



Site Investigation Report for
Land at Pottery Gardens, Cheadle

Appendix 5

Coopers Trial Pit Logs

Machine : 9 Tonne Tracked Excavator Method : Mechanical Excavation	Dimensions 2.00 x 0.50 x 2.10m	Ground Level (mOD)	Client Persimmon Homes	Job Number 8512
	Location (Observed measurements)	Dates 08/01/2025	Engineer Coopers (Chester) Ltd	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10	B				(0.30)	MADEGROUND (similar to topsoil). Grass over very soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including fragments of red brick and sandstone.		
					0.30			
0.60	SV 108kPa		Medium vane		(0.70)	Firm to stiff, high strength, brown mottled light grey, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, sub-angular to sub-rounded of mixed lithologies including sandstone.		
0.60	B							
0.90	SV 90kPa		Medium vane					
					1.00			
1.10	SV **118kPa		Medium vane			Stiff to very stiff, high strength, reddish brown mottled grey, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to medium. Gravel is predominantly fine to medium, sub-angular to sub-rounded of mixed lithologies including siltstone.		
1.10	B							
					(0.80)	At 1.40m: Very friable		
			Slight seepage(1) at 1.50m.					
					1.80			
1.90	B				(0.30)	Very weak, weathered SANDSTONE, recovered as light grey and brown, medium to coarse, angular GRAVEL of sandstone with occasional angular cobbles of sandstone. *Assumed as loose to medium dense.		
					2.10	Complete at 2.10m		



Remarks

Location CAT scanned prior to breaking ground.
Sides stable during excavation.
Slight seepage at 1.50m during excavation.
*Based upon trenchside stability characteristics.
Please note that discolouration of photographs may occur when viewed on screen as a PDF, or when printed as a hard copy.
Shear vane SV06 used. **Spurious shear vane result, sample breaking apart. Unable to take shear vane sample at 1.40m; too friable.
Timed scrape for 5 minutes from 1.90m - 2.10m.
Trial pit locations shown on Coopers Drawing No. 8512/FD/01-Rev A.
Backfilled with arisinas upon completion.



Scale (approx)

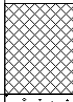
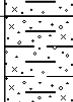
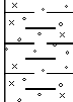
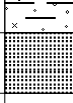
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Logged By

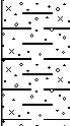
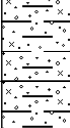
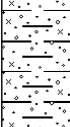
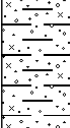
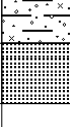
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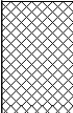
Checked
By

PRS

 Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2				Trial Pit Number TP302	
Machine : 9 Tonne Tracked Excavator Method : Mechanical Excavation		Dimensions 2.00 x 0.60 x 2.30m		Ground Level (mOD)		Client Persimmon Homes		Job Number 8512	
		Location (Observed measurements)		Dates 08/01/2025		Engineer Coopers (Chester) Ltd		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.20	B				(0.30)	MADEGROUND (similar to topsoil). Grass over very soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including red brick and sandstone.			
0.40	B				(0.40)	Soft, light brown, slightly sandy, gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone.			
0.80 0.80	SV **38kPa B		Medium vane		0.70	Soft to firm, low to medium strength, reddish brown, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone.			
1.10	SV **48kPa		Medium vane		(0.80)				
1.70 1.70	SV 220kPa B		Small vane		1.50	Stiff to very stiff, very high strength, grey, slightly gravelly, silty CLAY. Gravel is fine to coarse, angular to sub-angular of coal and mudstone. At 1.70m: Band of black coal			
2.00	SV 200kPa		Small vane		(0.60)				
2.20	B		Slight seepage(1) at 2.10m.		2.10	Very weak, weathered SANDSTONE, recovered as light grey and brown, medium to coarse, angular GRAVEL of sandstone with occasional angular cobbles of sandstone. *Assumed as loose to medium dense.			V1
					(0.20)				
					2.30	Complete at 2.30m			
					Remarks				
					Location CAT scanned prior to breaking ground. Sides stable during excavation. Slight seepage at 2.10m during excavation. *Based upon trenchside stability characteristics. Please note that discolouration of photographs may occur when viewed on screen as a PDF, or when printed as a hard copy. Shear vane SV06 used. **Spurious shear vane result, sample breaking apart. Unable to take shear vane sample at 1.40m; too friable. Trial pit locations shown on Coopers Drawing No. 8512/FD/01-Rev A. Backfilled with arisings upon completion.				
					North 	Scale (approx) 1:25	Logged By HF	Checked By PRS	

 Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2				Trial Pit Number TP303	
Machine : 9 Tonne Tracked Excavator		Dimensions 2.00 x 0.60 x 2.90m		Ground Level (mOD)		Client Persimmon Homes		Job Number 8512	
Method : Mechanical Excavation		Location (Observed measurements)		Dates 08/01/2025		Engineer Coopers (Chester) Ltd		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.10	B				(0.30)	MADEGROUND (similar to topsoil). Grass over very soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including rare fragments of red brick and ceramic and sandstone.			
0.40 0.40	SV 80kPa B		Medium vane		0.30	MADEGROUND (reworked). Firm, medium to high strength, light brown mottled grey, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to medium. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone.			
0.70	SV 72kPa		Medium vane		(0.90)				
1.00	SV 70kPa		Medium vane		1.20	At 1.00m: Clay land drain, approximately 75mm in diameter, orientated north to south. Dry			
1.40 1.40	SV 90kPa B		Medium vane			Stiff to very stiff, high to very high strength, dark grey, slightly sandy, slightly gravelly, silty CLAY. Gravel is predominantly fine to medium, angular to sub-angular of mudstone. Sand is fine to medium.			
1.70	SV 118kPa		Small vane						
2.00	SV 180kPa		Small vane		(1.70)				
2.20	SV 200kPa		Small vane						
2.40	B					At 2.40m: Becoming very friable			
					2.90	Complete at 2.90m			
						Remarks Location CAT scanned prior to breaking ground. Sides stable during excavation. No groundwater encountered during excavation. Please note that discolouration of photographs may occur when viewed on screen as a PDF, or when printed as a hard copy. Shear vane SV06 used. Unable to take shear vane sample at 2.40m; too friable. Trial pit locations shown on Coopers Drawing No. 8512/FD/01-Rev A. Backfilled with arisings upon completion.			
						North 			

 Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2				Trial Pit Number TP304	
Machine : 9 Tonne Tracked Excavator Method : Mechanical Excavation		Dimensions 2.00 x 0.60 x 2.90m		Ground Level (mOD)		Client Persimmon Homes		Job Number 8512	
		Location (Observed measurements)		Dates 08/01/2025		Engineer Coopers (Chester) Ltd		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.20	B		Small vane		(0.40)	MADEGROUND (similar to topsoil). Grass over very soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone and fragments of red brick.			
0.50 0.50	SV 100kPa B				0.40	Stiff, high strength, light brown mottled grey, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone.			
0.80	SV 160kPa				(0.70)				
1.00	SV 120kPa				1.10	Stiff to very stiff, very high strength, reddish brown mottled grey, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to medium. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone.			
1.30 1.30	SV 180kPa B				(1.60)				
1.60	SV 210kPa								
2.00	SV **170kPa								
2.30	B								
2.80	B					2.70	Very weak, weathered, light grey and brown SANDSTONE, recovered as light grey and brown, medium to coarse, angular to sub-angular gravel of sandstone with occasional angular cobbles of sandstone. *Assumed as loose to medium dense. Complete at 2.90m		
					(0.20)				
		2.90							
						Remarks Location CAT scanned prior to breaking ground. Sides stable during excavation. Slight seepage at 2.60m during excavation. *Based upon trenchside stability characteristics. Please note that discolouration of photographs may occur when viewed on screen as a PDF, or when printed as a hard copy. Shear vane SV06 used. **Spurious shear vane result, sample breaking apart. Unable to take shear vane sample at 2.30m; too friable. Trial pit locations shown on Coopers Drawing No. 8512/FD/01-Rev A. Backfilled with arisings upon completion.			
						North 	Scale (approx) 1:25	Logged By HF	Checked By PRS

 Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2		Trial Pit Number TP305			
Machine : 9 Tonne Tracked Excavator Method : Mechanical Excavation		Dimensions 2.00 x 0.60 x 1.60m		Ground Level (mOD)		Client Persimmon Homes		Job Number 8512	
		Location (Observed measurements)		Dates 08/01/2025		Engineer Coopers (Chester) Ltd		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.10	B				(0.40)	MADEGROUND (similar to topsoil). Grass over very soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including rare fragments of red brick and coal.			
0.60	SV 180kPa B		Small vane		0.40	Stiff to very stiff, very high strength, light grey mottled brown, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to medium. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including siltstone and sandstone.			
0.60									
0.90	SV 176kPa		Small vane		(1.20)				
1.10	SV 200kPa		Small vane						
1.30	SV 190kPa		Small vane						
1.50	SV 196kPa B		Small vane		1.60	Complete at 1.60m			
1.50									
						Remarks Location CAT scanned prior to breaking ground. Sides stable during excavation. No groundwater encountered during excavation. Please note that discolouration of photographs may occur when viewed on screen as a PDF, or when printed as a hard copy. Shear vane SV06 used. Trial pit locations shown on Coopers Drawing No. 8512/FD/01-Rev A. Backfilled with arisings upon completion.			
						North 	Scale (approx) 1:25	Logged By HF	Checked By PRS

 Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2		Trial Pit Number TP306			
Machine : 9 Tonne Tracked Excavator Method : Mechanical Excavation		Dimensions 2.00 x 0.60 x 1.80m		Ground Level (mOD)		Client Persimmon Homes		Job Number 8512	
		Location (Observed measurements)		Dates 08/01/2025		Engineer Coopers (Chester) Ltd		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.20	B				0.30	TOPSOIL. Grass over very soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone and quartzite.			
0.50 0.50	SV 100kPa B		Medium vane			Firm to stiff, high strength, brown mottled light grey, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including coal and sandstone.			
0.80	SV 104kPa		Medium vane		(1.50)				
1.50	B				1.80	From 1.70m - 1.80m: Pockets of fine to coarse sand			
						Complete at 1.80m			
						Remarks Location CAT scanned prior to breaking ground. Sides stable during excavation. No groundwater encountered during excavation. Please note that discolouration of photographs may occur when viewed on screen as a PDF, or when printed as a hard copy. Shear vane SV06 used. Unable to take shear vane at 1.10m; too friable. Trial pit locations shown on Coopers Drawing No. 8512/FD/01-Rev A. Backfilled with arisings upon completion.			
						North 		Scale (approx) 1:25	

 Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2				Trial Pit Number TP307	
Machine : 9 Tonne Tracked Excavator		Dimensions 2.00 x 0.60 x 2.40m		Ground Level (mOD)		Client Persimmon Homes		Job Number 8512	
Method : Mechanical Excavation		Location (Observed measurements)		Dates 08/01/2025		Engineer Coopers (Chester) Ltd		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.20	B				(0.30)	MADEGROUND (similar to topsoil). Grass over very soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including fragments of red brick.			
					0.30				
0.60	SV 80kPa		Small vane		(0.40)	MADEGROUND (reworked). Firm to stiff, high strength, brown, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including coal and sandstone.			
0.60	B				0.70	At 0.60m: Clay land drain, approximately 75mm in diameter, orientated west to east. Dry			
0.90	SV 108kPa		Small vane			Stiff, high strength, reddish brown, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone.			
0.90	B								
1.10	SV 100kPa		Small vane						
					(1.30)				
1.40	SV 100kPa		Small vane						
			Seepage during excavation(1) at 1.90m.		2.00	Very weak, weathered, light grey and brown SANDSTONE, recovered as medium dense, light grey and brown, fine to coarse, angular to sub-angular gravel of sandstone with occasional angular cobbles of sandstone. *Assumed as loose to medium dense.		∇1	
2.10	B				(0.40)				
			Accumulation at time of backfill(2) at 2.40m.		2.40	Complete at 2.40m		∇2	

 Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2				Trial Pit Number TP308	
Machine : 9 Tonne Tracked Excavator Method : Mechanical Excavation		Dimensions 2.00 x 0.60 x 2.60m		Ground Level (mOD)		Client Persimmon Homes		Job Number 8512	
		Location (Observed measurements)		Dates 08/01/2025		Engineer Coopers (Chester) Ltd		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.10	B				(0.30)	MADEGROUND (similar to topsoil). Grass over very soft, brown, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including fragments of red brick and coal.			
0.50 0.50	SV 92kPa B		Small vane		0.30				
0.80	SV 100kPa		Small vane		(0.70)	Firm to stiff, high strength, light brown mottled grey, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone.			
1.10 1.10	SV 120kPa B		Small vane		1.00				
1.40	SV 128kPa		Small vane			Stiff to very stiff, high strength, dark grey, slightly gravelly, silty CLAY. Gravel is predominantly fine to medium of mixed lithologies including mudstone and coal.			
1.70	SV 140kPa		Small vane		(1.60)				
1.90	SV 140kPa		Small vane			At 1.70m: Becoming dark grey mottled reddish brown			
2.10	B					From 2.00m - 2.10m: Band of black coal			
					2.60	Complete at 2.60m			
					Remarks				
					Location CAT scanned prior to breaking ground. Sides stable during excavation. No groundwater encountered during excavation. Please note that discolouration of photographs may occur when viewed on screen as a PDF, or when printed as a hard copy. Shear vane SV06 used. Unable to take shear vane at 2.10m; too friable. Trial pit locations shown on Coopers Drawing No. 8512/FD/01-Rev A. Backfilled with arisings upon completion.				
North 					Scale (approx) 1:25		Logged By HF		Checked By PRS

 Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2		Trial Pit Number TP501		
Machine : 9 Tonne Tracked Excavator Method : Mechanical Excavation		Dimensions 2.50 x 0.70 x 2.40m	Ground Level (mOD)		Client Persimmon Homes		Job Number 8512	
		Location (Observed measurements)	Dates 29/01/2025		Engineer Coopers (Chester) Ltd		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	B				(0.30) 0.30	MADEGROUND (similar to topsoil). Grass over very soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone and fragments of plastic and red brick.		
0.60 0.60	SV 74kPa B		Medium vane		(0.80)	Firm, medium to high strength, light brown mottled grey, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone.		
0.90 0.90	SV 78kPa B		Medium vane		1.10			
1.20 1.20	SV 38kPa B		Seepage(1) at 1.20m. Medium vane		(0.30) 1.40	Soft, low strength, reddish brown, slightly gravelly, sandy, silty CLAY. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone. Sand is fine to coarse.		V1
					(1.00) 2.40	Very weak, weathered, light grey and brown SANDSTONE, recovered as grey and brown, slightly clayey, sandy, fine to coarse, angular GRAVEL of sandstone. Sand is fine to coarse. *Assumed as loose to medium dense.		
						Complete at 2.40m		
					Remarks Location CAT scanned prior to breaking ground. Sides stable during excavation. Seepage at 1.20m during excavation. *Based upon trenchside stability characteristics. Please note that discolouration of photographs may occur when viewed on screen as a PDF, or when printed as a hard copy. SV06 used. Trial pit locations shown on Coopers Drawing No. 8512/Fd/01 - Rev A. Backfilled with arisings upon completion.			
					North 			
					Scale (approx) 1:25		Logged By HF	
							Checked By PRS	

 coopers chartered consulting engineers				Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2		Trial Pit Number TP502	
Machine : 9 Tonne Tracked Excavator Method : Mechanical Excavation		Dimensions 2.50 x 0.70 x 2.00m		Ground Level (mOD)		Client Persimmon Homes		Job Number 8512			
		Location (Observed measurements)								Dates 29/01/2025	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description			Legend	Water	
0.10	B				(0.30)	MADEGROUND (similar to topsoil). Grass over very soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including siltstone and fragments of red brick.					
0.50	B				0.30						
					(1.10)	Soft, reddish brown, slightly gravelly, sandy, silty CLAY. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone. Sand is fine to coarse. From 0.30m - 1.40m: Friable					
1.30	B				1.40						From 0.90m - 1.40m: Pockets of reddish brown, fine to coarse sand
1.50	B				(0.60)	Very weak, weathered, light grey and brown SANDSTONE, recovered as light grey and brown, slightly clayey, sandy, fine to coarse, angular GRAVEL of sandstone. Sand is fine to coarse. *Assumed as loose to medium dense.					
		2.00	Complete at 2.00m								
					Remarks						
					Location CAT scanned prior to breaking ground. Sides stable during excavation. Slight seepage at 1.90m during excavation. *Based upon trenchside stability characteristics. Please note that discolouration of photographs may occur when viewed on screen as a PDF, or when printed as a hard copy. Unable to take shear vanes, too friable. Trial pit locations shown on Coopers Drawing No. 8512/Fd/01 - Rev A. Backfilled with arisings upon completion.						
					North	Scale (approx)	Logged By		Checked By		
						1:25	HF		PRS		

Site Investigation Report for
Land at Pottery Gardens, Cheadle

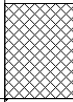
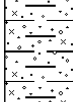
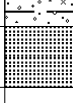
Appendix 6

Coopers Small Diameter Borehole Logs

 coopers chartered consulting engineers				Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2		Number WS301	
Machine : Archway Dart Method : Drive-in Windowless Sampler		Dimensions 100mm to 2.13m		Ground Level (mOD)		Client Persimmon Homes		Job Number 8512			
		Location (Observed measurements)		Dates 08/01/2025		Engineer Coopers (Chester) Ltd		Sheet 1/1			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water			
0.20	B				(0.30)	MADEGROUND (similar to topsoil). Grass over very soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone and rare fragments of red brick.					
0.50 0.50	SV *80kPa B		Small vane		0.30						
					(0.70)	Firm to stiff, light brown mottled grey, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including siltstone.					
1.10	B				1.00	Firm to stiff, high strength, reddish brown, slightly gravelly, sandy, silty CLAY. Gravel is fine to medium, angular to sub-angular of mixed lithologies including sandstone. Sand is fine to coarse.					
1.20-1.65	SPT N=25		Slight seepage(1) at 1.20m. 1,2/4,6,6,9		(1.00)	From 1.20m - 2.00,m: Pockets of reddish brown, fine to coarse sand					
1.80	B				2.00	Very weak, weathered, reddish brown SANDSTONE, recovered as sandy, fine to coarse GRAVEL of sandstone. *Assumed as medium dense.					
2.00-2.14	SPT 25*/85 50/50		13,12/50		(0.13) 2.13						
						Complete at 2.13m					
Remarks Location CAT scanned prior to breaking ground. Inspection pit hand dug to 1.20m. Slight seepage at 1.20m. Monitoring well installed from ground level to 2.00m comprising 1.00m plain pipe, 1.00m slotted pipe with inert free draining gravel surround and flush cover, 0.50m bentonite seal and 0.50m concrete. Borehole drilled by G.P. Drilling. SPT Energy Ratio = 67%. Rig Ref: Archway Dart 334. SV06 used. *Spurious shear vane result; sample breaking apart. Window sample locations shown on Coopers Drawing No. 8512/FD/01-Rev A.								Scale (approx) 1:40	Logged By HF		
								Checked By PRS			

 Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2		Number WS302			
Machine : Archway Dart Method : Drive-in Windowless Sampler		Dimensions 100mm to 3.45m		Ground Level (mOD)		Client Persimmon Homes		Job Number 8512	
		Location (Observed measurements)		Dates 29/01/2025		Engineer Coopers (Chester) Ltd		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.10	B		Medium vane		(0.30)	MADEGROUND (similar to topsoil). Grass over very soft to soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone and fragments of red brick.			
0.50 0.50	SV 70kPa B				0.30 (0.70)				
1.00 1.10 1.20-1.65	SV *98kPa B SPT N=11		1.00						
1.90 1.90 2.00-2.45	SV *112kPa B SPT N=25		(2.45)						
						Medium vane 3,4/5,5,7,8	Stiff to very stiff, medium to high strength, grey, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to medium. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including siltstone and mudstone.		
Medium vane 6,4/4,5,6,7	3.45		Complete at 3.45m						
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									

 coopers chartered consulting engineers				Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2		Number WS303	
Machine : Archway Dart Method : Drive-in Windowless Sampler		Dimensions 100mm to 3.45m		Ground Level (mOD)		Client Persimmon Homes			Job Number 8512		
		Location (Observed measurements)		Dates 29/01/2025		Engineer Coopers (Chester) Ltd			Sheet 1/1		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description			Legend	Water	
0.20	B				(0.30)	MADEGROUND (similar to topsoil). Grass over very soft to soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone and fragments of red brick.					
0.50 0.50	SV *48kPa B		Medium vane		0.30						
					(0.90)	Soft to firm, medium strength, light grey mottled brown, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including siltstone.					
1.20-1.65	SPT N=10		0,2/2,2,3,3		1.20	Firm to stiff, high strength, grey, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including siltstone and mudstone. From 1.20m - 1.65m: Locally medium strength					
1.50 1.50	SV 100kPa B		Medium vane								
2.00-2.45	SPT N=19		3,4/5,5,5,4		(2.25)						
2.50	B										
3.00-3.45	SPT N=36		4,5/5,8,12,11		3.45	Complete at 3.45m					
Remarks Location CAT scanned prior to breaking ground. Inspection hand pit dug to 1.20m. No groundwater during drilling. Monitoring well installed from ground level to 3.00m, comprising 1.00m plain pipe, 2.00m slotted pipe with inert free draining gravel surround and flush cover, 0.50m bentonite seal and 0.50m concrete. Borehole drilled by G.P. Drilling. SPT Energy Ratio = 67%. Rig Ref: Archway Dart 334. SV06 used. *Spurious shear vane result, sample breaking apart. Unable to take shear vane at 2.50m; too friable. Window sample location shown on Coopers Drawing No. 8512/Fd/01 - Rev A.										Scale (approx) 1:40	Logged By HF
										Checked By PRS	

 coopers chartered consulting engineers				Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2		Number WS304	
Machine : Archway Dart Method : Drive-in Windowless Sampler		Dimensions 100mm to 2.02m		Ground Level (mOD)		Client Persimmon Homes		Job Number 8512			
		Location (Observed measurements)		Dates 29/01/2025		Engineer Coopers (Chester) Ltd		Sheet 1/1			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water			
0.30	B	0.90	Seepage(1) at 0.90m. 0,0/0,0,0,3 Medium vane 20,5/30,20		(0.50)	MADEGROUND (similar to topsoil). Grass over very soft to soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone and fragments of red brick.		▽1			
0.70	B				0.50	Soft, brown mottled grey, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone.					
1.20-1.65	SPT N=3				(1.20)						
1.50 1.50 1.70-1.93	SV *38kPa B SPT 25*/125 50/100				1.70 (0.32) 2.02	Very weak, very low to low strength, weathered, light grey and brown SANDSTONE, recovered as light grey and brown, sandy, fine to coarse, angular GRAVEL of sandstone. Sand is fine to coarse.					
						Complete at 2.02m					

 coopers chartered consulting engineers				Coopers (Chester) Ltd tel: 01244 684 910 web: www.coopers.co.uk email: admin@coopers.co.uk				Site POTTERY GARDENS, CHEADLE - PHASE 2				Number WS305	
Machine : Archway Dart Method : Drive-in Windowless Sampler		Dimensions 100mm to 2.43m		Ground Level (mOD)		Client Persimmon Homes				Job Number 8512			
		Location (Observed measurements)		Dates 29/01/2025		Engineer Coopers (Chester) Ltd				Sheet 1/1			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description				Legend	Water		
0.20	B				(0.30)	MADEGROUND (similar to topsoil). Grass over very soft to soft, brown, slightly sandy, slightly gravelly, silty CLAY with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone and fragments of red brick.							
0.50 0.50	SV 70kPa B		Medium vane		0.30								
						Firm, medium strength, brown mottled grey, slightly sandy, slightly gravelly, silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular of mixed lithologies including sandstone.							
1.20-1.65	SPT N=13		2,2/3,3,4,3		(1.70)								
1.50	B												
2.00-2.43	SPT 50/280		6,9/10,10,15,15		2.00	Very weak, weathered, light grey and brown SANDSTONE, recovered as light grey and brown, sandy, fine to coarse, angular GRAVEL of sandstone. Sand is fine to coarse.							
					(0.43)								
					2.43	Complete at 2.43m							
Remarks Location CAT scanned prior to breaking ground. Inspection hand pit dug to 1.20m. No groundwater encountered during drilling. Monitoring well installed from ground level to 2.00m, comprising 1.00m plain pipe, 1.00m slotted pipe with inert free draining gravel surround and flush cover, 0.50m bentonite seal and 0.50m concrete. Borehole drilled by G.P. Drilling. SPT Energy Ratio = 67%. Rig Ref: Archway Dart 334. SV06 used. Unable to take shear vane at 1.50m; too friable. Window sample location shown on Coopers Drawing No. 8512/Fd/01 - Rev A.										Scale (approx) 1:40	Logged By HF		
										Checked By PRS			

Site Investigation Report for
Land at Pottery Gardens, Cheadle

Appendix 7

Chemical Analysis Results

Certificate of Analysis

Certificate Number 25-03722

Issued: 28-Feb-25

Client Coopers (Chester) Ltd
Park House
Sandpiper Court
Chester Business Park
Chester
CH4 9QU

Our Reference 25-03722

Client Reference ~ 8512

Order No ~ 10337-PRS

Contract Title ~ Pottery Gardens, Cheadle - Phase 2

Description 7 Soil samples.

Date Received 20-Feb-25

Date Started 20-Feb-25

Date Completed 28-Feb-25

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By




Louise Cook
Contracts Manager



Normec DETS Limited

Unit 2, Park Road Industrial Estate South, Consett, Co Durham, DH8 5PY
Tel: 01207 582333 • email: info@dets.co.uk • normecdets.com

Summary of Chemical Analysis

Matrix Descriptions

Our Ref 25-03722

Client Ref ~ 8512

Contract Title ~ Pottery Gardens, Cheadle - Phase 2

Sample ID	Depth	Lab No	Completed	Matrix Description
TP301	0.1	2467235	28/02/2025	Dark brown gravelly, sandy CLAY including numerous rootlets
TP302	0.2	2467236	28/02/2025	Dark brown gravelly, sandy CLAY including odd rootlets
TP305	0.1	2467237	28/02/2025	Dark brown gravelly, sandy CLAY including odd rootlets
TP308	0.1	2467238	28/02/2025	Dark brown gravelly, sandy CLAY including odd rootlets (Possible made ground - brick)
TP501	0.6	2467239	28/02/2025	Brown gravelly, sandy CLAY
TP502	1.3	2467240	28/02/2025	Brown slightly gravelly, sandy CLAY including odd rootlets
WS305	0.2	2467241	28/02/2025	Dark brown gravelly, sandy CLAY including odd rootlets (Possible made ground - brick)

Summary of Chemical Analysis

Soil Samples

Our Ref 25-03722

Client Ref ~ 8512

Contract Title ~ Pottery Gardens, Cheadle - Phase 2

Lab No	2467235	2467236	2467237	2467238	2467239	2467240	2467241
Sample ID ~	TP301	TP302	TP305	TP308	TP501	TP502	WS305
Depth ~	0.10	0.20	0.10	0.10	0.60	1.30	0.20
Other ID ~							
Sample Type ~	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date ~	08/01/2025	08/01/2025	08/01/2025	08/01/2025	29/01/2025	29/01/2025	29/01/2025
Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units							
Metals										
Arsenic	DETSC 2301#	0.2	mg/kg	9.2	8.6	9.1	15	5.8	4.3	10
Beryllium	DETSC 2301#	0.2	mg/kg	1.2	0.8	1.2	1.6	0.4	0.3	1.1
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.8	0.5	0.4	0.7	0.5	< 0.2	0.6
Cadmium	DETSC 2301#	0.1	mg/kg	0.5	0.3	0.3	0.5	< 0.1	< 0.1	0.4
Chromium	DETSC 2301#	0.15	mg/kg	18	15	18	17	11	12	16
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	42	32	30	45	15	9.2	36
Lead	DETSC 2301#	0.3	mg/kg	47	37	21	58	8.8	4.5	42
Mercury	DETSC 2325#	0.05	mg/kg	0.06	0.37	< 0.05	0.06	< 0.05	< 0.05	0.07
Nickel	DETSC 2301#	1	mg/kg	13	13	18	18	7.8	16	12
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	34	29	29	34	25	18	31
Zinc	DETSC 2301#	1	mg/kg	110	84	96	91	41	44	86
Inorganics										
pH	DETSC 2008#		pH	6.3	6.2	6.2	7.3	6.8	6.7	6.1
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.4	0.4	0.2	0.3	0.1	< 0.1	0.3
FOC	DETSC 2002	0.001		0.011	0.006	0.006	0.008	0.004	0.002	0.006
Total Organic Carbon	DETSC 2002	0.1	%	1.1	0.6	0.6	0.8	0.4	0.2	0.6
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	20	12	19	18	14	< 10	19
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.11	0.19	0.07	0.10	0.03	0.02	0.06
PAHs										
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenols										
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	1.2	0.8	0.8	0.6	0.3	< 0.3	0.8

Summary of Asbestos Analysis Soil Samples

Our Ref ~ 25-03722

Client Ref ~ 8512

Contract Title ~ Pottery Gardens, Cheadle - Phase 2

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2467235	TP301 0.10	SOIL	NAD	none	Keith Wilson
2467236	TP302 0.20	SOIL	NAD	none	Keith Wilson
2467237	TP305 0.10	SOIL	NAD	none	Keith Wilson
2467238	TP308 0.10	SOIL	NAD	none	Keith Wilson
2467239	TP501 0.60	SOIL	NAD	none	Keith Wilson
2467240	TP502 1.30	SOIL	NAD	none	Keith Wilson
2467241	WS305 0.20	SOIL	NAD	none	Keith Wilson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 25-03722

Client Ref ~ 8512

Contract ~ Pottery Gardens, Cheadle - Phase 2

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2467235	TP301 0.10 SOIL	08/01/25	PG	Anions 2:1 (30 days), Mercury (28 days), Total Sulphate ICP (30 days), Kone Cr6 (30 days), Organic Matter (Manual) (28 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days)	
2467236	TP302 0.20 SOIL	08/01/25	PG	Anions 2:1 (30 days), Mercury (28 days), Total Sulphate ICP (30 days), Kone Cr6 (30 days), Organic Matter (Manual) (28 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days)	
2467237	TP305 0.10 SOIL	08/01/25	PG	Anions 2:1 (30 days), Mercury (28 days), Total Sulphate ICP (30 days), Kone Cr6 (30 days), Organic Matter (Manual) (28 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days)	
2467238	TP308 0.10 SOIL	08/01/25	PG	Anions 2:1 (30 days), Mercury (28 days), Total Sulphate ICP (30 days), Kone Cr6 (30 days), Organic Matter (Manual) (28 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days)	
2467239	TP501 0.60 SOIL	29/01/25	PG	pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days)	
2467240	TP502 1.30 SOIL	29/01/25	PG	pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days)	
2467241	WS305 0.20 SOIL	29/01/25	PG	pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days)	

Key: P-Plastic G-Bag

Normec DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETS 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETS 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETS 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETS 2076	Sulphate Aqueous Extract as SO ₄	mg/l	10	Air Dried	No	Yes	Yes
DETS 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETS 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETS 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETS 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETS 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETS 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETS 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETS 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETS 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETS 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETS 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETS 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETS 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETS 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETS 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETS 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETS 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETS 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETS 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETS 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETS 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETS 2321	Total Sulphate as SO ₄	%	0.01	Air Dried	No	Yes	Yes
DETS 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETS 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETS 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETS 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETS 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETS 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETS 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETS 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETS 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETS 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETS 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETS 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETS 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
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Key:

~ Sample details are provided by the client and can affect the validity of the results

* -not accredited.

-MCERTS (accreditation only applies if report carries the MCERTS logo).

\$ -subcontracted.

n/s -not supplied.

I/S -insufficient sample.

U/S -unsuitable sample.

t/f -to follow.

nd -not detected.

End of Report

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Analytical Report Number : 17-63078

Project / Site name:	Ayr Road	Samples received on:	06/10/2017
Your job number:	11-156	Samples instructed on:	06/10/2017
Your order number:	11156-7030-RT	Analysis completed by:	13/10/2017
Report Issue Number:	1	Report issued on:	13/10/2017
Samples Analysed:	2 leachate samples - 8 soil samples		

Signed:

Rexona Rahman
Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 17-63078

Project / Site name: Ayr Road

Your Order No: 11156-7030-RT

Lab Sample Number				832035	832036	832037	832038	832039
Sample Reference				TP201	TP204	TP205	TP209	TP210
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	2.00	0.20	0.20	2.00
Date Sampled				05/10/2017	05/10/2017	05/10/2017	05/10/2017	05/10/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	19	19	30	30	16
Total mass of sample received	kg	0.001	NONE	0.41	0.43	0.40	0.38	0.41

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	Not-detected	-
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General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.7	6.1	6.5	6.5	6.6
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO ₄	mg/kg	50	MCERTS	1100	170	1000	1100	130
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	160	63	63	97	52
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.079	0.032	0.032	0.049	0.026
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	78.7	31.6	31.6	48.5	25.8
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphur	mg/kg	50	MCERTS	570	190	3100	870	77

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.24	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.23	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.21	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.13	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.17	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.11	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.18	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	1.27	< 0.80
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Analytical Report Number: 17-63078

Project / Site name: Ayr Road

Your Order No: 11156-7030-RT

Lab Sample Number				832035	832036	832037	832038	832039
Sample Reference				TP201	TP204	TP205	TP209	TP210
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	2.00	0.20	0.20	2.00
Date Sampled				05/10/2017	05/10/2017	05/10/2017	05/10/2017	05/10/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	9.3	14	13	6.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	< 0.2	< 0.2	0.6	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	19	12	18	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	43	33	51	160	30
Lead (aqua regia extractable)	mg/kg	1	MCERTS	54	5.0	110	93	12
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	58	13	22	42
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	97	69	85	340	84

Petroleum Hydrocarbons

TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0	2.5	< 1.0	3.4	< 1.0
TPH (C21 - C35)	mg/kg	1	MCERTS	7.7	4.9	22	28	< 1.0

Analytical Report Number: 17-63078

Project / Site name: Ayr Road

Your Order No: 11156-7030-RT

Lab Sample Number				832040	832041	832042		
Sample Reference				TP212	TP213	TP215		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.50	0.20	0.50		
Date Sampled				05/10/2017	05/10/2017	05/10/2017		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	16	16	16		
Total mass of sample received	kg	0.001	NONE	0.43	0.37	0.44		

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
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General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.6	6.5	6.6		
Total Cyanide	mg/kg	1	MCERTS	< 1	1	< 1		
Total Sulphate as SO ₄	mg/kg	50	MCERTS	140	7100	220		
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	47	33	26		
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.023	0.016	0.013		
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	23.3	16.4	13.1		
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Total Sulphur	mg/kg	50	MCERTS	54	3200	100		

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.34	< 0.05		
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.23	< 0.05		
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.27	< 0.05		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.14	< 0.05		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.13	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	1.11	< 0.80		
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Analytical Report Number: 17-63078

Project / Site name: Ayr Road

Your Order No: 11156-7030-RT

Lab Sample Number				832040	832041	832042		
Sample Reference				TP212	TP213	TP215		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.50	0.20	0.50		
Date Sampled				05/10/2017	05/10/2017	05/10/2017		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	34	13		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15	12	22		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	53	19		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	16	110	38		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	13	38		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	73	84	110		

Petroleum Hydrocarbons

TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0		
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0	5.1	< 1.0		
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0	40	< 1.0		



Analytical Report Number: 17-63078

Project / Site name: Ayr Road

Your Order No: 11156-7030-RT

Lab Sample Number				832043	832044			
Sample Reference				TP208	TP213			
Sample Number				None Supplied	None Supplied			
Depth (m)				1.60	0.20			
Date Sampled				05/10/2017	05/10/2017			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

pH	pH Units	N/A	ISO 17025	6.3	5.9			
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10			

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10			
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Speciated PAHs

Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01			
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01			
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01			
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01			

Total PAH

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2			
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Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1.1	ISO 17025	< 1.1	7.7			
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08			
Chromium (hexavalent)	µg/l	5	NONE	< 5.0	< 5.0			
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4	2.3			
Copper (dissolved)	µg/l	0.7	ISO 17025	4.9	24			
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	6.1			
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5			
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.8	2.3			
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0			
Zinc (dissolved)	µg/l	0.4	ISO 17025	5.6	19			



Analytical Report Number: 17-63078

Project / Site name: Ayr Road

Your Order No: 11156-7030-RT

Lab Sample Number				832043	832044			
Sample Reference				TP208	TP213			
Sample Number				None Supplied	None Supplied			
Depth (m)				1.60	0.20			
Date Sampled				05/10/2017	05/10/2017			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status					

Monoaromatics

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0			
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10			

Petroleum Hydrocarbons

TPH1 (C10 - C40)	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0			
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0			
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0			
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0			
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0			
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0			
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10			



Analytical Report Number : 17-63078

Project / Site name: Ayr Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
832035	TP201	None Supplied	0.20	Brown loam and clay with vegetation.
832036	TP204	None Supplied	2.00	Brown clay.
832037	TP205	None Supplied	0.20	Brown clay and loam with vegetation.
832038	TP209	None Supplied	0.20	Brown clay and loam with vegetation.
832039	TP210	None Supplied	2.00	Light brown clay.
832040	TP212	None Supplied	0.50	Brown clay.
832041	TP213	None Supplied	0.20	Brown loam and clay with vegetation.
832042	TP215	None Supplied	0.50	Light brown clay.

Analytical Report Number : 17-63078

Project / Site name: Ayr Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH at 20oC in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS

Iss No 17-63078-1 Ayr Road 11-156

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The results included within the report are representative of the samples submitted for analysis.

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Analytical Report Number : 17-63078

Project / Site name: Ayr Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L076-PL	D	NONE
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Site Investigation Report for
Land at Pottery Gardens, Cheadle

Appendix 8

Geotechnical Laboratory Test Results

TEST REPORT

Client Coopers (Chester) Ltd

Address Park House
Sandpiper Court
Chester Business Park
Chester
CH4 9QU

Contract 8512 -
Pottery Gardens, Cheadle - Phase 2

Order Number 10338-PRS

Job Number MRN 25064/2

Date of Issue 11 March 2025

Page 1 of 9

Approved Signatories

S J Hutchings, O P Davies

Notes

- 1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.
- 2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.
- 3 Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.
- 4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.
- 5 The results included within the report are representative of the samples submitted for analysis.
- 6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.



Andrew House, Hadfield Street, Dukinfield, Cheshire SK16 4QX Tel: 0161 475 0870
Email: enquiries@murrayrix.com Website: www.murrayrix.com

Also at: London: 020 8523 1999

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MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
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TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

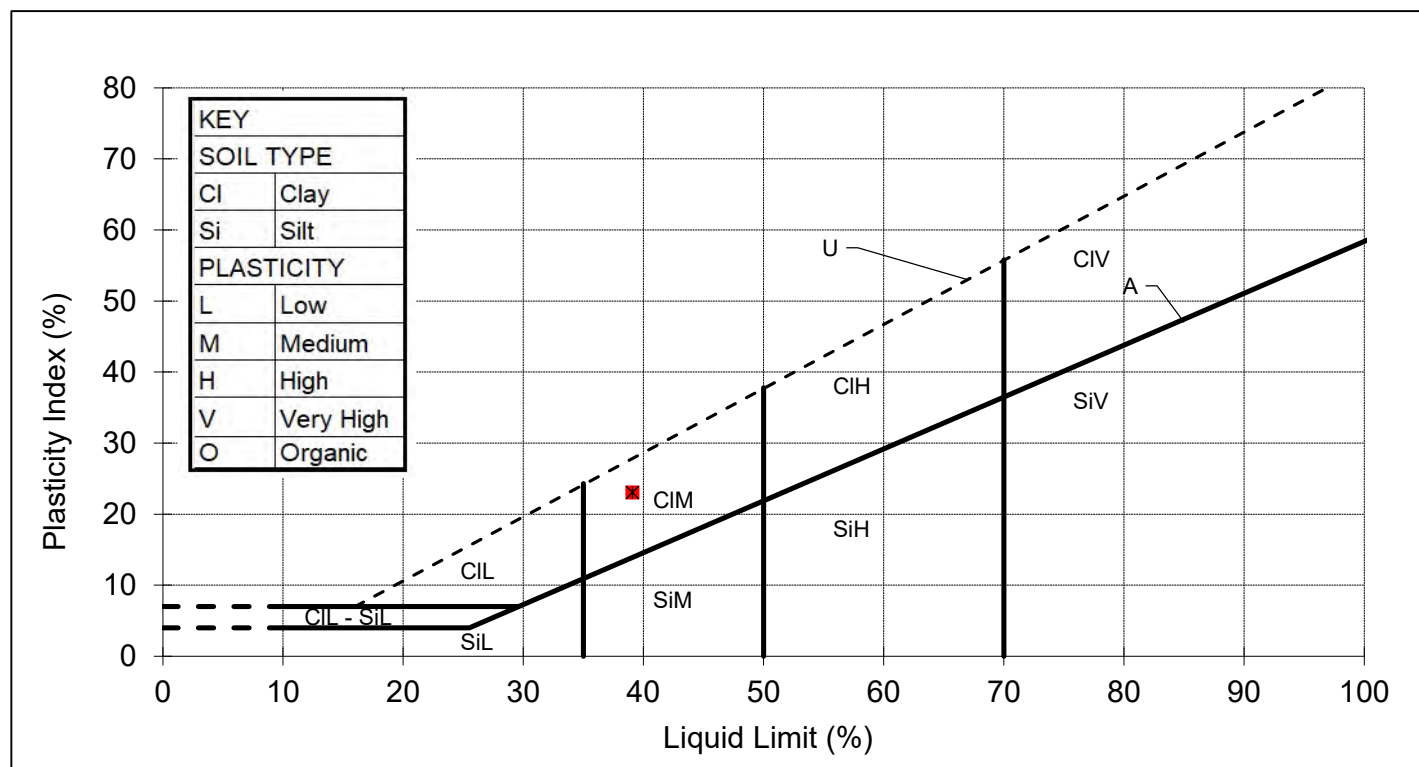
CLIENT	Coopers (Chester) Ltd
SITE	8512 - Pottery Gardens, Cheadle - Phase 2
JOB NUMBER	MRN 25064/2

SAMPLE LABEL	TP301 B 1.1	DATE SAMPLED	08+29-Jan-25
SAMPLE No.	5022101	DATE RECEIVED	18-Feb-25
DATE TESTED	21-Feb-25	SAMPLED BY	Client

MATERIAL	Reddish brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Hand Picked

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	19.9	38.9	1.006	
Determination 2 (avg)	19.5	38.8		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
20.0	39	16	23	96



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Director / Head of Laboratory)

DATE

11-Mar-25

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PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

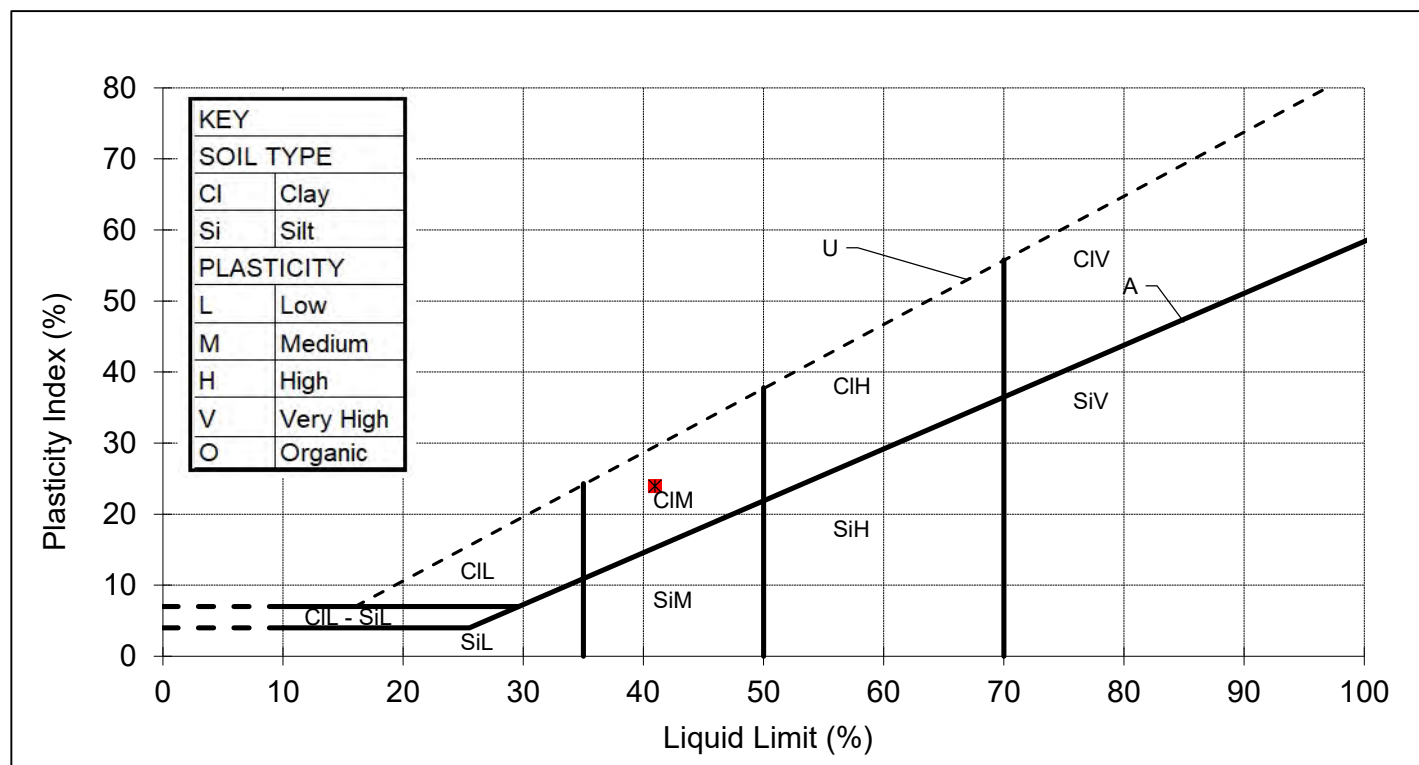
CLIENT	Coopers (Chester) Ltd
SITE	8512 - Pottery Gardens, Cheadle - Phase 2
JOB NUMBER	MRN 25064/2

SAMPLE LABEL	TP304 B 1.3	DATE SAMPLED	08+29-Jan-25
SAMPLE No.	5022102	DATE RECEIVED	18-Feb-25
DATE TESTED	21-Feb-25	SAMPLED BY	Client

MATERIAL	Reddish brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Hand Picked

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	20.2	41.1	
Determination 2 (avg)	20.2	41.0	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
19.5	41	17	24	98



REMARKS

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PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

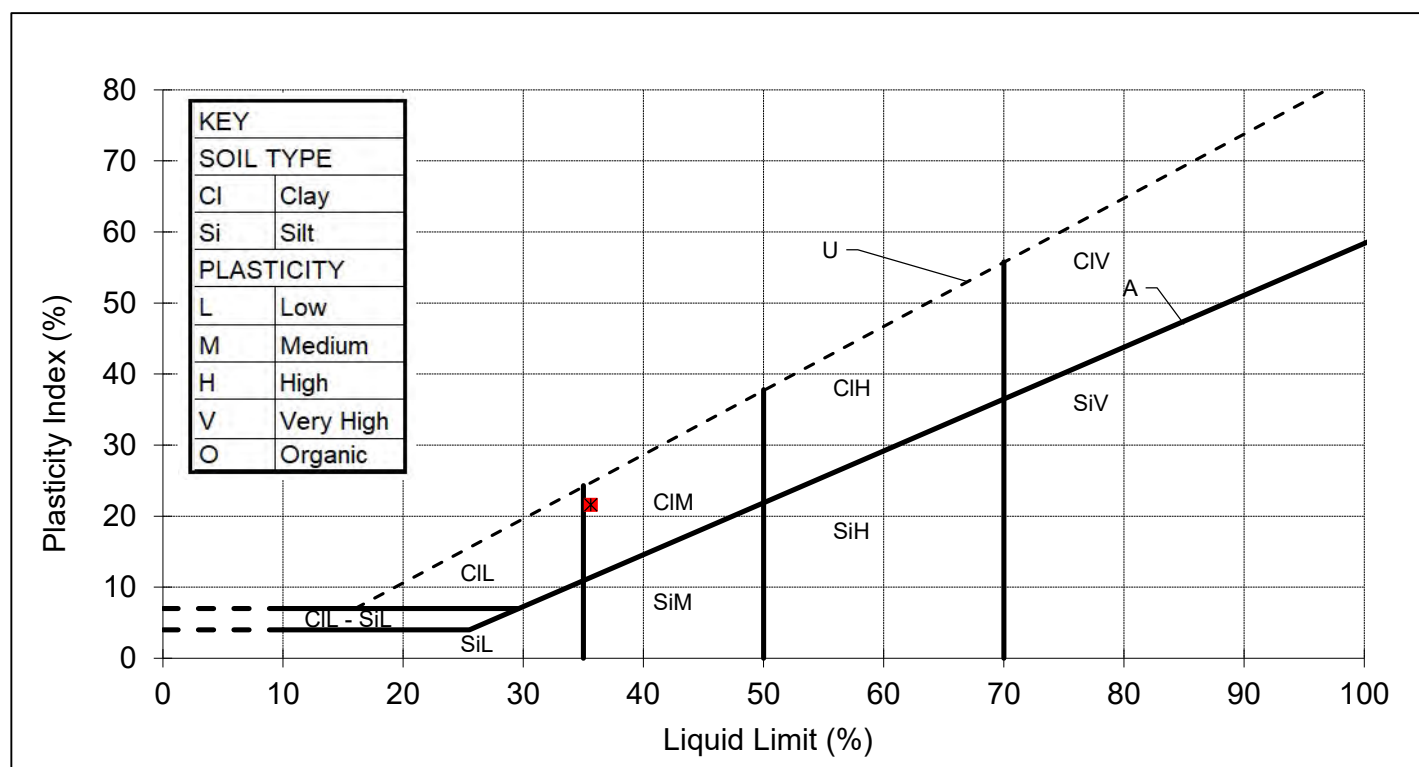
CLIENT	Coopers (Chester) Ltd
SITE	8512 - Pottery Gardens, Cheadle - Phase 2
JOB NUMBER	MRN 25064/2

SAMPLE LABEL	TP305 B 1.5	DATE SAMPLED	08+29-Jan-25
SAMPLE No.	5022103	DATE RECEIVED	18-Feb-25
DATE TESTED	21-Feb-25	SAMPLED BY	Client

MATERIAL	Dark grey silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Hand Picked

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	21.2	36.2	
Determination 2 (avg)	21.3	36.4	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
21.7	36	14	22	93



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PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

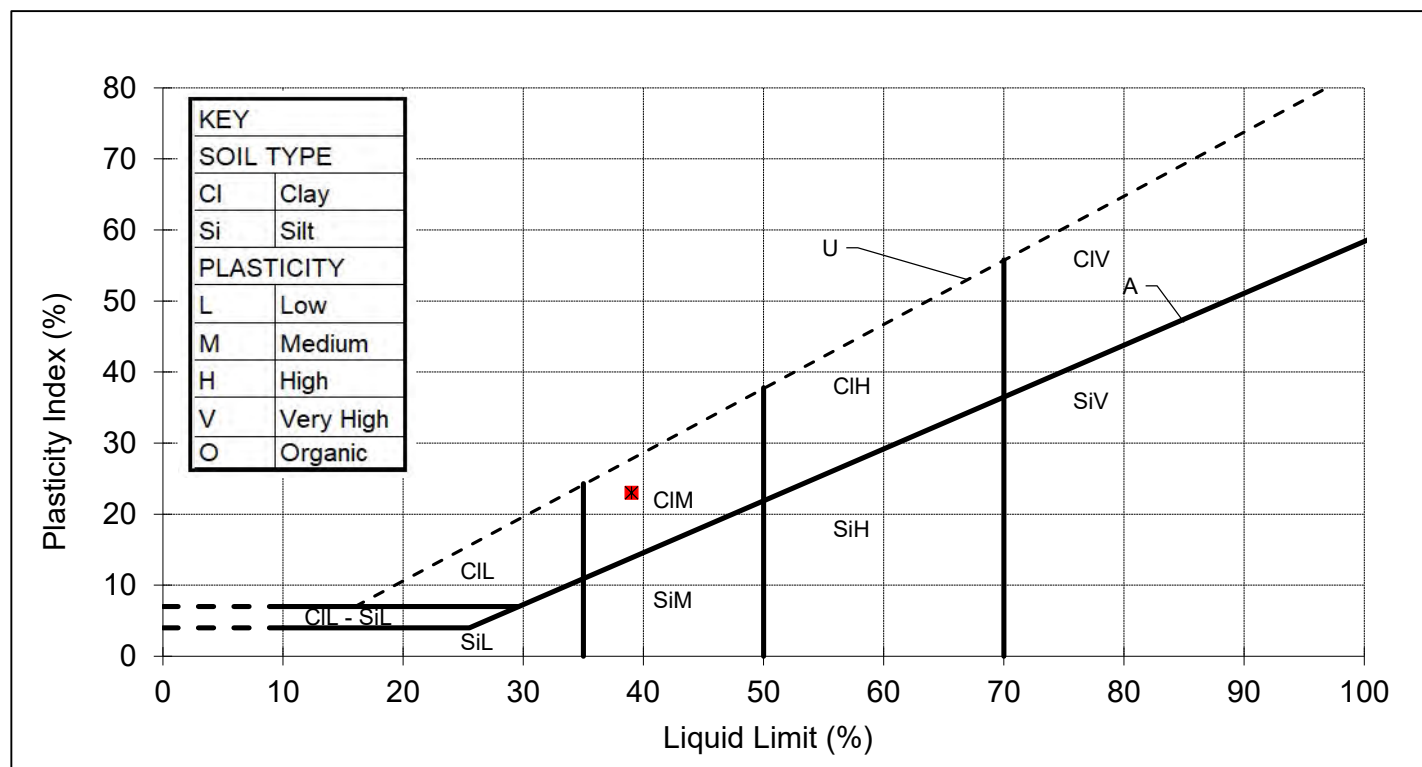
CLIENT	Coopers (Chester) Ltd
SITE	8512 - Pottery Gardens, Cheadle - Phase 2
JOB NUMBER	MRN 25064/2

SAMPLE LABEL	TP307 B 0.9	DATE SAMPLED	08+29-Jan-25
SAMPLE No.	5022104	DATE RECEIVED	18-Feb-25
DATE TESTED	21-Feb-25	SAMPLED BY	Client

MATERIAL	Reddish brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Hand Picked

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	22.8	40.5	0.963	
Determination 2 (avg)	22.6	40.5		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
18.2	39	16	23	96



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PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

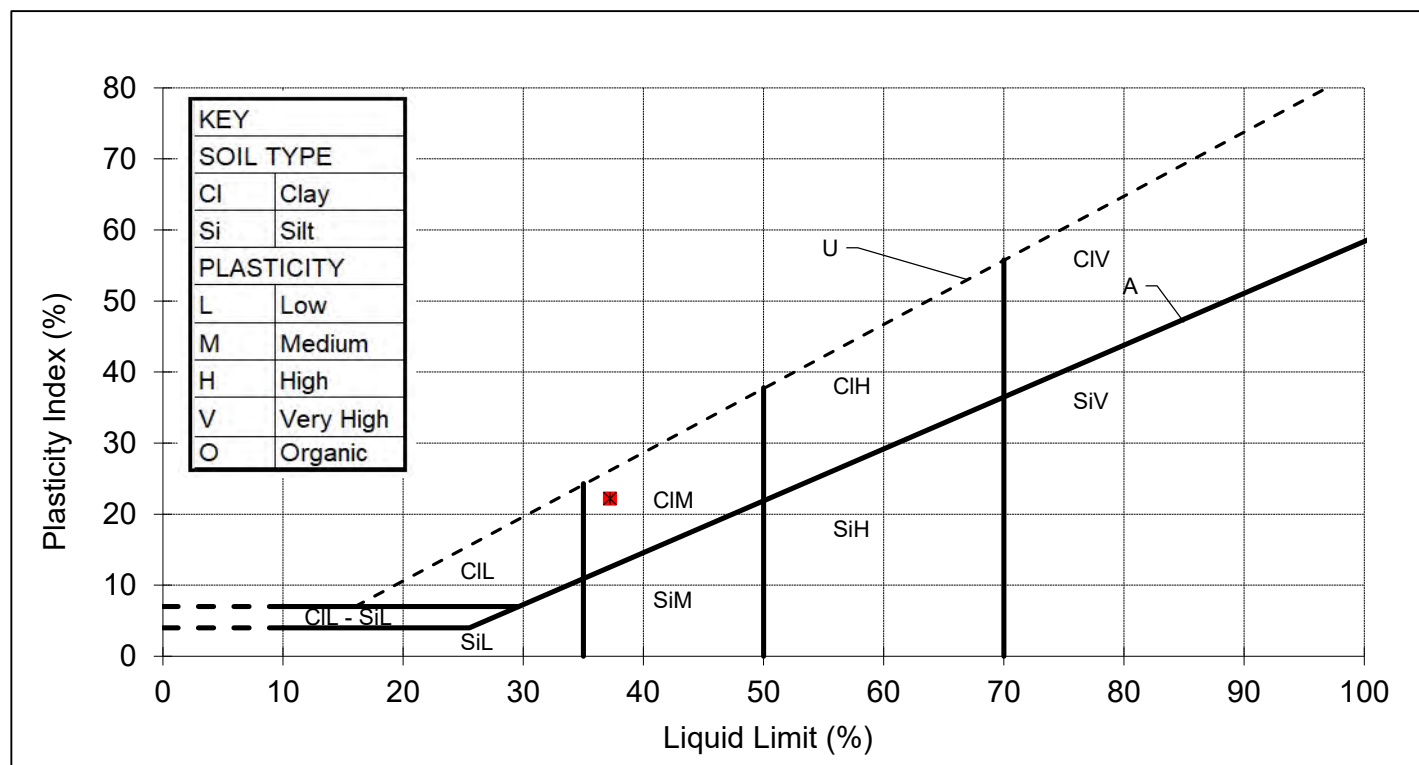
CLIENT	Coopers (Chester) Ltd
SITE	8512 - Pottery Gardens, Cheadle - Phase 2
JOB NUMBER	MRN 25064/2

SAMPLE LABEL	WS302 B 1.9	DATE SAMPLED	08+29-Jan-25
SAMPLE No.	5022105	DATE RECEIVED	18-Feb-25
DATE TESTED	21-Feb-25	SAMPLED BY	Client

MATERIAL	Dark grey silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Hand Picked

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	20.5	37.6	0.993	
Determination 2 (avg)	20.5	37.4		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
18.9	37	15	22	98



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WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

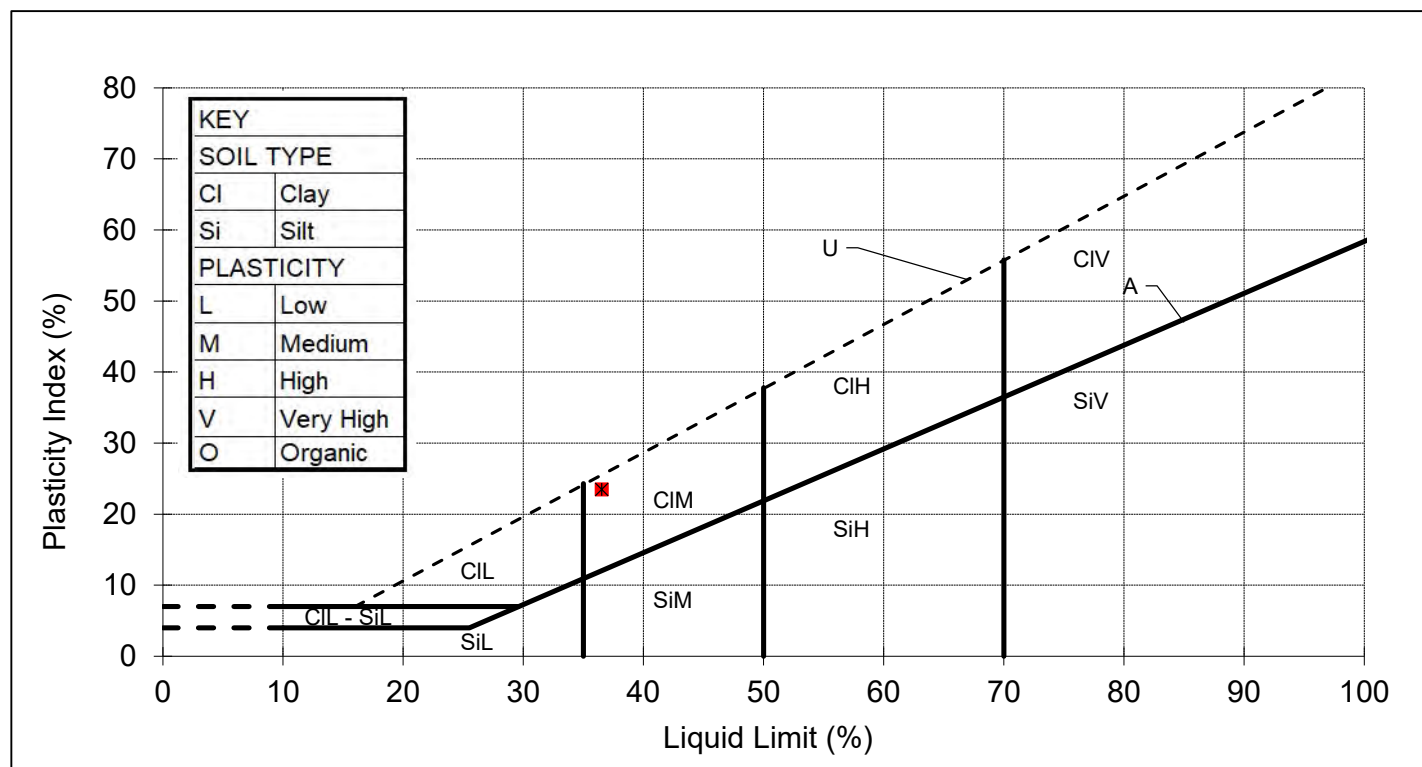
CLIENT	Coopers (Chester) Ltd
SITE	8512 - Pottery Gardens, Cheadle - Phase 2
JOB NUMBER	MRN 25064/2

SAMPLE LABEL	WS303 B 0.5	DATE SAMPLED	08+29-Jan-25
SAMPLE No.	5022106	DATE RECEIVED	18-Feb-25
DATE TESTED	21-Feb-25	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Hand Picked

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.6	35.6	1.026	
Determination 2 (avg)	18.5	35.6		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
33.2	37	13	24	97



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PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

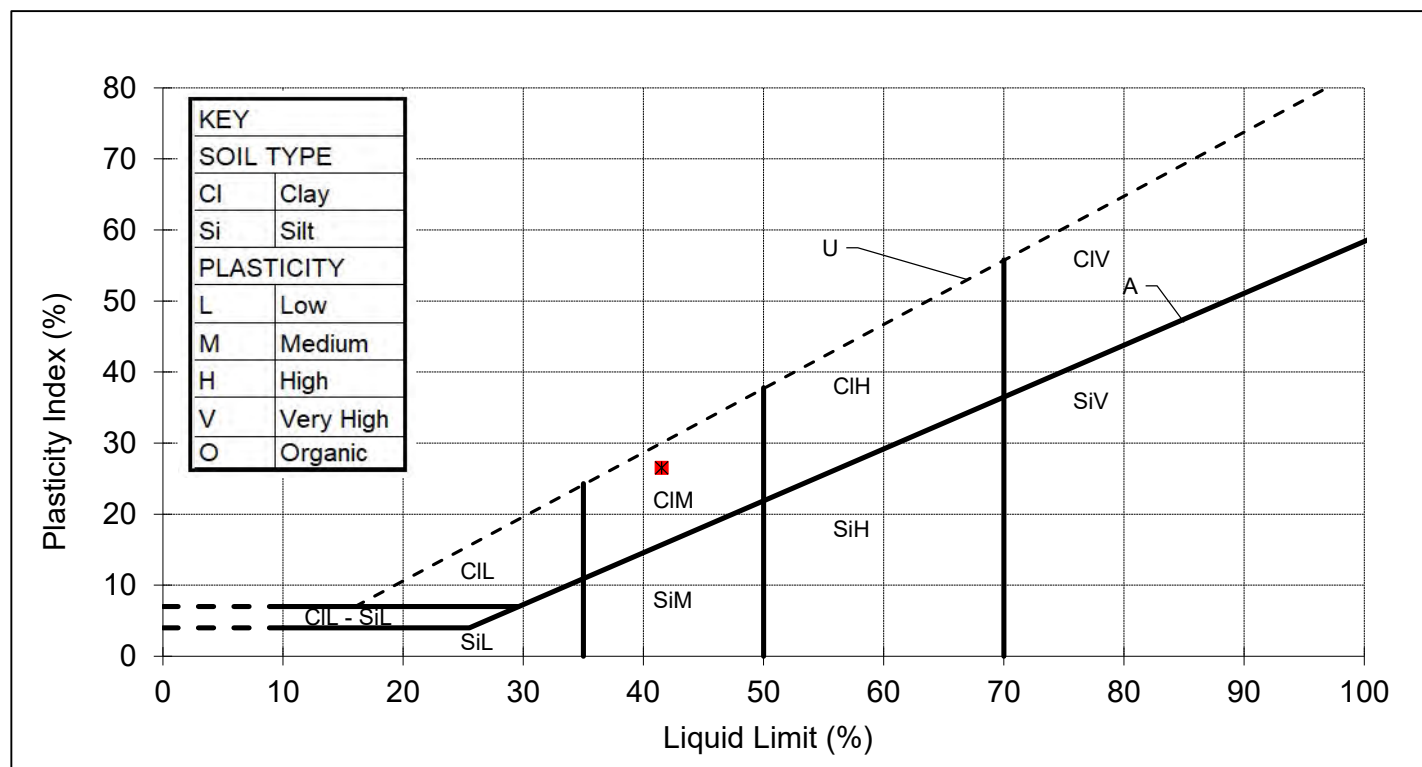
CLIENT	Coopers (Chester) Ltd
SITE	8512 - Pottery Gardens, Cheadle - Phase 2
JOB NUMBER	MRN 25064/2

SAMPLE LABEL	WS304 B 0.7	DATE SAMPLED	08+29-Jan-25
SAMPLE No.	5022107	DATE RECEIVED	18-Feb-25
DATE TESTED	21-Feb-25	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Hand Picked

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	16.8	39.5	
Determination 2 (avg)	16.9	39.8	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
44.9	42	15	27	94



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PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

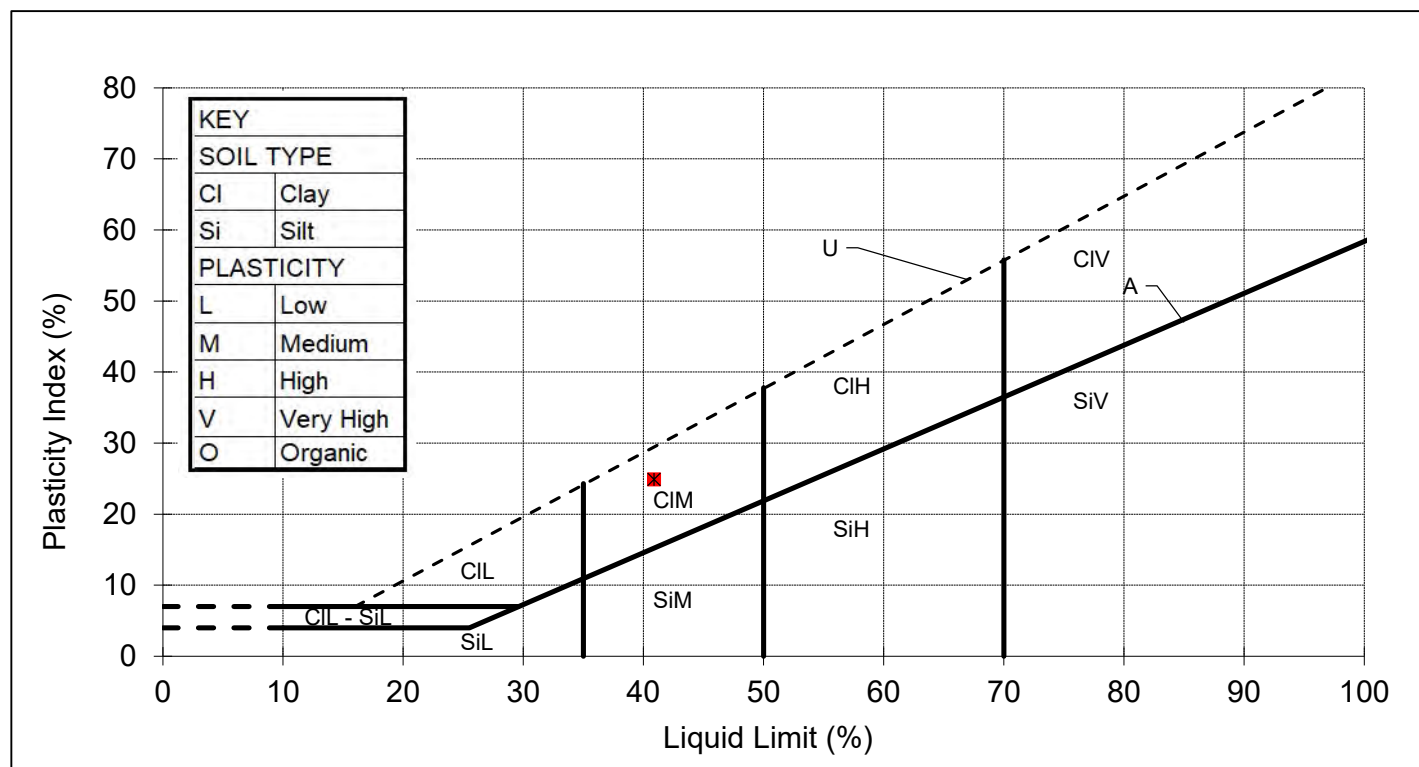
CLIENT	Coopers (Chester) Ltd
SITE	8512 - Pottery Gardens, Cheadle - Phase 2
JOB NUMBER	MRN 25064/2

SAMPLE LABEL	WS305 B 1.5	DATE SAMPLED	08+29-Jan-25
SAMPLE No.	5022108	DATE RECEIVED	18-Feb-25
DATE TESTED	21-Feb-25	SAMPLED BY	Client

MATERIAL	Reddish brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Hand Picked

Test Readings mm (average)	Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.6	40.0	
Determination 2 (avg)	18.9	40.1	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
20.5	41	16	25	99



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Director / Head of Laboratory)

DATE

11-Mar-25

Site Investigation Report for
Land at Pottery Gardens, Cheadle

Appendix 9

Tier 1 Risk Assessment Screening Values



Controlled Water Receptor Threshold Values



**Legislation Framework which Drives the Contamination Assessment
of Land in England and Wales**

Soil Tier 1 Threshold Values (mg/kg) Residential and POS

		Elements and compounds	S4UL	Small Terrace	Med/Large Terrace	Semi-detached	Detached	Residential (without Veg)	POS (Resi)	POS (Park)
				White, yellow & green values are NOAEL with orange values C4SL						C4SL (S4UL) (1% SOM)
Silty clay	Metals/Semi-metals	Arsenic	37	37 (32.4 CLEA)				40 (40)	79 (79)	168 (170)
		Beryllium	1.7 (inh.)	51 (to be used with caution and superseded)				(1.7)	(2.2)	(63)
		Boron	290	291				(11,000)	(21,000)	(46,000)
		Cadmium	11	22 (11 CLEA)				150 (85)	220 (120)	880 (532)
		Chromium (III)	910	3000				(910)	(1,500)	(33,000)
		Chromium (VI)	6	21 (4.3)				21 (6)	51 (7.7)	250 (220)
		Copper	2,400	2,330 (Phytotoxic pH <6 = 100, pH6-7 = 135, pH >7 = 200)				(7,100)	(12,000)	(44,000)
		Lead	-	200				310	630	1,300
		Mercury (methyl)	11	7.4 (SGV withdrawn)				(15)	(40)	(68)
		Mercury (inorganic)	40	169 (SGV withdrawn)				(56)	(120)	(240)
		Mercury (Hg)	1.2	1.2 (SGV withdrawn)				(1.2)	(16)	(30vap (25.8))
		Nickel	130	(130 S4UL) (Phytotoxic pH <6 = 60, pH6-7 = 75, pH >7 = 110)				(180)	(230)	(800)
		Selenium	250	351				(430)	(1,100)	(1,800)
		Vanadium	410	79				(1,200)	(2,000)	(5,000)
		Zinc	3,700	3,750 (Phytotoxic pH <6 = 200, pH6-7 = 200, pH >7 = 300)				(40,000)	(81,000)	(170,000)
	PAH	Acenaphthene	210	205				(3,000 – 57 s)	(15,000)	(29,000)
		Acenaphthylene	170	168				(2,900 – 86.1 s)	(15,000)	(29,000)
		Anthracene	2,400	2,260				(31,000-1.17 v)	(74,000)	(150,000)
		Benzo(a)anthracene	7.2	3.1				(11)	(29)	(49)
		Benzo(a)pyrene	2.2	5 (6% SOM) (0.83 CLEA)				5.3 (3.2)	10 (5.7)	21 (11)
		Benzo(b)fluoranthene	2.6	5.56				(3.9)	(7.1)	(13)
		Benzo(ghi)perylene	320	10.7				(360)	(640)	(1,400)
		Benzo(k)fluoranthene	7.7	8.5				(110)	(190)	(370)
		Chrysene	15	6.0				(30)	(57)	(93)
		Dibenz(ah)anthracene	0.24	0.76				(0.31)	(0.57)	(1.1)
		Fluoranthene	280	257				(1,500)	(3,100)	(6,300)
		Fluorene	170	163				(2,800 – 30.9 s)	(9,900)	(20,000)
		Indeno(123-cd)pyrene	27	3.18				(45)	(82)	(150)
		Phenanthrene	95	91.8				(1,300 – 36 s)	(3,100)	(6,200)
		Pyrene	620	563				(3,700)	(7,400)	(15,000)
Sandy loam	BTEX	Naphthalene	2.3	1.54	1.71	1.7	1.97	(2.3)	(4,900)	(1,200 – 76.4 s)
		Benzene	0.087	0.2 (1%) (0.079 CLEA)	0.082	0.082	0.085	0.89 (0.38)	140 (72)	190 (90)
		Toluene	130	119	122	122	125	(869)	(56,000)	(87,000 v)
		Ethylbenzene	47	62.5	68	67.9	71.6	(83)	(24,000)	(17,000 v)
		Xylene (based on p)	56	41.7	45.5	45.3	50.9	(70)	(41,000)	(17,000 v)
	Aliphatic	Phenol	120	184	207	206	224	(440 ^{dir} (460))	(440 ^{dir} (10,000))	(440 ^{dir} (7,600))
		5-6	42	30				(42)	(570,000-304 s)	(95,000 – 304 s)
		6-8	100	73				(100)	(600,000)	(150,000-144 s)
		8-10	27	19				(27)	(13,000)	(14,000 – 78 s)
		10-12	130 (48)	93 (48) ^{vap}				(130 – 48 v)	(13,000)	(21,000 – 48 s)
		12-16	1,100 (24)	740 (24) ^{sol}				(1,100 - 24 v)	(13,000)	(25,000 – 24 s)
		16-35	65,000 (8.48)	45,000 (8.48) ^{sol}				(65,000)	(250,000)	(450,000)
		35-44	65,000 (8.48)	45,000 (8.48) ^{sol}				(65,000)	(250,000)	(450,000)
	Aromatic	8-10	34	27				(47)	(5,000)	(7,200 – 613 v)
		10-12	74	69				(250)	(5,000)	(9,200 – 364 s)
		12-16	140	140				(1,800)	(5,100)	(10,000)
		16-21	260	250				(1,900)	(3,800)	(7,600)
		21-35	1,100	890				(1,900)	(3,800)	(7,600)

Notes:

The soil organic matter has been assumed to be 1% as this is the most conservative value for organic compounds. Inorganic compounds unaffected by this parameter.

Silty clay strata appears to prove more conservative threshold values for metals, semi-metals and several PAH compounds. Sandy loam strata appears to prove more conservative threshold values for TPH compounds, phenol and naphthalene.

The assessment of hydrocarbon fractions should be completed additively to determine the total risk of the whole range of compounds present as well as by single TPH fractional units, however this should be undertaken on a sample by sample basis where significant hydrocarbon concentrations have been encountered to derive a compound TPH concentration.

Although benzene has a C4SL value, this has been calculated for small terraced housing and not other housing stock, therefore other housing stock should either adopt the more conservative CLEA thresholds or that of a small terraced property. All thresholds not coloured orange (C4SL) for different housing stock have utilised LQM/CIEH Generic Assessment Criteria for Human Health Risk assessment, 2nd edition, 2009. CLEA values in brackets where C4SL values are available.

Vap denotes where the threshold is exceeded beyond the vapour saturation limit. Sol denotes where the threshold is exceeded beyond the solubility saturation limit.

It should be noted that these threshold values only relate to human health risk assessment and an assessment for potential groundwater risk should be undertaken as a separate risk assessment.

Dir denotes the S4ULs based on a threshold protective of direct skin contact with phenol (guideline in brackets based on health effects following long term exposure provided for illustration only)

CONTROLLED WATER RECEPTOR THRESHOLD VALUES (µg/l)

Compound/element		Groundwater Quality Threshold Values ^{1&16} Maximum value	Environmental Quality Standards (EQS)			
			Long term (mean) for fresh waters ¹³	Short term (95 th percentile) for fresh waters ¹³	Annual average (AA-EQS) for inland surface waters ¹⁴	Maximum allowable concentration (MAC-EQS) ¹⁴ for inland surface waters ¹⁵
Inorganic elements and compounds	Ammonium	500	-	-	-	-
	Arsenic	10	50	-	-	-
	Boron	1000	-	-	-	-
	Cadmium ⁹	5.0	-	-	≤0.08 (Class 1)	≤0.45 (Class 1)
		-	-	-	0.08 (Class 2)	0.45 (Class 2)
		-	-	-	0.09 (Class 3)	0.6 (Class 3)
		-	-	-	0.15 (Class 4)	0.9 (Class 4)
		-	-	-	0.25 (Class 5)	1.5 (Class 5)
	Chromium (III)	50	4.7	32	-	-
	Chromium (VI)	-	3.4	-	-	-
	Chloride	250,000	-	-	-	-
	Chlorine	-	2	5	-	-
	Copper	2000	1 ⁵	-	-	-
	Cyanide	50	1	5	-	-
	Iron	-	1,000	-	-	-
	Lead	10	-	-	1.2 ⁵	14
	Manganese	-	123 ⁵	-	-	-
	Mercury	1.0	-	-	-	0.07
	Nickel	20	-	-	4 ⁵	34
	Nitrate ²	50,000	-	-	-	-
	Nitrite ²	500	-	-	-	-