between 1970 and 1990. The tank is known to be single skin. There is no evidence of leakage although there are no records of integrity tests.
Low likelihood	There is pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place and is less likely in the shorter term.	a) Elevated concentrations of toxic contaminants are present in soils at depths >1m in a residential garden, or 0.5-1.0m in public open space. b) Ground/groundwater contamination could be present on a light industrial unit constructed in the 1990s containing a UST in operation over the last 10 years – the tank is double skinned but there is no integrity testing or evidence of leakage.
Unlikely	There is pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long-term.	a) Elevated concentrations of toxic contaminants are present below hard standing. b) Light industrial unit <10 yrs. old containing a double-skinned UST with annual integrity testing results available.

Note: A pollution linkage must first be established before probability is classified. If there is no pollution linkage, then there is no potential risk. If there is no pollution linkage, then there is no need to apply tests for probability and consequence.

For example, if there is surface contamination and a major aquifer is present at depth, but this major aquifer is overlain by an aquiclude of significant thickness then there is no pollution linkage and the risks to the major aquifer are not assessed. The report should identify both the source and the receptor but state that because there is no linkage there are no potential risks.

B4. The Classification of Risk

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

B5. Description of the Classified Risks

Very high risk

There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.

High risk

Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.

Moderate risk

It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.

Low risk

It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.

Very low risk

It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or minor.

No potential risk

There is no potential risk if no pollution linkage has been established.

B6. Definitions

Term	Definition
Hazard	A property or situation which in certain circumstances could lead to harm. The properties of different hazards must be assessed in relation to their potential to affect the various receptors.
Risk	A combination of the probability or frequency of the occurrences of a defined hazard AND the magnitude of the consequences of that occurrence.
Probability	The mathematical expression of the chance of a particular event in a given period of time [e.g. probability of 0.2 is equivalent to 20% or a 1 in 5 chance].
Impact	The adverse effects (or harm) arising from a defined hazard which impairs the quality of the environment or human health in the short or longer term.
Pollution linkage	An identified pathway is capable of exposing a receptor to a contaminant and that contaminant is capable of harming the receptor.

APPENDIX I - LIMITATIONS AND EXCEPTIONS

Limitations and Exceptions

1. The advice given in this report is based on the guidelines available at the time of writing.
2. This investigation was conducted so as to generally comply with the relevant principles and requirements of BS10175: 2011 "Investigation of potentially contaminated sites - Code of Practice" and BS 5930:2015 "Code of Practice for Site Investigations".
3. The Client is advised that the conditions observed on site by Jubb Consulting Engineers Ltd (JCE) at the time of the investigation or assessment are subject to change. Certain indicators of the presence of hazardous substances may have been latent at the time of the most recent site reconnaissance or investigation and they may subsequently have become observable. Ground conditions, including geotechnical properties may vary between points of observation, sampling and testing.
4. Certain areas of site had restricted access or were inaccessible due to the presence of in-use buildings, facilities and live services, as identified in this report. These may require further investigation outside the scope of this present investigation.
5. Comments made relating to land gas or groundwater conditions are based on observations made at the time of an investigation unless otherwise stated. Land gas and groundwater conditions may vary as a result of seasonal or other effects.
6. Ground contamination often exists as small discrete areas of contamination and there can be no certainty that any or all such areas have been located, sampled and/or identified.
7. The findings and opinions conveyed in this report are based on information obtained from a variety of sources, including that from previous site investigations and chemical and geotechnical testing laboratories, and which JCE has assumed are correct. Nevertheless, JCE cannot and does not guarantee the authenticity or reliability of the information it has used or cited. JCE can accept no responsibility for inaccuracies within the data supplied by other parties.
8. This report is written in the context of an agreed scope of work between JCE and the Client and should not be used in a different context. In the light of additional information becoming available, improved practices and changes in legislation, amendment or re-interpretation of the assessment or report in whole or part may be necessary after its original submission.
9. This report is provided for sole use by the Client and is confidential to them. No responsibility whatsoever for the contents of the report will be accepted to anyone other than the Client.
10. This report is not a specification for works.
11. JCE believes that providing information about limitations is essential to help the Client identify and thereby manage risks.
12. JCE does not provide legal advice and the advice of the Clients' legal advisors may also be required.
13. JCE retain the copyright in this report and all drawings reproduced in it.