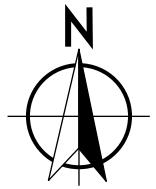


APPENDIX 1

Site Location Plan



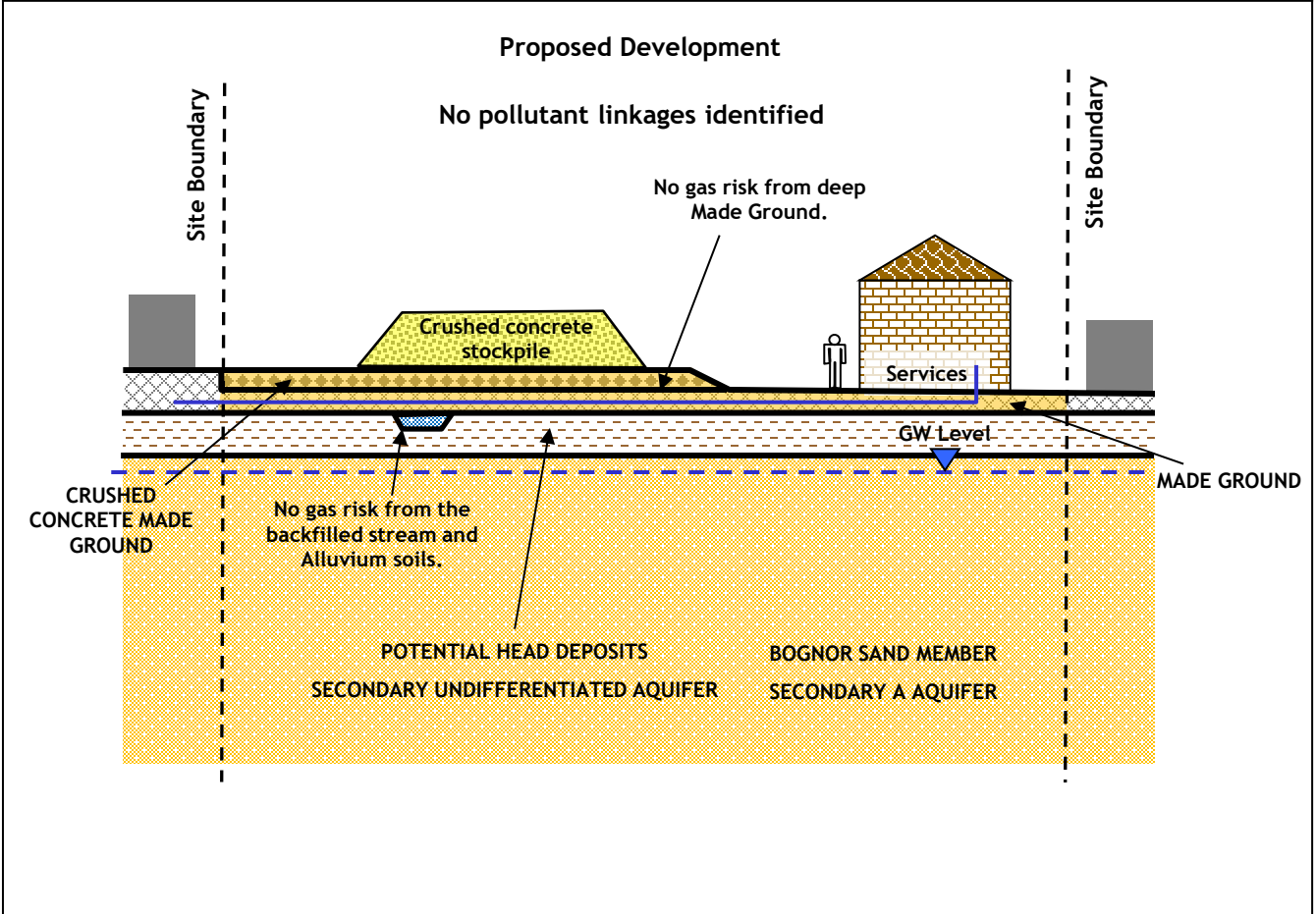
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Not to scale.

Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP2-A
Date Issued: July 2024



Revised Conceptual Model



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP6-C
Date Issued: July 2025



North

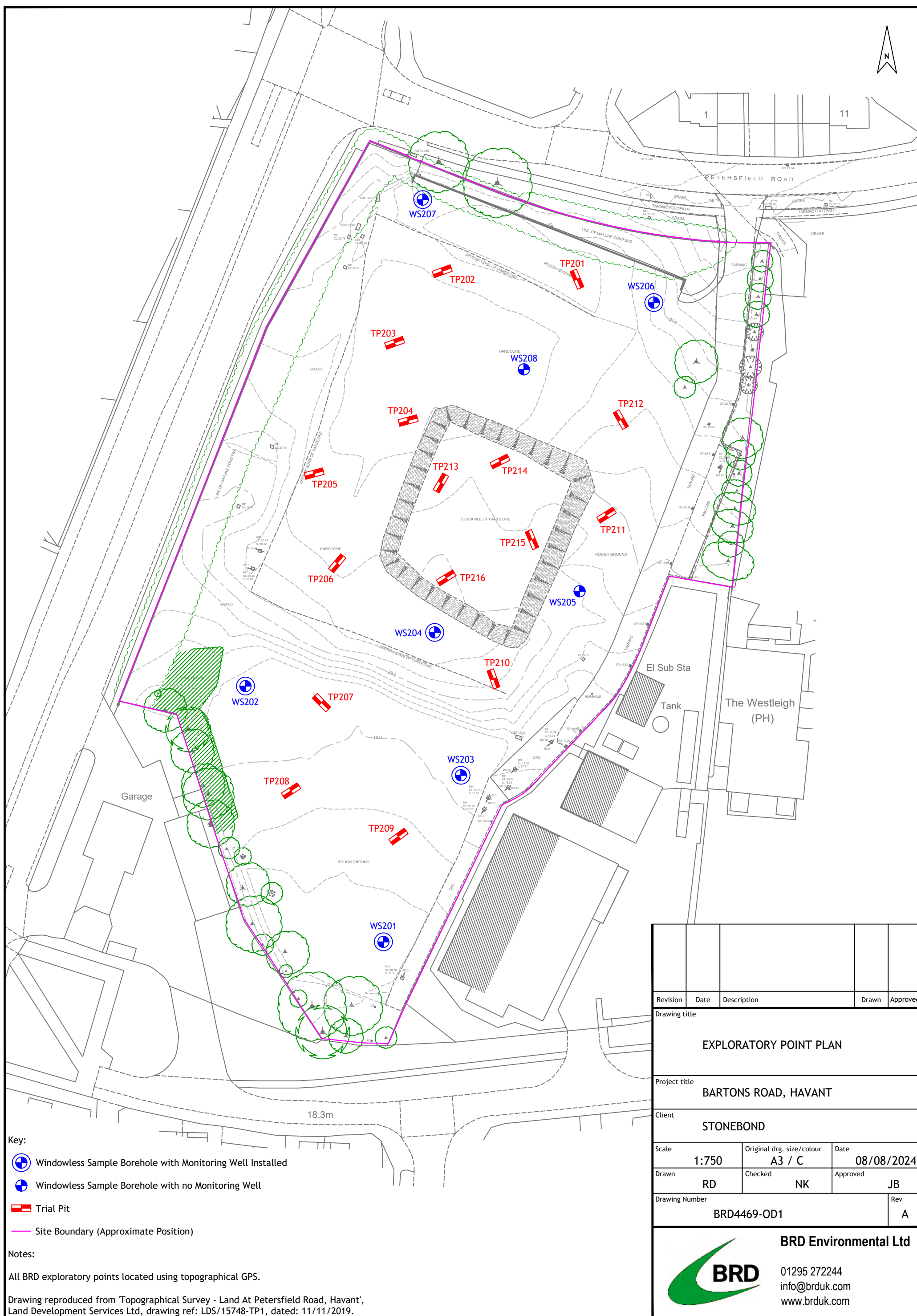


PROPOSED SITE LAYOUT
BARTONS ROAD - HAVANT

6087 - SK005 - JULY 2025

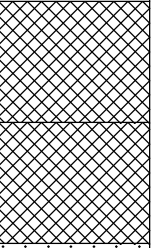
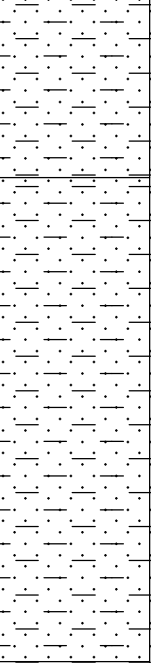
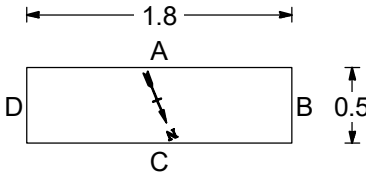
EDGINGTONS
ARCHITECTS

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APPENDIX 2

TRIAL PIT RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: N Kimber Date Completed: 01/08/2024 Method Used: 180° Backhoe excavator (JCB 3CX type)				Trial Pit No. <h2>TP201</h2>		
				Sheet 1 of 1		
Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.20	J1		MADE GROUND: Brown, gravelly, sandy clay. Gravel of fine to coarse, subangular brick fragments, half bricks, wood fragments, slate and concrete.	0.40 (20.08)	MADE GROUND	
0.60	J2		MADE GROUND: Grey mottled orange brown, gravelly, sandy clay. Gravel of fine to coarse, subangular to subrounded quartzite, flint and brick fragments. A natural black staining.			
1.00	D1		Medium dense, moist, orange brown and light grey, slightly clayey SAND. Rare, fine, subangular flint gravel.	0.80 (19.68)	BOGNOR SAND MEMBER	
1.50	B1		Medium dense, moist, brown, slightly clayey SAND. Occasional orange brown.	1.40 (19.08)		
2.90	D2			3.00 (17.48)		
				4		
Pit Stability: See General Remarks Groundwater: Seepage at 2.50m				Surface Elevation Level: 20.479 mAOD		
Plan of Trial Pit: 			General Remarks: Trial pit terminated at 3.00m bgl. Pit sides collapsed from 1.40m bgl on completion of trial pit.			
				All dimensions in metres Log Scale 1:25		
				 Telephone: 01295 272244 Email: info@brduk.com		

TRIAL PIT RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: N Kimber Date Completed: 01/08/2024 Method Used: 180° Backhoe excavator (JCB 3CX type)				Trial Pit No. <h2>TP202</h2>	
				Sheet 1 of 1	

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.20	J1		MADE GROUND: Light grey to brown, very gravelly sand / very sandy gravel of fine to coarse, subangular concrete, brick fragments, plastic, metal, redundant cables, polystyrene, wood fragments and glass fragments. (Demolition crush)	0.40 (20.45)	MADE GROUND	
0.60	J2		MADE GROUND: Orange brown, gravelly, clayey sand. Gravel of fine to coarse, subangular brick fragments, quartzite and flint.			
			0.80 - 1.20 m: Face D has a concrete slab.			
1.50	J3		MADE GROUND: Orange brown, occasionally grey, slightly clayey, gravelly sand. Gravel of fine to coarse and cobbles of concrete. 1.20 m: Rebar.	1.10 (19.75)	MADE GROUND	
2.50	D1		Medium dense, moist, brown, slightly clayey SAND.	2.30 (18.55)	BOGNOR SAND	
				3.00 (17.85)		
				4		

Pit Stability: See General Remarks Groundwater: Seepage at 2.80m		Surface Elevation Level: 20.853 mAOD
Plan of Trial Pit: 	General Remarks: Trial pit terminated at 3.00m bgl. Pit sides collapsed from 2.40m bgl on completion of trial pit.	
		All dimensions in metres Log Scale 1:25 Telephone: 01295 272244 Email: info@brduk.com

TRIAL PIT RECORD

Client: Stonebond			<div>Trial Pit No.</div> <div>TP203</div> <div>Sheet 1 of 1</div>	
Project Title: Bartons Road, Havant				
Project No: BRD4469				
Logged By: N Kimber				
Date Completed: 01/08/2024				
Method Used: 180° Backhoe excavator (JCB 3CX type)				

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.40	J1		MADE GROUND: Light grey to brown, sandy gravel of fine to coarse, subangular concrete, brick, metal, plastic, redundant cables, rebar and concrete cobbles. (Demolition crush)		MADE GROUND	
0.80	J2		MADE GROUND: Orange brown, gravelly, sandy clay. Gravel of fine to coarse, subangular concrete, brick fragments, half brick, fabric, ceramic, plastic and redundant cables.	0.60 (20.33) 1		
1.60	D1		Medium dense, orange brown, slightly sandy, clayey GRAVEL of fine to coarse, subangular flint.	1.40 (19.53)	HEAD DEPOSITS	
2.00	D2		Stiff, grey mottled orange brown, slightly gravelly, sandy CLAY. Gravel of fine to coarse, subangular flint.	1.90 (19.03) 2		
2.80	D3		Medium dense, orange brown mottled brown, gravelly, very sandy CLAY / very clayey SAND. Gravel of fine to coarse, subangular to subrounded flint.	2.60 (18.33) 3	BOGNOR	
				3.10 (17.83) 4		

Pit Stability: Generally stable throughout		Surface Elevation Level: 20.93 mAOD
Groundwater: Seepage at 3.00m		

Plan of Trial Pit: 	General Remarks: Trial pit terminated at 3.10m bgl.	All dimensions in metres Log Scale 1:25
		 Telephone: 01295 272244 Email: info@brduk.com

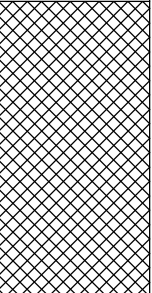
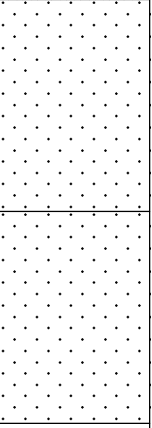
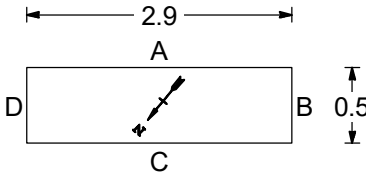
TRIAL PIT RECORD

Client: Stonebond						Trial Pit No.	
Project Title: Bartons Road, Havant						TP204	
Project No: BRD4469							
Logged By: N Kimber							
Date Completed: 01/08/2024							
Method Used: 180° Backhoe excavator (JCB 3CX type)						Sheet 1 of 1	
Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend	
Depth	Type & No	Value					
0.60	J1		MADE GROUND: Compacted, grey to brown, sandy gravel of fine to coarse, subangular concrete, brick fragments, half bricks, metal, redundant cables, tiles and plastic. (Demolition crush)	0.40 (20.46)	MADE GROUND		
			MADE GROUND: Dark greyish brown, gravelly sand / sandy gravel. Gravel of fine to coarse, subangular brick fragments, tarmac and flint.				
0.90	J2		Stiff, bluish grey, silty CLAY with natural black staining and organic odour. Occasional brown mottling. Occasional flint gravel.	0.80 (20.06)	ALL		
				1			
			Medium dense, orange brown, sandy GRAVEL of fine to coarse, subangular flint and quartzite.	1.20 (19.66)	HEAD		
				1.70 (19.16)			
2.00	B1		Orange brown mottled light grey, clayey SAND / sandy CLAY.	2	BOGNOR SAND MEMBER		
				2.30 (18.56)			
			Medium dense, orange brown mottled grey, slightly clayey SAND.				
				2.70 (18.16)			
2.80	D1		Medium dense, moist, orange brown SAND.	3			
				3.00 (17.86)			
				4			
Pit Stability: Generally stable throughout						Surface Elevation Level:	
Groundwater: Not encountered						20.855 mAOD	
Plan of Trial Pit:			General Remarks: Trial pit terminated at 3.00m bgl.			All dimensions in metres Log Scale 1:25	
						Telephone: 01295 272244 Email: info@brduk.com	

TRIAL PIT RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: N Kimber Date Completed: 01/08/2024 Method Used: 180° Backhoe excavator (JCB 3CX type)				Trial Pit No. <h2>TP205</h2>		
				Sheet 1 of 1		
Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.60	J1		MADE GROUND: Light grey to brown, sandy gravel of fine to coarse, subangular concrete, brick fragments, half bricks, redundant cables, whole bricks and occasional concrete cobbles. (Demolition crush)	0.30 (20.51)	MADE GROUND	
			MADE GROUND: Moist, orange brown, very sandy clay. Gravel of fine to coarse, subangular flint, brick fragments, metal, concrete and plastic. Occasional grey mottling.	1		
1.40	B1		Medium dense, orange brown, very clayey GRAVEL of fine to coarse subangular flint.	1.20 (19.61)	HEAD	
			Medium dense, orange brown and light grey SAND.	1.60 (19.21)		
2.30	D1			2	BOGNOR SAND MEMBER	
				3		
				3.00 (17.81)		
				4		
Pit Stability: Generally stable throughout Groundwater: Not encountered				Surface Elevation Level: 20.805 mAOD		
Plan of Trial Pit: 			General Remarks: Trial pit terminated at 3.00m bgl.		All dimensions in metres Log Scale 1:25	
					 Telephone: 01295 272244 Email: info@brduk.com	

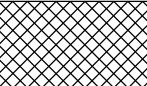
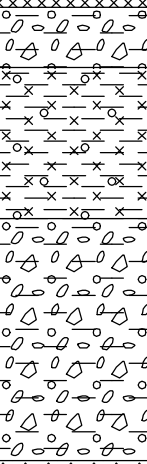
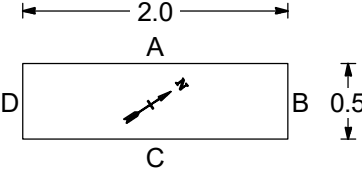
TRIAL PIT RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: N Kimber Date Completed: 01/08/2024 Method Used: 180° Backhoe excavator (JCB 3CX type)				Trial Pit No. <h2>TP206</h2>		
Sheet 1 of 1						
Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.60	J1		MADE GROUND: Light grey, sandy gravel of fine to coarse, subangular concrete. Occasional brown sand. (Demolition crush)		MADE GROUND	
1.30	J2		MADE GROUND: Brown, slightly clayey, gravelly sand / sandy gravel. Gravel of fine to coarse, subangular concrete, metal, plastic and rebar. 1.40 m: Concrete slab in Face B.	1.00 (19.61)		
1.80	D1		Medium dense, orange brown and light grey SAND. 1.70 m: Concrete slab in Face D.	1.70 (18.91)	BOGNOR SAND MEMBER	
2.60	D2		Medium dense, moist, brown SAND.	2.40 (18.21)		
				3.10 (17.51)		
				4		
Pit Stability: Generally stable throughout Groundwater: Not encountered				Surface Elevation Level: 20.605 mAOD		
Plan of Trial Pit: 			General Remarks: Trial pit terminated at 3.10m bgl.			
<div style="text-align: right;">  Telephone: 01295 272244 Email: info@brduk.com </div>						

TRIAL PIT RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: N Kimber Date Completed: 01/08/2024 Method Used: 180° Backhoe excavator (JCB 3CX type)				Trial Pit No. <h2>TP207</h2>		
				Sheet 1 of 1		
Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.20	J1	64/54/70 kPa	MADE GROUND: Vegetation over red brown, gravelly sand. Gravel of fine to coarse, subangular brick fragments, half and whole bricks, rebar and concrete cobbles.	0.40 (18.78)	MG	
0.50	SV		Firm to stiff, brown mottled light grey, gravelly, silty CLAY. Gravel of fine to coarse, subangular to subrounded quartzite.	0.60 (18.58)		
0.50	J2		Medium dense to dense, brown and grey, clayey GRAVEL / gravelly CLAY. Gravel of fine to coarse, subangular to subrounded flint and quartzite.	1.00 (18.18)		
0.90	D1		Medium dense, orange brown and light grey SAND.	2.60 (16.58)	HEAD DEPOSITS	
1.70	D2		3.00 (16.18)			
					BOGNOR SAND MEMBER	
Pit Stability: Generally stable throughout Groundwater: Seepage at 2.80m				Surface Elevation Level: 19.175 mAOD		
Plan of Trial Pit: 			General Remarks: Trial pit terminated at 3.00m bgl.		All dimensions in metres Log Scale 1:25	
					Telephone: 01295 272244 Email: info@brduk.com	

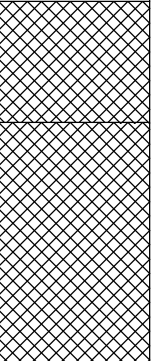
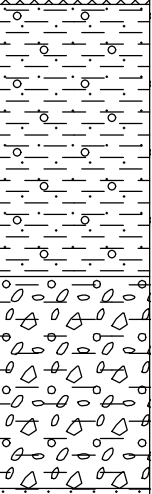
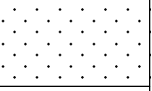
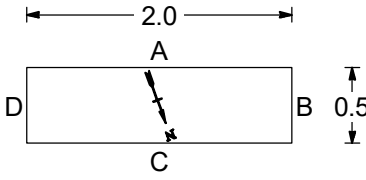
TRIAL PIT RECORD

Client: Stonebond			Trial Pit No. TP208				
Project Title: Bartons Road, Havant							
Project No: BRD4469			Sheet 1 of 1				
Logged By: N Kimber							
Date Completed: 01/08/2024							
Method Used: 180° Backhoe excavator (JCB 3CX type)							
Samples & Tests			Description of Strata		Depth / (Level)	Geology	Legend
Depth	Type & No	Value					
0.40 0.60 0.70	J1 J2 SV	60/54/70 kPa	MADE GROUND: Vegetation over light grey to brown, sandy gravel of fine to coarse, subangular concrete.		0.30 (18.71) 0.50 (18.51) 1 (18.01)	MG	
			Medium dense, brown to orange brown, very clayey GRAVEL / very gravelly CLAY. Gravel of fine to coarse, subangular to subrounded flint.				
			Firm to stiff, brown mottled light grey, gravelly, silty CLAY. Gravel of fine to coarse, subangular to subrounded quartzite.				
1.10	B1		Medium dense to dense, brown and grey, clayey GRAVEL / gravelly CLAY. Gravel of fine to coarse, subangular to subrounded flint and quartzite.		1.80 (17.21)	HEAD DEPOSITS	
			Medium dense, orange brown and light grey SAND.				
2.50	D1		Medium dense, moist, brown SAND.		2.30 (16.71)	BOGNOR SAND MEMBER	
					3.10 (15.91)		
					4		
Pit Stability: Pit sides collapsed on encountering groundwater						Surface Elevation Level:	
Groundwater: Seepage at 2.60m						19.008 mAOD	
Plan of Trial Pit: 			General Remarks: Trial pit terminated at 3.10m bgl.			All dimensions in metres Log Scale 1:25	
						 Telephone: 01295 272244 Email: info@brduk.com	

TRIAL PIT RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: N Kimber Date Completed: 01/08/2024 Method Used: 180° Backhoe excavator (JCB 3CX type)				Trial Pit No. <h2>TP209</h2>			
				Sheet 1 of 1			
Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend	
Depth	Type & No	Value					
0.10	J1	90/100/88 kPa	MADE GROUND: Vegetation over brown, very gravelly sand. Gravel of fine to coarse, subangular brick fragments, half and whole bricks, concrete and flint.	0.20 (18.62)	MG		
			Medium dense, brown to orange brown, very clayey GRAVEL / very gravelly CLAY. Gravel of fine to coarse, subangular to subrounded flint.	0.50 (18.32)			
0.60	SV		Firm to stiff, brown mottled light grey, gravelly, silty CLAY. Gravel of fine to coarse, subangular to subrounded quartzite.	1 (17.72)	HEAD DEPOSITS		
0.60	J2						
1.00	D1		Medium dense to dense, brown and grey, clayey GRAVEL / gravelly CLAY. Gravel of fine to coarse, subangular to subrounded flint and quartzite.	1.10 (17.72)			
1.30	D2						
		Medium dense, orange brown and light grey SAND.	1.50 (17.32)	BOGNOR SAND MEMBER			
		Medium dense, moist, brown SAND.	2.30 (16.52)				
			2.90 (15.92)				
				3			
				4			
Pit Stability: See General Remarks Groundwater: Seepage at 2.60m				Surface Elevation Level: 18.822 mAOD			
Plan of Trial Pit: 			General Remarks: Trial pit terminated at 2.90m bgl. Pit sides collapsed from 2.20m bgl on completion of trial pit.		All dimensions in metres Log Scale 1:25		
					 Telephone: 01295 272244 Email: info@brduk.com		

TRIAL PIT RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: N Kimber Date Completed: 01/08/2024 Method Used: 180° Backhoe excavator (JCB 3CX type)				Trial Pit No. <h2>TP210</h2>		
				Sheet 1 of 1		
Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.20	J1		MADE GROUND: Compacted, light grey to brown, sandy gravel of fine to coarse, subangular concrete. Occasional redundant cables. (Demolition crush)	0.40 (19.96)	MADE GROUND	
0.70	J2		MADE GROUND: Brown, clayey, sandy gravel of fine to coarse, subangular brick fragments, concrete, redundant cables, polystyrene, plastic, metal and glass.			
1.40	D1		Stiff, grey mottled orange brown, very gravelly, sandy CLAY / very clayey sandy GRAVEL. Gravel of fine to coarse, subangular to subrounded flint and quartzite.	1.20 (19.16)	HEAD DEPOSITS	
			Medium dense to dense, brown and grey, clayey GRAVEL / gravelly CLAY. Gravel of fine to coarse, subangular to subrounded flint and quartzite.	2.10 (18.26)		
2.90	D2		Medium dense, orange brown and light grey SAND.	2.80 (17.56)	BSM	
				3.10 (17.26)		
				4		
Pit Stability: Generally stable throughout Groundwater: Not encountered				Surface Elevation Level: 20.364 mAOD		
Plan of Trial Pit: 			General Remarks: Trial pit terminated at 3.10m bgl.			All dimensions in metres Log Scale 1:25
			 Telephone: 01295 272244 Email: info@brduk.com			

TRIAL PIT RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: N Kimber Date Completed: 02/08/2024 Method Used: 180° Backhoe excavator (JCB 3CX type)				Trial Pit No. <h2>TP211</h2>		
				Sheet 1 of 1		
Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.30	J1		MADE GROUND: Vegetation over dry, greyish brown, gravelly sand. Gravel of fine to coarse, subangular concrete.	0.20 (19.80)	MG	
			MADE GROUND: Brown, very gravelly sand. Gravel of fine to coarse, subangular to subrounded flint, concrete, brick fragments, half bricks, plastic and ceramic.	0.40 (19.60)		
0.80	J2		Brown, slightly sandy, very gravelly CLAY / very clayey GRAVEL. Gravel of fine to coarse, subrounded flint and quartzite.	0.70 (19.30)	HD	
			Medium dense, orange brown mottled light grey SAND.	1.00 (18.80)		
2.00	B1		Medium dense, moist, brown with some orange brown SAND.	1.70 (18.30)	BOGNOR SAND MEMBER	
				2.00 (17.00)		
				3.00 (17.00)		
				4.00 (16.00)		

Pit Stability: Generally stable throughout Groundwater: Seepage at 2.70m		Surface Elevation Level: 20.001 mAOD
Plan of Trial Pit: 	General Remarks: Trial pit terminated at 3.00m bgl.	
		All dimensions in metres Log Scale 1:25 Telephone: 01295 272244 Email: info@brduk.com

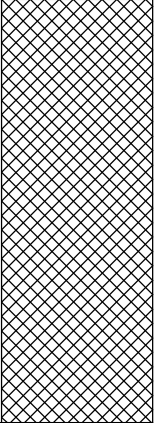
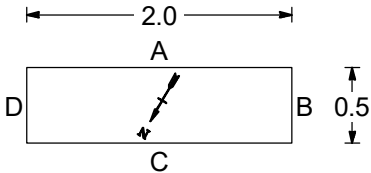
TRIAL PIT RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: N Kimber Date Completed: 02/08/2024 Method Used: 180° Backhoe excavator (JCB 3CX type)				Trial Pit No. <h2>TP212</h2>	
				Sheet 1 of 1	

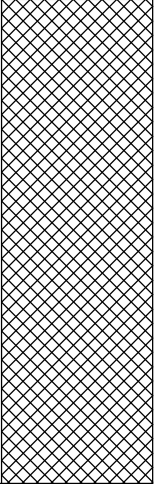
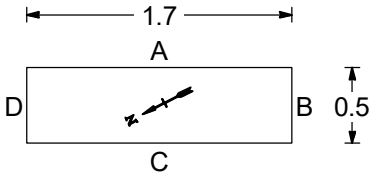
Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.20	J1		MADE GROUND: Vegetation over dry, greyish brown, gravelly sand. Gravel of fine to coarse, subangular concrete, brick fragments and redundant cables.	0.30 (20.08)	MG	
0.70	J2		Medium dense, orange brown mottled light grey, slightly gravelly SAND. Gravel of fine to coarse, subrounded quartzite.		BOGNOR SAND MEMBER	
1.00	D1					
2.20	D2		Medium dense, orange brown mottled brown SAND.	1.70 (18.68)		
				3.00 (17.38)		
				4		

Pit Stability: Generally stable throughout Groundwater: Seepage at 2.70m		Surface Elevation Level: 20.381 mAOD
Plan of Trial Pit: 	General Remarks: Trial pit terminated at 3.00m bgl.	
		All dimensions in metres Log Scale 1:25 Telephone: 01295 272244 Email: info@brduk.com

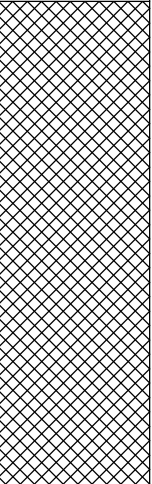
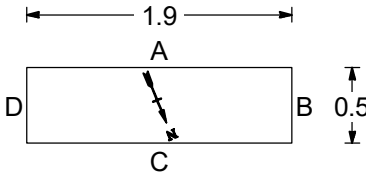
TRIAL PIT RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: N Kimber Date Completed: 02/08/2024 Method Used: 180° Backhoe excavator (JCB 3CX type)				Trial Pit No. <h2>TP213</h2>		
				Sheet 1 of 1		
Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.70	J1		MADE GROUND: Brown, very gravelly sand / very sandy gravel. Gravel of fine to coarse, subangular concrete, brick fragments, redundant cables, plastic, fabric, wood and metal. (Demolition crush)		MADE GROUND	
1.00	B1					
				1.40 (21.90)		
				2		
				3		
				4		
Pit Stability: Generally stable throughout Groundwater: Not encountered				Surface Elevation Level: 23.295 mAOD		
Plan of Trial Pit: 			General Remarks: Trial pit terminated at 1.40m bgl. Trial pit undertaken in large stockpile.			
				All dimensions in metres Log Scale 1:25		
				 Telephone: 01295 272244 Email: info@brduk.com		

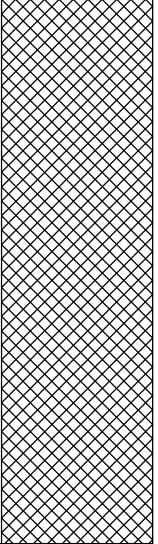
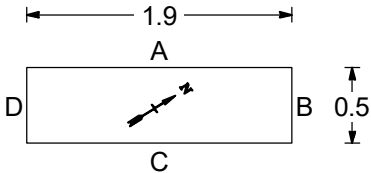
TRIAL PIT RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: N Kimber Date Completed: 02/08/2024 Method Used: 180° Backhoe excavator (JCB 3CX type)				Trial Pit No. <h2>TP214</h2>		
				Sheet 1 of 1		
Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.80	J1		MADE GROUND: Brown, very gravelly sand / very sandy gravel. Gravel of fine to coarse, subangular concrete, brick fragments, redundant cables, plastic, glass fragments, fabric and flint. (Demolition crush)		MADE GROUND	
1.30	B1					
				1.60 (21.84)		
				2		
				3		
				4		
Pit Stability: Generally stable throughout Groundwater: Not encountered					Surface Elevation Level: 23.441 mAOD	
Plan of Trial Pit: 			General Remarks: Trial pit terminated at 1.60m bgl. Trial pit undertaken in large stockpile.			
					All dimensions in metres Log Scale 1:25  Telephone: 01295 272244 Email: info@brduk.com	

TRIAL PIT RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: N Kimber Date Completed: 02/08/2024 Method Used: 180° Backhoe excavator (JCB 3CX type)				Trial Pit No. <h2>TP215</h2>		
				Sheet 1 of 1		
Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.70	J1		MADE GROUND: Brown, very gravelly sand / very sandy gravel. Gravel of fine to coarse, subangular concrete, brick fragments, redundant cables, plastic, metal, glass and wood. (Demolition crush)		MADE GROUND	
1.50	B1					
				1.60 (21.70)		
				2		
				3		
				4		
Pit Stability: Generally stable throughout Groundwater: Not encountered				Surface Elevation Level: 23.295 mAOD		
Plan of Trial Pit: 			General Remarks: Trial pit terminated at 1.60m bgl. Trial pit undertaken in large stockpile.			
			All dimensions in metres Log Scale 1:25  Telephone: 01295 272244 Email: info@brduk.com			

TRIAL PIT RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: N Kimber Date Completed: 02/08/2024 Method Used: 180° Backhoe excavator (JCB 3CX type)				Trial Pit No. <h2>TP216</h2>		
				Sheet 1 of 1		
Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.60	J1		MADE GROUND: Brown, very gravelly sand. Gravel of fine to coarse, subangular concrete, metal, glass fragments and redundant cables. (Demolition crush)		MADE GROUND	
1.60	B1					
				1.80 (21.15)		
				2		
				3		
				4		
Pit Stability: Generally stable throughout Groundwater: Not encountered					Surface Elevation Level: 22.948 mAOD	
Plan of Trial Pit: 			General Remarks: Trial pit terminated at 1.80m bgl. Trial pit undertaken in large stockpile.			
					All dimensions in metres Log Scale 1:25  Telephone: 01295 272244 Email: info@brduk.com	

Trial Pit Photographs

TP201



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024



01295 272244
info@brduk.com

Trial Pit Photographs

TP202



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024



01295 272244
info@brduk.com

Trial Pit Photographs

TP203



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024



01295 272244
info@brduk.com

Trial Pit Photographs

TP204



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024



01295 272244
info@brduk.com

Trial Pit Photographs

TP205



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024

Trial Pit Photographs

TP206



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024



01295 272244
info@brduk.com

Trial Pit Photographs

TP207



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024



01295 272244
info@brduk.com

Trial Pit Photographs

TP208



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024

Trial Pit Photographs

TP209



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024



01295 272244
info@brduk.com

Trial Pit Photographs

TP210



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024

Trial Pit Photographs

TP211



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024

Trial Pit Photographs

TP212



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024



01295 272244
info@brduk.com

Trial Pit Photographs

TP213



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024



01295 272244
info@brduk.com

Trial Pit Photographs

TP214



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024

Trial Pit Photographs

TP215



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024



01295 272244
info@brduk.com

Trial Pit Photographs

TP216



Project Title: Bartons Road, Havant
Client: Stonebond
BRD Reference: BRD4469-OP5-A
Date Issued: August 2024

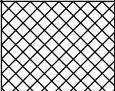
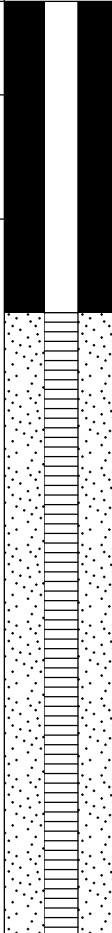
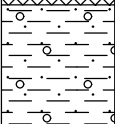


01295 272244
info@brduk.com

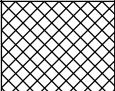
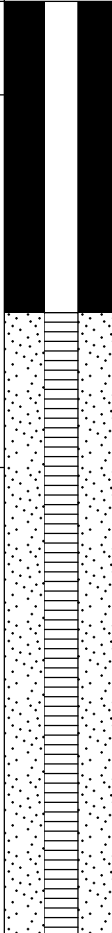
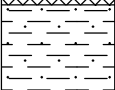
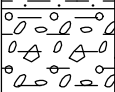
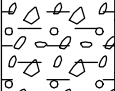
PROBEHOLE RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: L Chippington Date Commenced: 31/07/2024 Date Completed: 31/07/2024 Method Used: Windowless Percussive Sampling Rig						Borehole No. <h2>WS201</h2>		
						Sheet 1 of 1		
Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.20	D1			MADE GROUND: Red brown slightly clayey very sandy fine to coarse subangular gravel of brick, concrete, flint, glass and slate. Contains cobble sized brick.	0.30 (18.21)		MG	
0.20	J1							
0.40	D2			MADE GROUND: Soft grey brown slightly gravelly slightly sandy clay. Gravel of fine to medium subrounded to subangular flint, chalk and brick.	0.60 (17.91)		HEAD DEPOSITS	
				Firm grey brown slightly sandy CLAY.	1.0			
1.00	D3							
1.20	SPT	7 N		1.20 m: SPT: 1,1/1,1,2,3	1.50 (17.01)			
1.30	PEN	2.0x3 kg/cm²					BOGNOR SAND	
1.60	D4			Dense grey very clayey medium to coarse subrounded GRAVEL of flint and sandstone.	2.0			
2.00	SPT	41 N		2.00 m: SPT: 4,6/9,9,11,12	2.10 (16.41)			
2.20	D5			Dense brown fine SAND.				
3.00	SPT(C)	>50 N	3.00m: SPT(c): 3,6/12,14,16,8 for 30mm	3.0 3.00 (15.51)				
				4.0				
General Remarks: Borehole terminated at 3.0m bgl due to refusal. Hand dug to 1.20m bgl for services clearance. Collapse below 2.5m. No roots.				Surface Elevation Level: 18.512 mAOD				
				All dimensions in metres Log Scale 1:25				
				Telephone: 01295 272244 Email: info@brduk.com				

PROBEHOLE RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: L Chippington Date Commenced: 31/07/2024 Date Completed: 31/07/2024 Method Used: Windowless Percussive Sampling Rig						Borehole No. WS202		
						Sheet 1 of 1		
Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.50 0.50	D1 J1	18 N		MADE GROUND: Red brown slightly clayey very sandy fine to coarse subrounded to subangular gravel of brick and flint.	0.30 (18.75)		MG	
				Firm grey brown slightly gravelly slightly sandy CLAY. Gravel is of medium to coarse subrounded flint and sandstone.	0.70 (18.35)		HD	
1.00 1.20	D2 SPT			28 N		Medium dense orange brown with grey patches fine SAND.	1.0	
2.00	SPT(C)	1.20 m: SPT: 2,2/4,5,5,4	2.0					
2.50	D3	2.00 m: SPT(c): 4,4/5,6,8,9	3.0					
3.00	SPT(C)	>50 N		3.00m: SPT(c): 7,11/14,16,17,3 for 10mm	3.00 (16.05)			
					4.0			
General Remarks: Borehole terminated at 3.0m bgl due to refusal. Hand dug to 1.20m bgl for services clearance. Some collapse below 2.5m. No roots.					Surface Elevation Level: 19.05 mAOD		 Telephone: 01295 272244 Email: info@brduk.com	
					All dimensions in metres Log Scale 1:25			

PROBEHOLE RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: L Chippington Date Commenced: 31/07/2024 Date Completed: 31/07/2024 Method Used: Windowless Percussive Sampling Rig						Borehole No. WS203		
						Sheet 1 of 1		
Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.20 0.20	D1 J1		Water ↓	MADE GROUND: Brown slightly clayey very sandy fine to coarse subrounded to subangular gravel of brick and flint.			MG	
				Firm grey brown slightly sandy CLAY.	0.30 (18.75)			
				Medium dense grey brown very clayey medium to coarse subrounded GRAVEL of flint and sandstone.	0.60 (18.45)		HEAD DEPOSITS	
1.00 1.20	D2 SPT(C)	14 N		1.20 m: SPT(c): 4,3/3,2,4,5	1.0 1.50 (17.55)			
				Medium dense light brown with grey patches fine SAND.			BOGNOR SAND MEMBER	
2.00 2.00	SPT(C) D3	24 N		2.00 m: SPT(c): 4,4/5,5,7,7	2.0			
3.00	SPT(C)	>50 N		3.00m: SPT(c): 7,7/10,12,15,13 for 60mm	3.0 3.00 (16.05)			
					4.0			
General Remarks: Borehole terminated at 3.0m bgl due to refusal. Hand dug to 1.20m bgl for services clearance. Sides stable. No roots.					Surface Elevation Level: 19.054 mAOD		 Telephone: 01295 272244 Email: info@brduk.com	
					All dimensions in metres Log Scale 1:25			

PROBEHOLE RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: L Chippington Date Commenced: 31/07/2024 Date Completed: 31/07/2024 Method Used: Windowless Percussive Sampling Rig						Borehole No. <h2>WS204</h2>		
						Sheet 1 of 1		
Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.40 0.40	D1 J1			MADE GROUND: Grey very sandy fine to coarse subrounded to subangular gravel of mainly brick and concrete with occasional flint.			MADE GROUND	
1.00	D2			MADE GROUND: Medium dense brown clayey gravelly fine sand. Gravel is mainly coarse subrounded flint and sandstone but also includes occasional brick and plastic.	0.70 (19.85)			
1.20	SPT(C)	23 N		1.20 m: SPT(c): 3,4/4,6,7,6	1.0			
				Medium dense grey brown sandy very clayey medium to coarse subrounded GRAVEL of sandstone.	1.60 (18.95)		HD	
2.00 2.00	SPT(C) D3	29 N		Medium dense brown slightly clayey fine SAND. 2.00 m: SPT(c): 4,5/7,7,7,8	2.0 (18.65)		BOGNOR SAND MEMBER	
3.00 3.00	SPT(C) D4	27 N		3.00 m: SPT(c): 4,4/6,6,7,8	3.0			
4.00	SPT(C)	>50 N		4.00m: SPT(c): 4,8/11,12,14,13 for 70mm	4.0 4.00 (16.55)			
General Remarks: Borehole terminated at 4.0m bgl due to refusal. Hand dug to 1.20m bgl for services clearance. Some collapse below 3.1m. No roots.						Surface Elevation Level: 20.548 mAOD		 Telephone: 01295 272244 Email: info@brduk.com
						All dimensions in metres Log Scale 1:25		

PROBEHOLE RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: L Chippington Date Commenced: 31/07/2024 Date Completed: 31/07/2024 Method Used: Windowless Percussive Sampling Rig					Borehole No. <h2>WS205</h2>			
					Sheet 1 of 1			
Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.05 0.05	D1 J1			MADE GROUND TOPSOIL: Brown slightly gravelly slightly sandy slightly organic clay. Gravel is of fine to coarse subrounded to subangular flint.	0.10 (18.45)		MG	
0.30 0.30	D2 J2			MADE GROUND: Brown clayey sandy fine to coarse subrounded to subangular gravel of mainly concrete and occasional glass and plastic. Contains occasional cobbles.	0.50 (18.05)			
0.60	D3			Grey brown sandy very clayey medium to coarse subrounded GRAVEL of sandstone.	0.90 (17.65)	HD		
1.00	D4			Medium dense light brown fine SAND.	1.0			
1.20	SPT(C)	23 N		1.20 m: SPT(c): 2,4/5,6,6,6				
2.00	SPT(C)	23 N	2.00 m: SPT(c): 3,4/5,5,6,7	2.0	BOGNOR SAND MEMBER			
2.50	D5							
3.00	SPT(C)	46 N	3.00 m: Dense below 3.0m. 3.00 m: SPT(c): 6,9/10,11,11,14	3.0				
4.00	SPT(C)	>50 N	4.00m: SPT(c): 12, 13 for 75mm / 21,24,5 for 10mm	4.0 4.00 (14.55)				
General Remarks: Borehole terminated at 4.0m bgl due to refusal. Hand dug to 1.20m bgl for services clearance. Collapse below 3.2m. No roots.					Surface Elevation Level: 18.552 mAOD			
					All dimensions in metres Log Scale 1:25		Telephone: 01295 272244 Email: info@brduk.com	

PROBEHOLE RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: L Chippington Date Commenced: 01/08/2024 Date Completed: 01/08/2024 Method Used: Windowless Percussive Sampling Rig						Borehole No. WS206		
						Sheet 1 of 1		
Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.50 0.50	D1 J1			MADE GROUND: Red and grey sandy coarse subangular to angular gravel and cobbles of brick and concrete.	0.40 (20.59)		MG	
				Medium dense light brown slightly clayey fine SAND.	1.0		BOGNOR SAND MEMBER	
1.20 SPT(C)	10 N			1.20 m: SPT(c): 1,3/2,2,3,3				
2.00 2.00	SPT(C) D2	7 N		Medium dense grey slightly clayey fine SAND. 2.00 m: SPT(c): 1,2/1,2,2,2	1.90 (19.09)			
3.00 SPT(C)	16 N			3.00 m: SPT(c): 1,2/3,3,5,5	3.0			
3.40 D3			Dense light brown slightly clayey fine SAND.	3.30 (17.69)				
4.00 SPT(C)	44 N			4.00 (16.99)				
				4.00m: SPT(c): 3,7/9,10,12,13				
General Remarks: Borehole terminated at 4.0m bgl. Hand dug to 1.20m bgl for services clearance. Some collapse below 3.2m. No roots.					Surface Elevation Level: 20.994 mAOD		 Telephone: 01295 272244 Email: info@brduk.com	
					All dimensions in metres Log Scale 1:25			

PROBEHOLE RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: L Chippington Date Commenced: 01/08/2024 Date Completed: 01/08/2024 Method Used: Windowless Percussive Sampling Rig						Borehole No. <h2>WS207</h2>		
						Sheet 1 of 1		

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.10 0.10	D1 J1			MADE GROUND: Red brown and grey sandy medium to coarse subrounded to subangular gravel of concrete and brick.	0.30 (20.19)		MG	
0.50	D2			Dense brown sandy very clayey medium to coarse subrounded to angular GRAVEL of flint.				
1.00	D3			Medium dense brown with patches of grey slightly clayey fine SAND.	1.0 (19.59)		BOGNOR SAND MEMBER	
1.20	SPT(C)	17 N		1.20 m: SPT(c): 4,4/3,4,5,5				
2.00 2.00	SPT(C) D4	18 N	2.00 m: SPT(c): 3,3/4,4,5,5	2.0				
3.00	SPT(C)	24 N		3.00 m: SPT(c): 2,3/5,6,6,7	3.0			
			Dense grey fine SAND.	3.30 (17.19)				
4.00	SPT(C)	41 N		4.00m: SPT(c): 6,7/9,10,10,12	4.0 4.00 (16.49)			

General Remarks: Borehole terminated at 4.0m bgl. Hand dug to 1.20m bgl for services clearance. Collapse below 3.1m. No roots.	Surface Elevation Level: 20.492 mAOD	
	All dimensions in metres Log Scale 1:25	

PROBEHOLE RECORD

Client: Stonebond Project Title: Bartons Road, Havant Project No: BRD4469 Logged By: L Chippington Date Commenced: 01/08/2024 Date Completed: 01/08/2024 Method Used: Windowless Percussive Sampling Rig						Borehole No. <h2>WS208</h2>		
						Sheet 1 of 1		
Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.50	D1			MADE GROUND: Grey sandy coarse subrounded to subangular gravel of concrete.	0.40 (20.55)		MADE GROUND	
0.50	J1			MADE GROUND: Grey brown gravelly very clayey fine to medium sand. Gravel is of fine to coarse subrounded to subangular concrete, flint and some brick and wood.				
1.10	D2			Medium dense very clayey medium to coarse subrounded GRAVEL of flint and sandstone.	1.00 (19.95)		HD	
1.20	SPT(C)	12 N		1.20 m: SPT(c): 1,2/2,2,4,4				
1.50	D3			Medium dense brown with grey patches slightly clayey fine SAND.	1.40 (19.55)		BOGNOR SAND MEMBER	
2.00	SPT(C)	27 N		2.00 m: SPT(c): 6,6/6,7,7,7	2.0			
2.50	D4							
3.00	SPT(C)	27 N		3.00 m: Dense below 3.0m. 3.00 m: SPT(c): 3,4/6,6,7,8	3.0			
4.00	SPT(C)	>50 N		4.00m: SPT(c): 9,10/12,13,16,9 for 40mm	4.0 4.00 (16.95)			
General Remarks: Borehole terminated at 4.0m bgl due to refusal. Hand dug to 1.20m bgl for services clearance. Some collapse below 3.0m. No roots.						Surface Elevation Level: 20.951 mAOD		 Telephone: 01295 272244 Email: info@brduk.com
						All dimensions in metres Log Scale 1:25		



Gas Monitoring Record

Project Name: Bartons Road, Havant

Client: Stonebond

Project No: BRD4469

Date:	09/08/2024	Ground conditions:	Dry	Recorded by:	SW
Time at start:	9:44 AM	Weather conditions:	Sunny, warm	Pressure trend:	Rising.
Time at finish:	10:45 AM	Air Temperature (°C):	23	Monitor serial no:	G501315

The gas monitoring equipment is a Geotech GA5000 portable analyser. As per manufacturers recommendations this is factory calibrated every six months and in addition BRD undertake calibration checks against bottled standard gases on at least a monthly basis. Gas monitor pump is run for three minutes unless otherwise stated and the steady readings are an average reading taken over this pump run time. Vapour monitoring equipment is miniRAE lite PGM-7350 Photo Ionisation Detector (PID) with 10.6 eV lamp calibrated for isobutylene. PID calibration check is performed on site against ambient air and also against a 100ppm isobutylene standard gas. Barometric pressure trend and ambient air temperature is recorded from weather websites at the nearest reported weather station.

CH₄ = Methane CO₂ = Carbon Dioxide O₂ = Oxygen H₂S = Hydrogen Sulphide CO = Carbon Monoxide NR = Not Recorded PID = Photo Ionisation Detector

GWL = Groundwater level measured from ground surface and top of standpipe. Base = Base of standpipe measured from ground surface.

Monitoring point				Gas Concentration								Pressure	Flow rate	Vapour	Comments
Borehole	GWL Ground (m)	GWL Pipe (m)	Base Ground (m)	Steady			Peak		Minimum	Peak		Baro - metric (mb)	Steady (l/hr)	PID (ppm)	
				CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CO (ppm)	H ₂ S (ppm)				
WS201	1.95	1.84	2.40	0.2	0.9	20.3	0.2	0.9	20.3	2	0	1015	-0.8	0.0	
WS202	2.14	2.01	2.46	0.2	3.0	18.6	0.2	3.0	18.6	2	0	1015	-0.9	0.0	
WS203	2.06	1.95	2.54	0.2	1.1	19.9	0.2	1.1	19.4	1	0	1014	-0.7	0.0	
WS204	3.16	3.02	3.71	0.2	0.0	16.9	0.2	0.3	16.4	2	0	1014	-0.7	0.0	
WS206	2.11	1.97	3.17	0.2	4.0	15.7	0.2	4.8	14.6	0	0	1014	-0.4	0.0	
WS207	1.79	1.61	2.26	0.2	1.3	19.6	0.2	1.3	19.6	1	0	1014	-0.4	0.0	



Gas Monitoring Record

Project Name: Bartons Road, Havant

Client: Stonebond

Project No: BRD4469

Date:	16/08/2024	Ground conditions:	Dry	Recorded by:	SW
Time at start:	10:52 AM	Weather conditions:	Sunny	Pressure trend:	Steady
Time at finish:	11:43 AM	Air Temperature (°C):	22	Monitor serial no:	G501315

The gas monitoring equipment is a Geotech GA5000 portable analyser. As per manufacturers recommendations this is factory calibrated every six months and in addition BRD undertake calibration checks against bottled standard gases on at least a monthly basis. Gas monitor pump is run for three minutes unless otherwise stated and the steady readings are an average reading taken over this pump run time. Vapour monitoring equipment is miniRAE lite PGM-7350 Photo Ionisation Detector (PID) with 10.6 eV lamp calibrated for isobutylene. PID calibration check is performed on site against ambient air and also against a 100ppm isobutylene standard gas. Barometric pressure trend and ambient air temperature is recorded from weather websites at the nearest reported weather station.

CH₄ = Methane CO₂ = Carbon Dioxide O₂ = Oxygen H₂S = Hydrogen Sulphide CO = Carbon Monoxide NR = Not Recorded PID = Photo Ionisation Detector

GWL = Groundwater level measured from ground surface and top of standpipe. Base = Base of standpipe measured from ground surface.

Monitoring point				Gas Concentration								Pressure	Flow rate	Vapour	Comments
Borehole	GWL Ground (m)	GWL Pipe (m)	Base Ground (m)	Steady			Peak		Minimum	Peak		Baro - metric (mb)	Steady (l/hr)	PID (ppm)	
				CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CO (ppm)	H ₂ S (ppm)				
WS201	2.00	1.88	2.27	0.3	1.1	19.7	0.3	1.1	19.7	0	0	1016	-0.4	0.0	
WS202	2.15	2.02	2.42	0.2	2.8	18.5	0.2	2.8	18.5	1	1	1016	-0.6	0.0	
WS203	2.10	1.99	2.44	0.2	1.4	19.1	0.2	1.4	19.0	1	1	1016	-0.8	0.0	
WS204	3.19	3.05	3.65	0.2	0.0	16.3	0.2	0.2	16.3	2	0	1016	-0.9	0.0	
WS206	2.13	1.99	3.09	0.2	4.0	15.3	0.2	4.6	14.5	2	0	1015	-0.9	0.0	
WS207	1.82	1.64	2.01	0.2	1.6	19.5	0.2	1.6	18.5	3	0	1016	-1.0	0.1	



Gas Monitoring Record

Project Name: Bartons Road, Havant

Client: Stonebond

Project No: BRD4469

Date:	28/08/2024	Ground conditions:	Dry, stable	Recorded by:	SW
Time at start:	10:52 AM	Weather conditions:	Sunny, some clouds	Pressure trend:	Falling
Time at finish:	11:31 AM	Air Temperature (°C):	23	Monitor serial no:	G501688

The gas monitoring equipment is a Geotech GA5000 portable analyser. As per manufacturers recommendations this is factory calibrated every six months and in addition BRD undertake calibration checks against bottled standard gases on at least a monthly basis. Gas monitor pump is run for three minutes unless otherwise stated and the steady readings are an average reading taken over this pump run time. Vapour monitoring equipment is miniRAE lite PGM-7350 Photo Ionisation Detector (PID) with 10.6 eV lamp calibrated for isobutylene. PID calibration check is performed on site against ambient air and also against a 100ppm isobutylene standard gas. Barometric pressure trend and ambient air temperature is recorded from weather websites at the nearest reported weather station.

CH₄ = Methane CO₂ = Carbon Dioxide O₂ = Oxygen H₂S = Hydrogen Sulphide CO = Carbon Monoxide NR = Not Recorded PID = Photo Ionisation Detector

GWL = Groundwater level measured from ground surface and top of standpipe. Base = Base of standpipe measured from ground surface.

Monitoring point				Gas Concentration								Pressure	Flow rate	Vapour	Comments
Borehole	GWL Ground (m)	GWL Pipe (m)	Base Ground (m)	Steady			Peak		Minimum	Peak		Baro - metric (mb)	Steady (l/hr)	PID (ppm)	
				CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CO (ppm)	H ₂ S (ppm)				
WS201	1.92	1.80	2.26	0.2	1.1	19.6	0.2	1.1	19.5	0	0	1013	0.2	n/a	
WS202	2.11	1.98	2.41	0.2	2.2	18.7	0.2	2.2	18.6	0	1	1013	0.0	n/a	
WS203	2.00	1.90	2.44	0.2	1.4	18.9	0.2	1.4	18.6	0	1	1013	-0.2	n/a	
WS204	3.11	2.99	3.63	0.2	0.0	13.7	0.2	0.1	13.4	1	1	1013	-0.5	n/a	
WS206	2.12	1.98	3.05	0.2	3.9	14.7	0.3	4.5	14.0	1	0	1013	-0.3	n/a	
WS207	1.77	1.60	2.01	0.2	1.8	19.1	0.2	1.8	18.8	1	0	1013	-0.4	n/a	



Gas Monitoring Record

Project Name: Bartons Road, Havant

Client: Stonebond

Project No: BRD4469

Date:	12/09/2024	Ground conditions:	Dry	Recorded by:	SW
Time at start:	12:47 PM	Weather conditions:	Sunny, occasional clouds and infrequent showers	Pressure trend:	Steady
Time at finish:	1:28 PM	Air Temperature (°C):	15	Monitor serial no:	G501688

The gas monitoring equipment is a Geotech GA5000 portable analyser. As per manufacturers recommendations this is factory calibrated every six months and in addition BRD undertake calibration checks against bottled standard gases on at least a monthly basis. Gas monitor pump is run for three minutes unless otherwise stated and the steady readings are an average reading taken over this pump run time. Vapour monitoring equipment is miniRAE lite PGM-7350 Photo Ionisation Detector (PID) with 10.6 eV lamp calibrated for isobutylene. PID calibration check is performed on site against ambient air and also against a 100ppm isobutylene standard gas. Barometric pressure trend and ambient air temperature is recorded from weather websites at the nearest reported weather station.

CH₄ = Methane CO₂ = Carbon Dioxide O₂ = Oxygen H₂S = Hydrogen Sulphide CO = Carbon Monoxide NR = Not Recorded PID = Photo Ionisation Detector

GWL = Groundwater level measured from ground surface and top of standpipe. Base = Base of standpipe measured from ground surface.

Monitoring point				Gas Concentration								Pressure	Flow rate	Vapour	Comments
Borehole	GWL Ground (m)	GWL Pipe (m)	Base Ground (m)	Steady			Peak		Minimum	Peak		Baro - metric (mb)	Steady (l/hr)	PID (ppm)	
				CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CO (ppm)	H ₂ S (ppm)				
WS201	1.85	1.74	2.26	0.2	1.4	19.1	0.3	1.4	18.8	0	0	1016	0.6	0.0	
WS202	2.05	1.92	2.40	0.3	2.2	18.2	0.3	2.2	18.1	0	0	1016	0.5	0.0	
WS203	1.91	1.80	2.43	0.3	1.7	19.0	0.3	1.7	18.9	0	0	1017	0.4	0.0	
WS204	2.84	2.71	3.63	0.3	0.0	15.8	0.3	0.2	15.4	0	0	1017	0.4	0.0	
WS206	1.98	1.84	3.01	0.3	3.3	15.8	0.3	4.1	14.8	0	0	1016	0.3	0.1	
WS207	1.70	1.53	1.99	0.2	1.2	19.5	0.3	1.2	19.3	0	0	1016	0.2	0.0	



Gas Monitoring Record

Project Name: Bartons Road, Havant

Client: Stonebond

Project No: BRD4469

Date:	25/09/2024	Ground conditions:	Wet	Recorded by:	IB
Time at start:	11:00 AM	Weather conditions:	Overcast	Pressure trend:	Falling
Time at finish:	12:00 AM	Air Temperature (°C):	15	Monitor serial no:	G501688

The gas monitoring equipment is a Geotech GA5000 portable analyser. As per manufacturers recommendations this is factory calibrated every six months and in addition BRD undertake calibration checks against bottled standard gases on at least a monthly basis. Gas monitor pump is run for three minutes unless otherwise stated and the steady readings are an average reading taken over this pump run time. Vapour monitoring equipment is miniRAE lite PGM-7350 Photo Ionisation Detector (PID) with 10.6 eV lamp calibrated for isobutylene. PID calibration check is performed on site against ambient air and also against a 100ppm isobutylene standard gas. Barometric pressure trend and ambient air temperature is recorded from weather websites at the nearest reported weather station.

CH₄ = Methane CO₂ = Carbon Dioxide O₂ = Oxygen H₂S = Hydrogen Sulphide CO = Carbon Monoxide NR = Not Recorded PID = Photo Ionisation Detector

GWL = Groundwater level measured from ground surface and top of standpipe. Base = Base of standpipe measured from ground surface.

Monitoring point				Gas Concentration								Pressure	Flow rate	Vapour	Comments
Borehole	GWL Ground (m)	GWL Pipe (m)	Base Ground (m)	Steady			Peak		Minimum	Peak		Baro - metric (mb)	Steady (l/hr)	PID (ppm)	
				CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CO (ppm)	H ₂ S (ppm)				
WS201	1.73	1.63	2.27	0.2	0.6	17.4	0.3	0.6	17.4	0	0	1000	0.0	0.0	
WS202	2.01	1.87	2.24	0.3	1.7	17.8	0.3	1.7	17.8	0	0	1000	-0.1	0.0	
WS203	1.78	1.67	2.44	0.3	3.2	16.9	0.3	3.3	16.9	0	0	999	0.0	0.0	
WS204	2.77	2.63	3.64	0.3	0.0	10.5	0.3	0.2	10.3	0	0	1000	-0.1	0.0	
WS206	1.92	1.77	3.01	0.3	2.4	17.2	0.3	3.5	15.4	0	0	1000	-0.1	0.0	
WS207	1.49	1.32	1.98	0.3	0.7	19.5	0.3	0.7	18.4	0	0	1000	-0.1	0.0	



Gas Monitoring Record

Project Name: Bartons Road, Havant

Client: Stonebond

Project No: BRD4469

Date:	17/10/2024	Ground conditions:	slightly moist, some standing water	Recorded by:	SW
Time at start:	11:34	Weather conditions:	Dry, breezy	Pressure trend:	Rising
Time at finish:	12:21	Air Temperature (°C):	16	Monitor serial no:	G501315

The gas monitoring equipment is a Geotech GA5000 portable analyser. As per manufacturers recommendations this is factory calibrated every six months and in addition BRD undertake calibration checks against bottled standard gases on at least a monthly basis. Gas monitor pump is run for three minutes unless otherwise stated and the steady readings are an average reading taken over this pump run time. Vapour monitoring equipment is miniRAE lite PGM-7350 Photo Ionisation Detector (PID) with 10.6 eV lamp calibrated for isobutylene. PID calibration check is performed on site against ambient air and also against a 100ppm isobutylene standard gas. Barometric pressure trend and ambient air temperature is recorded from weather websites at the nearest reported weather station.

CH₄ = Methane CO₂ = Carbon Dioxide O₂ = Oxygen H₂S = Hydrogen Sulphide CO = Carbon Monoxide NR = Not Recorded PID = Photo Ionisation Detector

GWL = Groundwater level measured from ground surface and top of standpipe. Base = Base of standpipe measured from ground surface.

Monitoring point				Gas Concentration								Pressure	Flow rate	Vapour	Comments
Borehole	GWL Ground (m)	GWL Pipe (m)	Base Ground (m)	Steady			Peak		Minimum	Peak		Baro - metric (mb)	Steady (l/hr)	PID (ppm)	
				CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CO (ppm)	H ₂ S (ppm)				
WS201	1.39	1.27	2.27	0.1	0.7	17.5	0.1	0.7	17.4	0	0	1011	0.1	0.0	
WS202	1.81	1.66	2.11	0.0	1.6	16.1	0.0	1.6	16.1	0	0	1012	0.0	0.0	
WS203	1.47	1.36	2.41	0.0	0.7	14.3	0.0	0.7	14.2	0	0	1012	-0.2	0.0	
WS204	2.40	2.27	3.63	0.0	0.0	20.1	0.0	0.1	18.8	0	0	1012	-0.2	0.0	
WS206	1.44	1.29	3.00	0.0	2.0	17.2	0.0	2.0	17.0	0	0	1012	-0.2	0.0	
WS207	1.47	1.30	1.97	0.0	0.6	18.4	0.0	0.7	18.4	0	0	1012	-0.2	0.0	



Groundwater Monitoring Record

Project: Bartons Road, Havant
Client: Stonebond
Project No: BRD4469

Borehole name	Date	Monitored by (initials)	Borehole depth (m)	Qty free product detected (mm)	Groundwater level below ground surface (m)	Groundwater level below top of standpipe (m)	Amount purged (l)	Post purge groundwater level below top of standpipe (m)	Comments
WS201	09/08/2024	SW	2.40	n/a	1.95	1.84	1.00	1.89	Light brown and silty, very slow recharge
WS202	09/08/2024	SW	2.46	n/a	2.14	2.01	0.50	2.09	Light brown and silty, very slow recharge
WS203	09/08/2024	SW	2.54	n/a	2.06	1.95	1.00	2.13	Light brown and silty, very slow recharge
WS204	09/08/2024	SW	3.71	n/a	3.16	3.02	1.00	3.33	Light brown and silty, very slow recharge
WS206	09/08/2024	SW	3.17	n/a	2.11	1.97	3.00	2.48	Light brown and silty, slow recharge
WS207	09/08/2024	SW	2.26	n/a	1.79	1.61	1.50	1.69	Light brown and silty, very slow recharge

APPENDIX 3



Nicola Kimber
BRD Environmental Ltd
Hawthorne Villa
1 Old Parr Road
Banbury
Oxfordshire
OX16 5HT

Normec DETS Limited
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 24-08965

Site Reference: Bartons Road, Havant

Project / Job Ref: BRD4469

Order No: None Supplied

Sample Receipt Date: 06/08/2024

Sample Scheduled Date: 06/08/2024

Report Issue Number: 1

Reporting Date: 13/08/2024

Authorised by:

Steve Knight
Customer Support Manager

Dates of laboratory activities for each tested analyte are available upon request.

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.

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.



Normec DETS Limited
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate						
DETS Report No: 24-08965	~Date Sampled	01/08/24	01/08/24	01/08/24	01/08/24	01/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	TP201	TP202	TP202	TP203	TP203
~Project / Job Ref: BRD4469	~Additional Refs	J2	J2	J3	J1	J2
~Order No: None Supplied	~Depth (m)	0.60	0.60	1.50	0.40	0.80
Reporting Date: 13/08/2024	DETS Sample No	730839	730840	730841	730842	730843

Determinand	Unit	RL	Accreditation	(n)			
Asbestos Quantification ^(S)	%	< 0.001	ISO17025	< 0.001	< 0.001		< 0.001
pH	pH Units	N/a	MCERTS	7.8	9.6	9.6	9.2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS				
Total Sulphate as SO ₄	%	< 0.02	MCERTS				
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	255	300	280	229
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.25	0.30	0.28	0.23
Total Sulphur	%	< 0.02	NONE				
Organic Matter (SOM)	%	< 0.1	MCERTS	1	0.7	0.7	1.5
Arsenic (As)	mg/kg	< 2	MCERTS	10	7	5	9
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	25	15	16	15
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	11	7	8	10
Lead (Pb)	mg/kg	< 3	MCERTS	22	13	12	14
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	15	11	13	10
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Zinc (Zn)	mg/kg	< 3	MCERTS	44	32	30	45

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion

Subcontracted analysis (S)

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

(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation



Normec DETS Limited
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate						
DETS Report No: 24-08965	~Date Sampled	01/08/24	01/08/24	01/08/24	01/08/24	01/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	TP204	TP204	TP205	TP206	TP207
~Project / Job Ref: BRD4469	~Additional Refs	J1	J2	J1	J2	J1
~Order No: None Supplied	~Depth (m)	0.60	0.90	0.60	1.30	0.20
Reporting Date: 13/08/2024	DETS Sample No	730844	730845	730846	730847	730848

Determinand	Unit	RL	Accreditation	(n)				
Asbestos Quantification ^(S)	%	< 0.001	ISO17025			< 0.001	< 0.001	< 0.001
pH	pH Units	N/a	MCERTS	9.3	7.4	8.9	9.9	7.9
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	3823				
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.38				
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	190	54	335	303	78
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.19	0.05	0.33	0.30	0.08
Total Sulphur	%	< 0.02	NONE	0.13				
Organic Matter (SOM)	%	< 0.1	MCERTS		3.6	1.3	1	1.4
Arsenic (As)	mg/kg	< 2	MCERTS		7	8	6	8
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS		18	21	16	17
Chromium (hexavalent)	mg/kg	< 2	NONE		< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS		15	11	9	10
Lead (Pb)	mg/kg	< 3	MCERTS		59	17	11	83
Mercury (Hg)	mg/kg	< 1	MCERTS		< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS		8	13	9	12
Selenium (Se)	mg/kg	< 2	MCERTS		< 2	< 2	< 2	< 2
Zinc (Zn)	mg/kg	< 3	MCERTS		43	41	34	77

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion

Subcontracted analysis (S)

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



Normec DETS Limited
Unit 1, Rose Lane Industrial Estate
Rose Lane
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Soil Analysis Certificate						
DETS Report No: 24-08965	~Date Sampled	01/08/24	01/08/24	01/08/24	02/08/24	02/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	TP209	TP209	TP210	TP211	TP212
~Project / Job Ref: BRD4469	~Additional Refs	J1	J2	J2	J1	J2
~Order No: None Supplied	~Depth (m)	0.10	0.60	0.70	0.30	0.70
Reporting Date: 13/08/2024	DETS Sample No	730849	730850	730851	730852	730853

Determinand	Unit	RL	Accreditation					
Asbestos Quantification ^(S)	%	< 0.001	ISO17025			< 0.001	< 0.001	
pH	pH Units	N/a	MCERTS		7.7	9.7	9.0	7.7
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS					
Total Sulphate as SO ₄	%	< 0.02	MCERTS					
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS		71	197	220	12
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS		0.07	0.20	0.22	0.01
Total Sulphur	%	< 0.02	NONE					
Organic Matter (SOM)	%	< 0.1	MCERTS		0.8	1.1	1.7	0.8
Arsenic (As)	mg/kg	< 2	MCERTS		13	12	8	4
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS		31	20	12	15
Chromium (hexavalent)	mg/kg	< 2	NONE		< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS		22	12	22	< 4
Lead (Pb)	mg/kg	< 3	MCERTS		17	26	116	5
Mercury (Hg)	mg/kg	< 1	MCERTS		< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS		40	13	7	6
Selenium (Se)	mg/kg	< 2	MCERTS		< 2	< 2	< 2	< 2
Zinc (Zn)	mg/kg	< 3	MCERTS		63	52	111	16

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion

Subcontracted analysis (S)

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



Normec DETS Limited
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate						
DETS Report No: 24-08965	~Date Sampled	02/08/24	02/08/24	02/08/24	02/08/24	02/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	TP213	TP214	TP215	TP216	WS205
~Project / Job Ref: BRD4469	~Additional Refs	J1	J1	J1	J1	J2
~Order No: None Supplied	~Depth (m)	0.70	0.80	0.70	0.60	0.30
Reporting Date: 13/08/2024	DETS Sample No	730854	730855	730856	730857	730858

Determinand	Unit	RL	Accreditation					
Asbestos Quantification ^(S)	%	< 0.001	ISO17025	< 0.001	< 0.001	< 0.001	< 0.001	
pH	pH Units	N/a	MCERTS					
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS					
Total Sulphate as SO ₄	%	< 0.02	MCERTS					
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS					
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS					
Total Sulphur	%	< 0.02	NONE					
Organic Matter (SOM)	%	< 0.1	MCERTS					
Arsenic (As)	mg/kg	< 2	MCERTS					
Cadmium (Cd)	mg/kg	< 0.2	MCERTS					
Chromium (Cr)	mg/kg	< 2	MCERTS					
Chromium (hexavalent)	mg/kg	< 2	NONE					
Copper (Cu)	mg/kg	< 4	MCERTS					
Lead (Pb)	mg/kg	< 3	MCERTS					
Mercury (Hg)	mg/kg	< 1	MCERTS					
Nickel (Ni)	mg/kg	< 3	MCERTS					
Selenium (Se)	mg/kg	< 2	MCERTS					
Zinc (Zn)	mg/kg	< 3	MCERTS					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)
~Sample details provided by customer and can affect the validity of results



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Soil Analysis Certificate						
DETS Report No: 24-08965	~Date Sampled	01/08/24	01/08/24	01/08/24	01/08/24	02/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	TP201	TP203	TP206	TP208	TP211
~Project / Job Ref: BRD4469	~Additional Refs	D1	D2	D1	B1	J2
~Order No: None Supplied	~Depth (m)	1.00	2.00	1.80	1.10	0.80
Reporting Date: 13/08/2024	DETS Sample No	730859	730860	730861	730862	730863

Determinand	Unit	RL	Accreditation					
Asbestos Quantification ^(S)	%	< 0.001	ISO17025					
pH	pH Units	N/a	MCERTS	7.6	6.9	8.4	7.6	7.8
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	< 200	< 200	< 200	< 200	< 200
Total Sulphate as SO ₄	%	< 0.02	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	13	27	57	58	13
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.01	0.03	0.06	0.06	0.01
Total Sulphur	%	< 0.02	NONE	< 0.02	< 0.02	< 0.02	0.02	< 0.02
Organic Matter (SOM)	%	< 0.1	MCERTS					
Arsenic (As)	mg/kg	< 2	MCERTS					
Cadmium (Cd)	mg/kg	< 0.2	MCERTS					
Chromium (Cr)	mg/kg	< 2	MCERTS					
Chromium (hexavalent)	mg/kg	< 2	NONE					
Copper (Cu)	mg/kg	< 4	MCERTS					
Lead (Pb)	mg/kg	< 3	MCERTS					
Mercury (Hg)	mg/kg	< 1	MCERTS					
Nickel (Ni)	mg/kg	< 3	MCERTS					
Selenium (Se)	mg/kg	< 2	MCERTS					
Zinc (Zn)	mg/kg	< 3	MCERTS					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)
~Sample details provided by customer and can affect the validity of results



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Soil Analysis Certificate						
DETS Report No: 24-08965	~Date Sampled	01/08/24	31/07/24	01/08/24		
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied		
~Site Reference: Bartons Road, Havant	~TP / BH No	TP207	WS204	WS208		
~Project / Job Ref: BRD4469	~Additional Refs	D1	D2	J1		
~Order No: None Supplied	~Depth (m)	0.90	1.00	0.50		
Reporting Date: 13/08/2024	DETS Sample No	730864	730865	730866		

Determinand	Unit	RL	Accreditation					
Asbestos Quantification ^(S)	%	< 0.001	ISO17025					
pH	pH Units	N/a	MCERTS	7.5	9.6			
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	< 200	< 200			
Total Sulphate as SO ₄	%	< 0.02	MCERTS	< 0.02	< 0.02			
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	67	14			
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.07	0.01			
Total Sulphur	%	< 0.02	NONE	< 0.02	< 0.02			
Organic Matter (SOM)	%	< 0.1	MCERTS					
Arsenic (As)	mg/kg	< 2	MCERTS					
Cadmium (Cd)	mg/kg	< 0.2	MCERTS					
Chromium (Cr)	mg/kg	< 2	MCERTS					
Chromium (hexavalent)	mg/kg	< 2	NONE					
Copper (Cu)	mg/kg	< 4	MCERTS					
Lead (Pb)	mg/kg	< 3	MCERTS					
Mercury (Hg)	mg/kg	< 1	MCERTS					
Nickel (Ni)	mg/kg	< 3	MCERTS					
Selenium (Se)	mg/kg	< 2	MCERTS					
Zinc (Zn)	mg/kg	< 3	MCERTS					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)
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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 24-08965	~Date Sampled	01/08/24	01/08/24	01/08/24	01/08/24	01/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	TP201	TP202	TP202	TP203	TP204
~Project / Job Ref: BRD4469	~Additional Refs	J2	J2	J3	J1	J2
~Order No: None Supplied	~Depth (m)	0.60	0.60	1.50	0.40	0.90
Reporting Date: 13/08/2024	DETS Sample No	730839	730840	730841	730842	730845

Determinand	Unit	RL	Accreditation	(n)				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.15	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.19	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.11	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.12	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.14	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.12	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 24-08965	~Date Sampled	01/08/24	01/08/24	01/08/24	01/08/24	01/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	TP205	TP206	TP207	TP209	TP210
~Project / Job Ref: BRD4469	~Additional Refs	J1	J2	J1	J2	J2
~Order No: None Supplied	~Depth (m)	0.60	1.30	0.20	0.60	0.70
Reporting Date: 13/08/2024	DETS Sample No	730846	730847	730848	730850	730851

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.14	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.12	0.23	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.11	0.19	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.12	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.13	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.17	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.15	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.12	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.12	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 24-08965	~Date Sampled	02/08/24	02/08/24			
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied			
~Site Reference: Bartons Road, Havant	~TP / BH No	TP211	TP212			
~Project / Job Ref: BRD4469	~Additional Refs	J1	J2			
~Order No: None Supplied	~Depth (m)	0.30	0.70			
Reporting Date: 13/08/2024	DETS Sample No	730852	730853			

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	0.19	< 0.1		
Pyrene	mg/kg	< 0.1	MCERTS	0.18	< 0.1		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.14	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	0.18	< 0.1		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.30	< 0.1		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.17	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.14	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.13	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6		

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Soil Analysis Certificate - TPH LQM Banded

DETS Report No: 24-08965	~Date Sampled	01/08/24	01/08/24	01/08/24	01/08/24	01/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	TP202	TP202	TP205	TP206	TP207
~Project / Job Ref: BRD4469	~Additional Refs	J2	J3	J1	J2	J1
~Order No: None Supplied	~Depth (m)	0.60	1.50	0.60	1.30	0.20
Reporting Date: 13/08/2024	DETS Sample No	730840	730841	730846	730847	730848

Determinand	Unit	RL	Accreditation	(n)				
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C35 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic >C35 - C44 : EH_CU_1D_AL	mg/kg	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 30	NONE	< 30	< 30	< 30	< 30	< 30
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic >C35 - C44 : EH_CU_1D_AR	mg/kg	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic (>C5 - C44) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 30	NONE	< 30	< 30	< 30	< 30	< 30
Total >C5 - C44 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 60	NONE	< 60	< 60	< 60	< 60	< 60

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Soil Analysis Certificate - TPH LQM Banded

DETS Report No: 24-08965	~Date Sampled	01/08/24	01/08/24	02/08/24		
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied		
~Site Reference: Bartons Road, Havant	~TP / BH No	TP209	TP210	TP211		
~Project / Job Ref: BRD4469	~Additional Refs	J2	J2	J1		
~Order No: None Supplied	~Depth (m)	0.60	0.70	0.30		
Reporting Date: 13/08/2024	DETS Sample No	730850	730851	730852		

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3		
Aliphatic >C16 - C35 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10	< 10		
Aliphatic >C35 - C44 : EH_CU_1D_AL	mg/kg	< 10	NONE	< 10	< 10	< 10		
Aliphatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 30	NONE	< 30	< 30	< 30		
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3	< 3		
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10	< 10		
Aromatic >C35 - C44 : EH_CU_1D_AR	mg/kg	< 10	NONE	< 10	< 10	< 10		
Aromatic (>C5 - C44) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 30	NONE	< 30	< 30	< 30		
Total >C5 - C44 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 60	NONE	< 60	< 60	< 60		

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 24-08965	~Date Sampled	01/08/24	01/08/24	01/08/24	01/08/24	01/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	TP202	TP202	TP205	TP206	TP207
~Project / Job Ref: BRD4469	~Additional Refs	J2	J3	J1	J2	J1
~Order No: None Supplied	~Depth (m)	0.60	1.50	0.60	1.30	0.20
Reporting Date: 13/08/2024	DETS Sample No	730840	730841	730846	730847	730848

Determinand	Unit	RL	Accreditation	(n)				
Benzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 24-08965	~Date Sampled	01/08/24	01/08/24	02/08/24		
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied		
~Site Reference: Bartons Road, Havant	~TP / BH No	TP209	TP210	TP211		
~Project / Job Ref: BRD4469	~Additional Refs	J2	J2	J1		
~Order No: None Supplied	~Depth (m)	0.60	0.70	0.30		
Reporting Date: 13/08/2024	DETS Sample No	730850	730851	730852		

Determinand	Unit	RL	Accreditation				
Benzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
Toluene : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Ethylbenzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
p & m-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
o-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
MTBE : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	

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



Normec DETS Limited
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Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - Semi Volatile Organic Compounds (SVOC)						
DETS Report No: 24-08965	~Date Sampled	01/08/24	01/08/24	01/08/24		
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied		
~Site Reference: Bartons Road, Havant	~TP / BH No	TP202	TP205	TP209		
~Project / Job Ref: BRD4469	~Additional Refs	J2	J1	J2		
~Order No: None Supplied	~Depth (m)	0.60	0.60	0.60		
Reporting Date: 13/08/2024	DETS Sample No	730840	730846	730850		

Determinand	Unit	RL	Accreditation				
Phenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	
1,2,4-Trichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	
2-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	
Nitrobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
0-Cresol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	
bis(2-chloroethoxy)methane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
bis(2-chloroethyl)ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
2,4-Dichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
2-Chlorophenol	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	
1,3-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	
1,4-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	
1,2-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	
2,4-Dimethylphenol	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	< 0.15	
Isophorone	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	
Hexachloroethane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
p-Cresol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15	< 0.15	
2,4,6-Trichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
2,4,5-Trichlorophenol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15	< 0.15	
2-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	
4-Chloro-3-methylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	
2-Methylnaphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Hexachlorocyclopentadiene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	
Hexachlorobutadiene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	
2,6-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Dimethyl phthalate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	
2-Chloronaphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
4-Chloroaniline	mg/kg	< 0.15	NONE	< 0.15	< 0.15	< 0.15	
4-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	
4-Chlorophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
3-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	
4-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	
4-Bromophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Hexachlorobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
2,4-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Diethyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Dibenzofuran	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Azobenzene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	
Dibutyl phthalate	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	
Carbazole	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	
bis(2-ethylhexyl)phthalate	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	< 0.15	
Benzyl butyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Di-n-octyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	

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Soil Analysis Certificate - PCB (12 Congeners)						
DETS Report No: 24-08965	~Date Sampled	01/08/24	01/08/24	01/08/24	01/08/24	01/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	TP201	TP203	TP204	TP207	TP209
~Project / Job Ref: BRD4469	~Additional Refs	J2	J2	J1	J1	J1
~Order No: None Supplied	~Depth (m)	0.60	0.80	0.60	0.20	0.10
Reporting Date: 13/08/2024	DETS Sample No	730839	730843	730844	730848	730849

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

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

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(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation



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Soil Analysis Certificate - PCB (12 Congeners)						
DETS Report No: 24-08965	~Date Sampled	01/08/24	02/08/24	02/08/24		
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied		
~Site Reference: Bartons Road, Havant	~TP / BH No	TP210	TP211	WS205		
~Project / Job Ref: BRD4469	~Additional Refs	J2	J1	J2		
~Order No: None Supplied	~Depth (m)	0.70	0.30	0.30		
Reporting Date: 13/08/2024	DETS Sample No	730851	730852	730858		

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

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

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Waste Acceptance Criteria Analytical Certificate																																							
DETS Report No: 24-08965		~Date Sampled	01/08/24			<table border="1"> <thead> <tr> <th colspan="3">Landfill Waste Acceptance Criteria Limits</th> </tr> <tr> <th>Inert Waste Landfill</th> <th>Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill</th> <th>Hazardous Waste Landfill</th> </tr> </thead> <tbody> <tr> <td>3%</td> <td>5%</td> <td>6%</td> </tr> <tr> <td>--</td> <td>--</td> <td>10%</td> </tr> <tr> <td>6</td> <td>--</td> <td>--</td> </tr> <tr> <td>1</td> <td>--</td> <td>--</td> </tr> <tr> <td>500</td> <td>--</td> <td>--</td> </tr> <tr> <td>100</td> <td>--</td> <td>--</td> </tr> <tr> <td>--</td> <td>>6</td> <td>--</td> </tr> <tr> <td>--</td> <td>To be evaluated</td> <td>To be evaluated</td> </tr> </tbody> </table>				Landfill Waste Acceptance Criteria Limits			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	3%	5%	6%	--	--	10%	6	--	--	1	--	--	500	--	--	100	--	--	--	>6	--	--	To be evaluated	To be evaluated
Landfill Waste Acceptance Criteria Limits																																							
Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill																																					
3%	5%	6%																																					
--	--	10%																																					
6	--	--																																					
1	--	--																																					
500	--	--																																					
100	--	--																																					
--	>6	--																																					
--	To be evaluated	To be evaluated																																					
BRD Environmental Ltd		~Time Sampled	None Supplied																																				
~Site Reference: Bartons Road, Havant		~TP / BH No	WS208																																				
~Project / Job Ref: BRD4469		~Additional Refs	J1																																				
~Order No: None Supplied		~Depth (m)	0.50																																				
Reporting Date: 13/08/2024		DETS Sample No	730866																																				
Determinand	Unit	MDL																																					
TOC ^{MU}	%	< 0.1	0.6																																				
Loss on Ignition ^{MU}	%	< 0.01	6.90																																				
BTEX ^{MU}	mg/kg	< 0.05	< 0.05																																				
Sum of PCBs	mg/kg	< 0.1	< 0.1																																				
Mineral Oil ^{MU}	mg/kg	< 10	< 10																																				
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7																																				
pH ^{MU}	pH Units	N/a	10.5																																				
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1																																				
Eluate Analysis			2:1 mg/l	8:1 mg/l		Cumulative 10:1 * mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)																																
Arsenic ^U			0.0004	0.0024		0.041	0.5	2	25																														
Barium ^U			0.0098	0.0095		0.172	20	100	300																														
Cadmium ^U			< 0.0002	< 0.0002		< 0.002	0.04	1	5																														
Chromium ^U			0.0070	0.0025		0.051	0.5	10	70																														
Copper ^U			0.0073	0.0088		0.159	2	50	100																														
Mercury ^U			< 0.00004	< 0.00004		< 0.0004	0.01	0.2	2																														
Molybdenum ^U			0.0010	0.0004		0.008	0.5	10	30																														
Nickel ^U			0.0009	0.0006		0.0119	0.4	10	40																														
Lead ^U			< 0.0002	< 0.0002		0.003	0.5	10	50																														
Antimony ^U			< 0.0002	< 0.0002		< 0.002	0.06	0.7	5																														
Selenium ^U			0.0007	0.0002		0.0043	0.1	0.5	7																														
Zinc ^U			0.015	0.015		0.27	4	50	200																														
Chloride ^U			2	2		36	800	15000	25000																														
Fluoride ^U			< 0.5	< 0.5		< 1	10	150	500																														
Sulphate ^U			45	19		366	1000	20000	50000																														
TDS			160	82		1570	4000	60000	100000																														
Phenol Index ^U			< 0.01	< 0.01		< 0.5	1	-	-																														
DOC ^U			9.6	12.7		227	500	800	1000																														
Leach Test Information																																							
Sample Mass (kg)			0.10																																				
Dry Matter (%)			89.7																																				
Moisture (%)			11.6																																				
Stage 1																																							
Volume Eluate L2 (litres)			0.17																																				
Filtered Eluate VE1 (litres)			0.09																																				

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion
 Stated limits are for guidance only and Normec DETS Limited cannot be held responsible for any discrepancies with current legislation
 M Denotes MCERTS accredited test
 U Denotes ISO17025 accredited test
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 * DETS are accredited for the testing of leachate and not the leachate preparation stage which is unaccredited



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 24-08965
BRD Environmental Ltd
~Site Reference: Bartons Road, Havant
~Project / Job Ref: BRD4469
~Order No: None Supplied
Reporting Date: 13/08/2024

DETS Sample No	~TP / BH No	~Additional Refs	~Depth (m)	Moisture Content (%)	Sample Matrix Description
730839	TP201	J2	0.60	14.5	Brown sandy clay
730840	TP202	J2	0.60	9.4	Brown sandy clay with stones
730841	TP202	J3	1.50	9.1	Brown clayey gravel with stones
730842	TP203	J1	0.40	7.4	Brown sandy clay with stones and plastic
730843	TP203	J2	0.80	9	Brown sandy clay with stones and glass
730844	TP204	J1	0.60	8.9	Brown clayey gravel with stones and brick
730845	TP204	J2	0.90	18.3	Brown sandy clay
730846	TP205	J1	0.60	13.4	Brown sandy clay with stones
730847	TP206	J2	1.30	10.1	Brown sandy clay with stones
730848	TP207	J1	0.20	7.3	Brown clayey sand with stones and brick
730849	TP209	J1	0.10	5.4	Brown sandy clay with stones and vegetation
730850	TP209	J2	0.60	16.3	Brown clay
730851	TP210	J2	0.70	9	Brown sandy clay with stones and glass
730852	TP211	J1	0.30	6	Brown clayey sand with stones and brick
730853	TP212	J2	0.70	12.1	Brown sandy clay
730858	WS205	J2	0.30	8.5	Brown sandy clay with stones and brick
730859	TP201	D1	1.00	16.6	Brown sandy clay
730860	TP203	D2	2.00	11.2	Beige sandy clay
730861	TP206	D1	1.80	10.2	Brown clayey sand
730862	TP208	B1	1.10	7.7	Brown sandy clay with stones
730863	TP211	J2	0.80	11.7	Brown sandy clay with stones
730864	TP207	D1	0.90	6.7	Brown sandy clay with stones
730865	WS204	D2	1.00	10.8	Brown clayey sand with stones
730866	WS208	J1	0.50	9.8	Brown sandy clay with stones

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

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}

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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 24-08965

BRD Environmental Ltd

~Site Reference: Bartons Road, Havant

~Project / Job Ref: BRD4469

~Order No: None Supplied

Reporting Date: 13/08/2024

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

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



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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 24-08965

BRD Environmental Ltd

~Site Reference: Bartons Road, Havant

~Project / Job Ref: BRD4469

~Order No: None Supplied

Reporting Date: 13/08/2024

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	U	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	UF	Biological Oxygen Demand (COD)	Determination using BOD sensors measuring the change of pressure	E133
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered

UF Unfiltered

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



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List of HWOL Acronyms and Operators

DETS Report No: 24-08965

BRD Environmental Ltd

~Site Reference: Bartons Road, Havant

~Project / Job Ref: BRD4469

~Order No: None Supplied

Reporting Date: 13/08/2024

Acronym	Description
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
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total
~	Sample details provided by customer and can affect the validity of results

Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
Mineral Oil (C10 - C40) (BS EN 12457-3) - EH_CU_1D_AL
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH LQM - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH LQM - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH LQM - Aliphatic >C16 - C35 - EH_CU_1D_AL
TPH LQM - Aliphatic >C35 - C44 - EH_CU_1D_AL
TPH LQM - Aliphatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AL
TPH LQM - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH LQM - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH LQM - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH LQM - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH LQM - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH LQM - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH LQM - Aromatic >C35 - C44 - EH_CU_1D_AR
TPH LQM - Aromatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AR
TPH LQM - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH LQM - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH LQM - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH LQM - Total >C5 - C44 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
Total BTEX (BS EN 12457-3) - HS_1D_MS_Total
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS

Parameter	Matrix Type	Expanded Uncertainty Measurement	Unit
TOC	Soil	12.2	%
Loss on Ignition	Soil	22.9	%
BTEX	Soil	11.2	%
Sum of PCBs	Soil	43.4	%
Mineral Oil	Soil	9.0	%
Total PAH	Soil	18.5	%
pH	Soil	0.335	Units
Acid Neutralisation Capacity	Soil	18.0	%
Clay Content	Soil	15.0	%
Silt Content	Soil	14.0	%
Sand Content	Soil	13.0	%
Loss on Ignition	Soil	22.9	%
pH	Soil	0.335	Units
Carbonate	Soil	12.0	%
Total Nitrogen	Soil	12.0	%
Phosphorus (Extractable)	Soil	24.0	%
Potassium (Extractable)	Soil	20.0	%
Magnesium (Extractable)	Soil	26.0	%
Zinc	Soil	21.6	%
Copper	Soil	18.2	%
Nickel	Soil	24.3	%
Available Sodium	Soil	23.0	%
Available Calcium	Soil	23.0	%
Electrical Conductivity	Soil	10.0	%



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DETS Report No: 24-09252

Site Reference: Bartons Road, Havant

Project / Job Ref: BRD4469

Order No: None Supplied

Sample Receipt Date: 13/08/2024

Sample Scheduled Date: 13/08/2024

Report Issue Number: 1

Reporting Date: 19/08/2024

Authorised by:

Steve Knight
Customer Support Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Water Analysis Certificate						
DETS Report No: 24-09252	~Date Sampled	09/08/24	09/08/24	09/08/24	09/08/24	09/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	WS201	WS202	WS203	WS204	WS205
~Project / Job Ref: BRD4469	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: None Supplied	~Depth (m)	2.01	2.22	2.22	3.46	2.63
Reporting Date: 19/08/2024	DETS Sample No	731989	731990	731991	731992	731993

Determinand	Unit	RL	Accreditation	(hg)	(hs hg)			
pH	pH Units	N/a	ISO17025	7.3	7.3	7.1	7.5	7.0
Sulphate as SO ₄	mg/l	< 1	ISO17025	56	37	62	14	170
Total Organic Carbon (TOC)	mg/l	< 1.0	ISO17025	15.9	16.1	18	95.2	22.6
Arsenic (dissolved)	ug/l	< 0.2	ISO17025	0.9	0.5	0.7	3.5	4.2
Cadmium (dissolved)	ug/l	< 0.2	ISO17025	< 0.2	< 0.2	< 0.2	0.2	0.5
Chromium (dissolved)	ug/l	< 0.2	ISO17025	0.2	0.3	2.0	2.1	3.4
Chromium (hexavalent)	ug/l	< 20	NONE	< 20	< 20	< 20	< 20	< 20
Copper (dissolved)	ug/l	< 0.2	ISO17025	3.1	2.9	7.1	58.6	18.3
Lead (dissolved)	ug/l	< 0.2	ISO17025	< 0.2	< 0.2	1.1	15.3	10.2
Mercury (dissolved)	ug/l	< 0.04	ISO17025	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Nickel (dissolved)	ug/l	< 0.2	ISO17025	2.0	1.7	1.5	6.7	3.8
Selenium (dissolved)	ug/l	< 0.2	ISO17025	1.0	1.7	1.2	1.8	4.7
Zinc (dissolved)	ug/l	< 1	ISO17025	44	36	64	182	77

Subcontracted analysis ^(s)

Insufficient sample ^{i/s}

Unsuitable Sample ^{u/s}

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

(hs) Please note deviating sample due to head space in container

(hg) Please note deviating sample for Mercury due to inappropriate container



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Water Analysis Certificate						
DETS Report No: 24-09252	~Date Sampled	09/08/24				
BRD Environmental Ltd	~Time Sampled	None Supplied				
~Site Reference: Bartons Road, Havant	~TP / BH No	WS206				
~Project / Job Ref: BRD4469	~Additional Refs	None Supplied				
~Order No: None Supplied	~Depth (m)	1.87				
Reporting Date: 19/08/2024	DETS Sample No	731994				

Determinand	Unit	RL	Accreditation				
pH	pH Units	N/a	ISO17025	6.9			
Sulphate as SO ₄	mg/l	< 1	ISO17025	48			
Total Organic Carbon (TOC)	mg/l	< 1.0	ISO17025	31.3			
Arsenic (dissolved)	ug/l	< 0.2	ISO17025	1.8			
Cadmium (dissolved)	ug/l	< 0.2	ISO17025	0.5			
Chromium (dissolved)	ug/l	< 0.2	ISO17025	1.1			
Chromium (hexavalent)	ug/l	< 20	NONE	< 20			
Copper (dissolved)	ug/l	< 0.2	ISO17025	10.4			
Lead (dissolved)	ug/l	< 0.2	ISO17025	12.7			
Mercury (dissolved)	ug/l	< 0.04	ISO17025	< 0.04			
Nickel (dissolved)	ug/l	< 0.2	ISO17025	15.5			
Selenium (dissolved)	ug/l	< 0.2	ISO17025	1.0			
Zinc (dissolved)	ug/l	< 1	ISO17025	91			

Subcontracted analysis ^(S)

Insufficient sample ^{I/S}

Unsuitable Sample ^{U/S}

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



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Water Analysis Certificate - Speciated PAH						
DETS Report No: 24-09252	~Date Sampled	09/08/24	09/08/24	09/08/24	09/08/24	09/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	WS201	WS202	WS203	WS204	WS205
~Project / Job Ref: BRD4469	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: None Supplied	~Depth (m)	2.01	2.22	2.22	3.46	2.63
Reporting Date: 19/08/2024	DETS Sample No	731989	731990	731991	731992	731993

Determinand	Unit	RL	Accreditation	(hs)				
Naphthalene	ug/l	< 0.01	NONE	4.11	0.01	< 0.01	0.05	< 0.01
Acenaphthylene	ug/l	< 0.01	NONE	0.04	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	ug/l	< 0.01	NONE	0.59	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/l	< 0.01	NONE	0.35	0.04	< 0.01	< 0.01	< 0.01
Phenanthrene	ug/l	< 0.01	NONE	0.66	< 0.01	< 0.01	0.04	< 0.01
Anthracene	ug/l	< 0.01	NONE	0.12	0.01	< 0.01	0.01	< 0.01
Fluoranthene	ug/l	< 0.01	NONE	0.07	< 0.01	< 0.01	0.02	< 0.01
Pyrene	ug/l	< 0.01	NONE	0.06	< 0.01	< 0.01	0.01	< 0.01
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
Total EPA-16 PAHs	ug/l	< 0.16	NONE	6	< 0.16	< 0.16	< 0.16	< 0.16

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Water Analysis Certificate - Speciated PAH						
DETS Report No: 24-09252	~Date Sampled	09/08/24				
BRD Environmental Ltd	~Time Sampled	None Supplied				
~Site Reference: Bartons Road, Havant	~TP / BH No	WS206				
~Project / Job Ref: BRD4469	~Additional Refs	None Supplied				
~Order No: None Supplied	~Depth (m)	1.87				
Reporting Date: 19/08/2024	DETS Sample No	731994				

Determinand	Unit	RL	Accreditation				
Naphthalene	ug/l	< 0.01	NONE	< 0.01			
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01			
Acenaphthene	ug/l	< 0.01	NONE	< 0.01			
Fluorene	ug/l	< 0.01	NONE	< 0.01			
Phenanthrene	ug/l	< 0.01	NONE	< 0.01			
Anthracene	ug/l	< 0.01	NONE	< 0.01			
Fluoranthene	ug/l	< 0.01	NONE	< 0.01			
Pyrene	ug/l	< 0.01	NONE	< 0.01			
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01			
Chrysene	ug/l	< 0.01	NONE	< 0.01			
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01			
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01			
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01			
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01			
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01			
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008			
Total EPA-16 PAHs	ug/l	< 0.16	NONE	< 0.16			

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Water Analysis Certificate - TPH CWG Banded

DETS Report No: 24-09252	~Date Sampled	09/08/24	09/08/24	09/08/24	09/08/24	09/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	WS201	WS202	WS203	WS204	WS205
~Project / Job Ref: BRD4469	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: None Supplied	~Depth (m)	2.01	2.22	2.22	3.46	2.63
Reporting Date: 19/08/2024	DETS Sample No	731989	731990	731991	731992	731993

Determinand	Unit	RL	Accreditation	(hs)				
Aliphatic >C5 - C6 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C6 - C8 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C8 - C10 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C10 - C12 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C12 - C16 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C16 - C21 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C21 - C34 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	ug/l	< 70	NONE	< 70	< 70	< 70	< 70	< 70
Aromatic >C5 - C7 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C7 - C8 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C8 - C10 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C10 - C12 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C12 - C16 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C16 - C21 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C21 - C35 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	ug/l	< 70	NONE	< 70	< 70	< 70	< 70	< 70
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Total	ug/l	< 140	NONE	< 140	< 140	< 140	< 140	< 140

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

(hs) Please note deviating sample due to head space in container



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Maidstone
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Tel : 01622 850410

Water Analysis Certificate - TPH CWG Banded

DETS Report No: 24-09252	~Date Sampled	09/08/24				
BRD Environmental Ltd	~Time Sampled	None Supplied				
~Site Reference: Bartons Road, Havant	~TP / BH No	WS206				
~Project / Job Ref: BRD4469	~Additional Refs	None Supplied				
~Order No: None Supplied	~Depth (m)	1.87				
Reporting Date: 19/08/2024	DETS Sample No	731994				

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C6 - C8 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C8 - C10 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C10 - C12 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C12 - C16 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C16 - C21 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C21 - C34 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	ug/l	< 70	NONE	< 70			
Aromatic >C5 - C7 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10			
Aromatic >C7 - C8 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10			
Aromatic >C8 - C10 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic >C10 - C12 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic >C12 - C16 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic >C16 - C21 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic >C21 - C35 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	ug/l	< 70	NONE	< 70			
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	ug/l	< 140	NONE	< 140			

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



Normec DETS Limited
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Tel : 01622 850410



Water Analysis Certificate - BTEX / MTBE						
DETS Report No: 24-09252	~Date Sampled	09/08/24	09/08/24	09/08/24	09/08/24	09/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	WS201	WS202	WS203	WS204	WS205
~Project / Job Ref: BRD4469	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: None Supplied	~Depth (m)	2.01	2.22	2.22	3.46	2.63
Reporting Date: 19/08/2024	DETS Sample No	731989	731990	731991	731992	731993

Determinand	Unit	RL	Accreditation	(hs)				
Benzene : HS 1D MS	ug/l	< 1	ISO17025	< 1	< 1	< 1	< 1	< 1
Toluene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS_1D_MS	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
p & m-xylene : HS_1D_MS	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10
o-xylene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
MTBE : HS 1D MS	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10

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

(hs) Please note deviating sample due to head space in container



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Water Analysis Certificate - BTEX / MTBE						
DETS Report No: 24-09252	~Date Sampled	09/08/24				
BRD Environmental Ltd	~Time Sampled	None Supplied				
~Site Reference: Bartons Road, Havant	~TP / BH No	WS206				
~Project / Job Ref: BRD4469	~Additional Refs	None Supplied				
~Order No: None Supplied	~Depth (m)	1.87				
Reporting Date: 19/08/2024	DETS Sample No	731994				

Determinand	Unit	RL	Accreditation				
Benzene : HS_1D_MS	ug/l	< 1	ISO17025	< 1			
Toluene : HS_1D_MS	ug/l	< 5	ISO17025	< 5			
Ethylbenzene : HS_1D_MS	ug/l	< 5	ISO17025	< 5			
p & m-xylene : HS_1D_MS	ug/l	< 10	ISO17025	< 10			
o-xylene : HS_1D_MS	ug/l	< 5	ISO17025	< 5			
MTBE : HS_1D_MS	ug/l	< 10	ISO17025	< 10			

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



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Tel : 01622 850410

Water Analysis Certificate - PCB (12 Congeners)						
DETS Report No: 24-09252	~Date Sampled	09/08/24	09/08/24	09/08/24	09/08/24	09/08/24
BRD Environmental Ltd	~Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Bartons Road, Havant	~TP / BH No	WS201	WS202	WS203	WS204	WS205
~Project / Job Ref: BRD4469	~Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: None Supplied	~Depth (m)	2.01	2.22	2.22	3.46	2.63
Reporting Date: 19/08/2024	DETS Sample No	731989	731990	731991	731992	731993

Determinand	Unit	RL	Accreditation	(hs)				
PCB Congener 77	ug/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB Congener 81	ug/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB Congener 105	ug/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB Congener 114	ug/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB Congener 118	ug/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB Congener 123	ug/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB Congener 126	ug/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB Congener 156	ug/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB Congener 157	ug/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB Congener 167	ug/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB Congener 169	ug/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB Congener 189	ug/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB (12 Congeners)	ug/l	< 0.7	NONE	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7

~Sample details provided by customer and can affect the validity of results
(hs) Please note deviating sample due to head space in container



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Water Analysis Certificate - PCB (12 Congeners)						
DETS Report No: 24-09252	~Date Sampled	09/08/24				
BRD Environmental Ltd	~Time Sampled	None Supplied				
~Site Reference: Bartons Road, Havant	~TP / BH No	WS206				
~Project / Job Ref: BRD4469	~Additional Refs	None Supplied				
~Order No: None Supplied	~Depth (m)	1.87				
Reporting Date: 19/08/2024	DETS Sample No	731994				

Determinand	Unit	RL	Accreditation				
PCB Congener 77	ug/l	< 0.1	NONE	< 0.1			
PCB Congener 81	ug/l	< 0.1	NONE	< 0.1			
PCB Congener 105	ug/l	< 0.1	NONE	< 0.1			
PCB Congener 114	ug/l	< 0.1	NONE	< 0.1			
PCB Congener 118	ug/l	< 0.1	NONE	< 0.1			
PCB Congener 123	ug/l	< 0.1	NONE	< 0.1			
PCB Congener 126	ug/l	< 0.1	NONE	< 0.1			
PCB Congener 156	ug/l	< 0.1	NONE	< 0.1			
PCB Congener 157	ug/l	< 0.1	NONE	< 0.1			
PCB Congener 167	ug/l	< 0.1	NONE	< 0.1			
PCB Congener 169	ug/l	< 0.1	NONE	< 0.1			
PCB Congener 189	ug/l	< 0.1	NONE	< 0.1			
Total PCB (12 Congeners)	ug/l	< 0.7	NONE	< 0.7			

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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 24-09252

BRD Environmental Ltd

~Site Reference: Bartons Road, Havant

~Project / Job Ref: BRD4469

~Order No: None Supplied

Reporting Date: 19/08/2024

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	F	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	UF	Biological Oxygen Demand (BOD)	Determination using BOD sensors measuring the change of pressure	E133
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered

UF Unfiltered

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List of HWOL Acronyms and Operators

Acronym	Description
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
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total
~	Sample details provided by customer and can affect the validity of results

Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C34 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Aromatic C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Total >C5 - C35 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS



TEST REPORT
ISSUED BY SOIL PROPERTY TESTING LTD
DATE ISSUED: 23/08/2024



Contract	Havant
Serial No.	45476_1
Client: BRD Environmental Ltd BRD Environmental Ltd Hawthorne Villa 1 Old Parr Road Banbury Oxfordshire OX16 5HT	
Soil Property Testing Ltd 15, 16, 18 Halcyon Court, St Margaret's Way, Stukeley Meadows, Huntingdon, Cambridgeshire, PE29 6DG Tel: 01480 455579 Email: enquiries@soilpropertytesting.com Website: www.soilpropertytesting.com	
Samples Submitted By: BRD Environmental Ltd Samples Labelled: Havant	Approved Signatories: ☒ J.C. Garner B.Eng (Hons) FGS Technical Director & Quality Manager ☐ W. Johnstone Materials Lab Manager 
Date Received: 08/08/2024	Samples Tested Between: 08/08/2024 and 23/08/2024
Remarks: For the attention of Lee Chippington Your Reference No: BRD4469	
Notes: 1 All remaining samples or remnants from this contract will be disposed of after 21 days from today, unless we are notified to the contrary. 2 Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. 3 Tests marked "NOT UKAS ACCREDITED" in this test report are not included in the UKAS Accreditation Schedule for this testing laboratory. 4 This test report may not be reproduced other than in full except with the prior written approval of the issuing laboratory. 5 The results within this report only relate to the items tested or sampled.	



TEST REPORT

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Contract			Havant																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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Bore Hole No.	Type	Sample Ref.	Top Depth	Particle Size Distribution (BS1377) Water Content (BS61) Liquid/Plastic Limits Wet Sieve Preparation																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	



TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD
DATE ISSUED: 23/08/2024



Contract		Havant												
Serial No.		45476_1												
SUMMARY OF WATER CONTENT, LIQUID LIMIT, PLASTIC LIMIT, PLASTICITY INDEX AND LIQUIDITY INDEX														
Borehole /Pit No.	Depth (m)	Type	Ref.	Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasti- city Index (%)	Liquid- ity Index	Sample Preparation				Description	Class
									Method	Ret'd 0.425mm (%)	Corr'd W/C <0.425mm	Curing Time (hrs)		
TP209	1.00	D	1	29.8	75	26	49	0.08	From Natural	0 (A)		24	Stiff closely fissured mottled bluish grey and yellowish brown CLAY with rare calcareous aggregations and recently active and decayed roots	CV
WS201	1.00	D	3	28.8	74	26	48	0.06	From Natural	0 (A)		25	Stiff mottled bluish grey and yellowish brown CLAY with rare calcareous aggregations and recently active and decayed roots	CV
WS203	1.00	D	2	10.0	72	24	48	-0.29	Wet Sieved	66 (M)	29.5*	76	Brown, black and white fine to coarse angular to rounded chert GRAVEL in a mottled bluish grey and yellowish brown slightly sandy clay matrix	CV
WS208	1.10	D	2	19.2	31	24	7	-0.69	Wet Sieved	2 (M)	19.5*	77	Mottled bluish grey and orangish brown slightly gravelly clayey silty SAND. Gravel is fine and medium subangular and subrounded chert	ML
Method Of Preparation: BS EN ISO: 17892-1: 2014+A1:2022 & BS 1377: Part 2:1990:4.2														
Method of Test: BS EN ISO: 17892-1: 2014+A1:2022 & BS 1377: Part 2:1990:3.2, 4.4, 5.3, 5.4														
Type of Sample Key: U = Undisturbed, B = Bulk, D = Disturbed, J = Jar, W = Water, SPT = Split Spoon Sample, C = Core Cutter														
Comments: *Corrected water content assume material greater than 0.425mm is non-porous. See BS1377: Part 2: 1990 Clause 3 Note 1.														
Table Notation: Ret'd 0.425mm: (A) = Assumed, (M) = Measured														



TEST REPORT

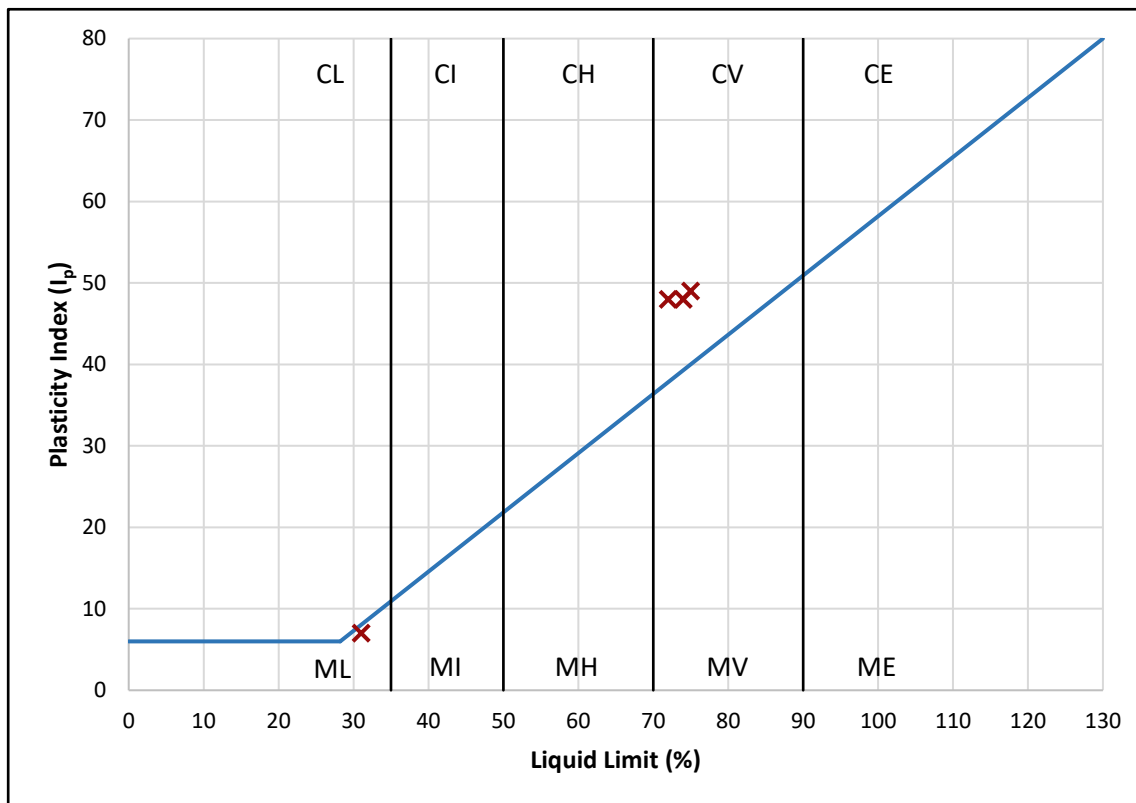
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DATE ISSUED: 23/08/2024



Contract	Havant
Serial No.	45476_1

PLOT OF PLASTICITY INDEX AGAINST LIQUID LIMIT USING CASAGRANDE CLASSIFICATION CHART

Plasticity				
Low	Medium	High	Very High	Extremely High



Plasticity Chart BS5930: 2015: Figure 8

High	NHBC Volume Change Potential
Medium	
Low	

Method of Preparation:	BS 1377: Part 2: 1990: 4.2
Method of Test:	BS1377: Part 2: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U = Undisturbed, B = Bulk, D = Disturbed, J = Jar, W = Water, SPT = Split Spoon Sample, C = Core Cutter
Comments:	Volume Change Potential: NHBC Standards Chapter 4.2 Unmodified Plasticity Index



TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD
DATE ISSUED: 23/08/2024



Contract	Havant						
Serial No.	45476_1						
DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX							
Borehole / Pit No.	Depth m	Sample TypeReference		Water Content (W) %	Description	Remarks	
TP209	1.00	D	1	29.8	Stiff closely fissured mottled bluish grey and yellowish brown CLAY with rare calcareous aggregations and recently active and decayed roots		
PREPARATION					Liquid Limit	75 %	
Method of preparation					From natural	Plastic Limit	26 %
Sample retained 0.425mm sieve (Assumed)					0 %	Plasticity Index	49 %
Corrected water content for material passing 0.425mm						Liquidity Index	0.08
Sample retained 2mm sieve (Assumed)					0 %	NHBC Modified (I'p)	n/a
Curing time			24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed
<div><div>C=CLAY</div><div>M=SILT</div><div>Plasticity Index % (Ip)</div><div>Plasticity Chart BS5930: 2015: Figure 8</div></div> <div><div>CL</div><div>CI</div><div>CH</div><div>CV</div><div>CE</div><div>ML</div><div>MI</div><div>MH</div><div>MV</div><div>ME</div></div> <div><div>High</div><div>Medium</div><div>Low</div><div>NHBC Volume Change Potential</div></div> <div>Liquid Limit %</div>							
Method of Preparation: BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2							
Method of Test: BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4							
Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter							
Comments:							



TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD
DATE ISSUED: 23/08/2024



Contract	Havant						
Serial No.	45476_1						
DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX							
Borehole / Pit No.	Depth m	Sample TypeReference		Water Content (W) %	Description	Remarks	
WS201	1.00	D	3	28.8	Stiff mottled bluish grey and yellowish brown CLAY with rare calcareous aggregations and recently active and decayed roots		
PREPARATION					Liquid Limit	74 %	
Method of preparation					From natural	Plastic Limit	26 %
Sample retained 0.425mm sieve (Assumed)					0 %	Plasticity Index	48 %
Corrected water content for material passing 0.425mm						Liquidity Index	0.06
Sample retained 2mm sieve (Assumed)					0 %	NHBC Modified (I'p)	n/a
Curing time		25 hrs		Clay Content	Not analysed	Derived Activity	Not analysed
<div><div>C=CLAY</div><div>M=SILT</div><div>Plasticity Index % (Ip)</div></div> <div><div>High</div><div>Medium</div><div>Low</div><div>NHBC Volume Change Potential</div></div> <div>Liquid Limit %</div>							

Plasticity Chart BS5930: 2015: Figure 8



TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD
DATE ISSUED: 23/08/2024



Contract	Havant								
Serial No.	45476_1								
DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX									
Borehole / Pit No.	Depth m	Sample Type Reference		Water Content (W) %	Description	Remarks			
WS203	1.00	D	2	10.0	Brown, black and white fine to coarse angular to rounded chert GRAVEL in a mottled bluish grey and yellowish brown slightly sandy clay matrix				
PREPARATION					Liquid Limit	72 %			
Method of preparation					Wet sieved over 0.425mm sieve	Plastic Limit	24 %		
Sample retained 0.425mm sieve (Measured)					66 %	Plasticity Index	48 %		
Corrected water content for material passing 0.425mm					29.5 %	Liquidity Index	-0.29		
Sample retained 2mm sieve (Measured)					65 %	NHBC Modified (I'p)	16 %		
Curing time					76 hrs	Clay Content	Not analysed	Derived Activity	Not analysed
<div><div>C=CLAY</div><div>M=SILT</div><div>Plasticity Index % (Ip)</div></div> <div><div>High</div><div>Medium</div><div>Low</div><div>NHBC Volume Change Potential</div></div> <div>Liquid Limit %</div>									

Plasticity Chart BS5930: 2015: Figure 8



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Contract	Havant						
Serial No.	45476_1						
DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX							
Borehole / Pit No.	Depth m	Sample TypeReference		Water Content (W) %	Description	Remarks	
WS208	1.10	D	2	19.2	Mottled bluish grey and orangish brown slightly gravelly clayey silty SAND. Gravel is fine and medium subangular and subrounded chert		
PREPARATION					Liquid Limit	31 %	
Method of preparation					Wet sieved over 0.425mm sieve	Plastic Limit	24 %
Sample retained 0.425mm sieve (Measured)					2 %	Plasticity Index	7 %
Corrected water content for material passing 0.425mm					19.5 %	Liquidity Index	-0.69
Sample retained 2mm sieve (Measured)					1 %	NHBC Modified (I'p)	7 %
Curing time			77 hrs	Clay Content	Not analysed	Derived Activity	Not analysed
<div><div>C=CLAY</div><div>M=SILT</div><div>Plasticity Index % (Ip)</div><div>70 60 50 40 30 20 10 0</div><div>0102030405060708090100110120</div><div>CLCICHCVCE MLMIMHMHVMVME</div><div>Plasticity Chart BS5930: 2015: Figure 8</div></div> <div><div>High</div><div>Medium</div><div>Low</div><div>NHBC Volume Change Potential</div><div>Liquid Limit %</div></div>							
Method of Preparation: BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2							
Method of Test: BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4							
Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter							
Comments: Corrected water content assume material greater than 0.425mm non-porous. See BS1377: Part2: 1990 Clause 3 Note 1							
Volume Change Potential: NHBC Standards Chapter 4.2 Unmodified Plasticity Index							
Note: Modified Plasticity Index I'p = Ip x (% less than 425microns/100)							



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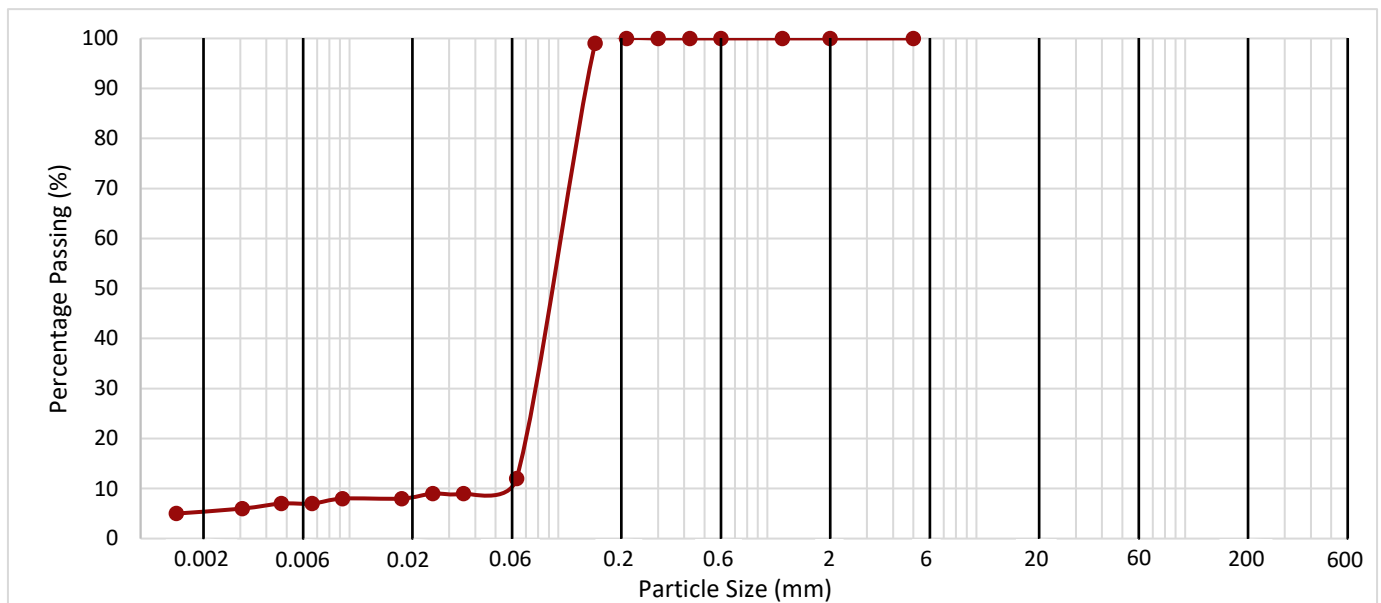


Contract	Havant
Serial No.	45476_1

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Pit No.	Depth (m)	Sample		Description	Remarks
		Type	Reference		
TP201	1.50	B	1	Pale yellow clayey silty SAND	

Method of Test: Hydrometer + Pre-sieve Method of Pretreatment: Not required



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

H y d r o m e t e r	Particle Size (mm)	Passing (%)	Silt by Dry Mass (%)
	0.0351	9	7
	0.0250	9	
	0.0178	8	
	0.0093	8	Clay by Dry Mass (%)
	0.0066	7	
	0.0047	7	
	0.0031	6	5
	0.0015	5	

Sieve Size (mm)	Passing (%)	Sand By Dry Mass (%)
2.00	100	88
1.18	100	
0.600	100	
0.425	100	
0.300	100	
0.212	100	
0.150	99	
0.106	99	
0.075	12	

Fines By Dry Mass (%)	
<0.063mm	12

Sieve Size (mm)	Passing (%)	2mm+ By Dry Mass (%)
300		0
125		
90		
63		
50		
37.5		
28		
20		
14		
10		
6.3		
5	100	

Method of Preparation: BS1377: Part 1: 2016: 8.3 & 8.4.5
Method of test: BS1377: Part 2: 1990: 9.2,9.5
Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:



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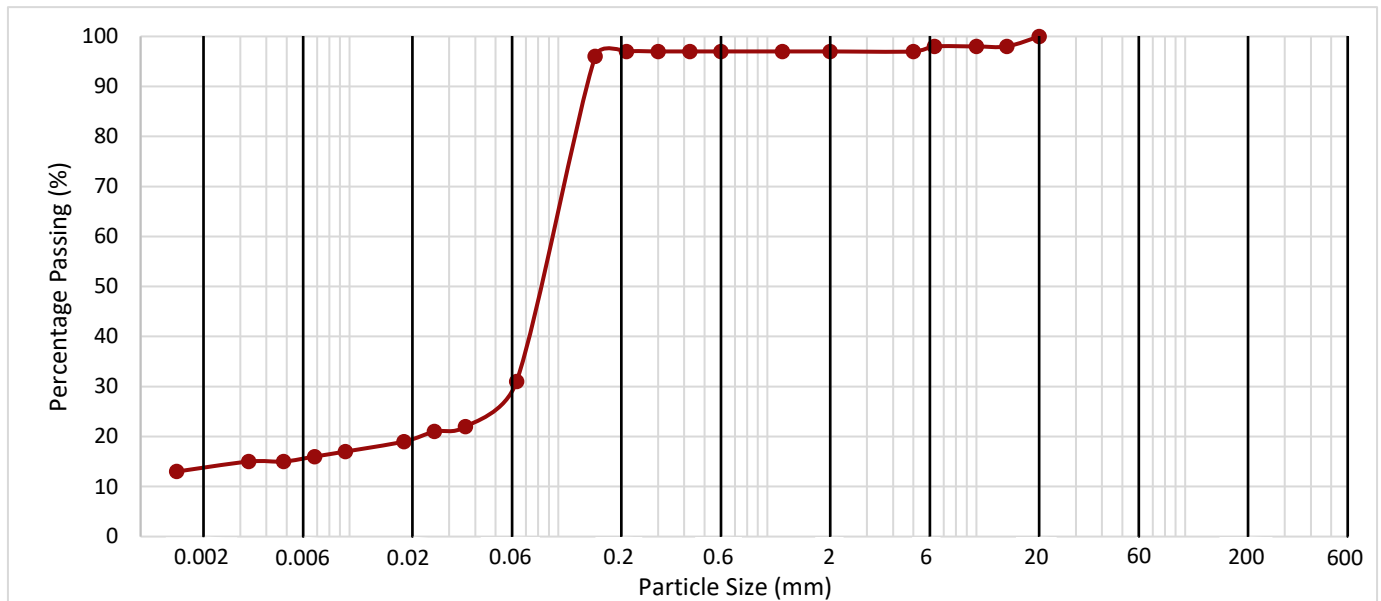


Contract	Havant
Serial No.	45476_1

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Pit No.	Depth (m)	Sample		Description	Remarks
		Type	Reference		
TP204	2.00	B	1	Dark yellowish brown slightly gravelly silty SAND with frequent soft dark yellowish brown and olive clay lumps. Gravel is brown, black and white subangular and subrounded chert	

Method of Test: **Wet Sieve + Hydrometer** Method of Pretreatment: **Not required**



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

H y d r o m e t e r	Particle Size (mm)	Passing (%)	Silt by Dry Mass (%)
	0.0359	22	17
	0.0255	21	
	0.0182	19	
	0.0096	17	Clay by Dry Mass (%)
	0.0068	16	
	0.0048	15	
	0.0033	15	
	0.0015	13	14

Sieve Size (mm)	Passing (%)	Sand By Dry Mass (%)
2.00	97	66
1.18	97	
0.600	97	
0.425	97	
0.300	97	
0.212	97	
0.150	96	
0.063	31	

Fines By Dry Mass (%)	
<0.063mm	31

Sieve Size (mm)	Passing (%)	2mm+ By Dry Mass (%)
300		3
125		
90		
63		
50		
37.5		
28		
20	100	
14	98	
10	98	
6.3	98	
5	97	

Method of Preparation: BS1377: Part 1: 2016: 8.3 & 8.4.5
 Method of test: BS1377: Part 2: 1990: 9.2,9.5
 Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
 Comments:



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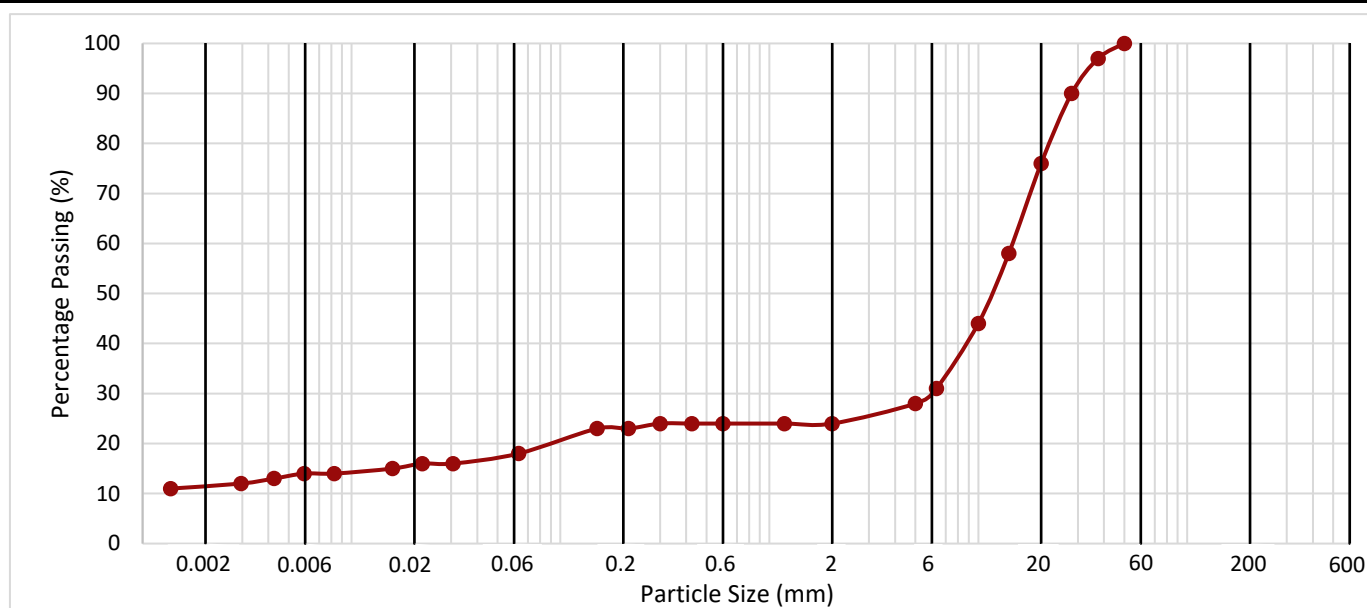


Contract	Havant
Serial No.	45476_1

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Pit No.	Depth (m)	Sample		Description	Remarks
		Type	Reference		
TP208	1.10	B	1	Black, brown and white rounded to subangular sandy silty clayey GRAVEL	

Method of Test: Wet Sieve + Hydrometer Method of Pretreatment: Not required



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

H y d r o m e t e r	Particle Size (mm)	Passing (%)	Silt by Dry Mass (%)
	0.0306	16	7
	0.0218	16	
	0.0157	15	
	0.0083	14	Clay by Dry Mass (%)
	0.0059	14	
	0.0043	13	
	0.0030	12	
	0.0014	11	11

Sieve Size (mm)	Passing (%)	Sand By Dry Mass (%)
2.00	24	6
1.18	24	
0.600	24	
0.425	24	
0.300	24	
0.212	23	
0.150	23	
0.063	18	

Fines By Dry Mass (%)	
<0.063mm	18

Sieve Size (mm)	Passing (%)	2mm+ By Dry Mass (%)
300		76
125		
90		
63		
50	100	
37.5	97	
28	90	
20	76	
14	58	
10	44	
6.3	31	
5	28	

Method of Preparation: BS1377: Part 1: 2016: 8.3 & 8.4.5
Method of test: BS1377: Part 2: 1990: 9.2,9.5
Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:



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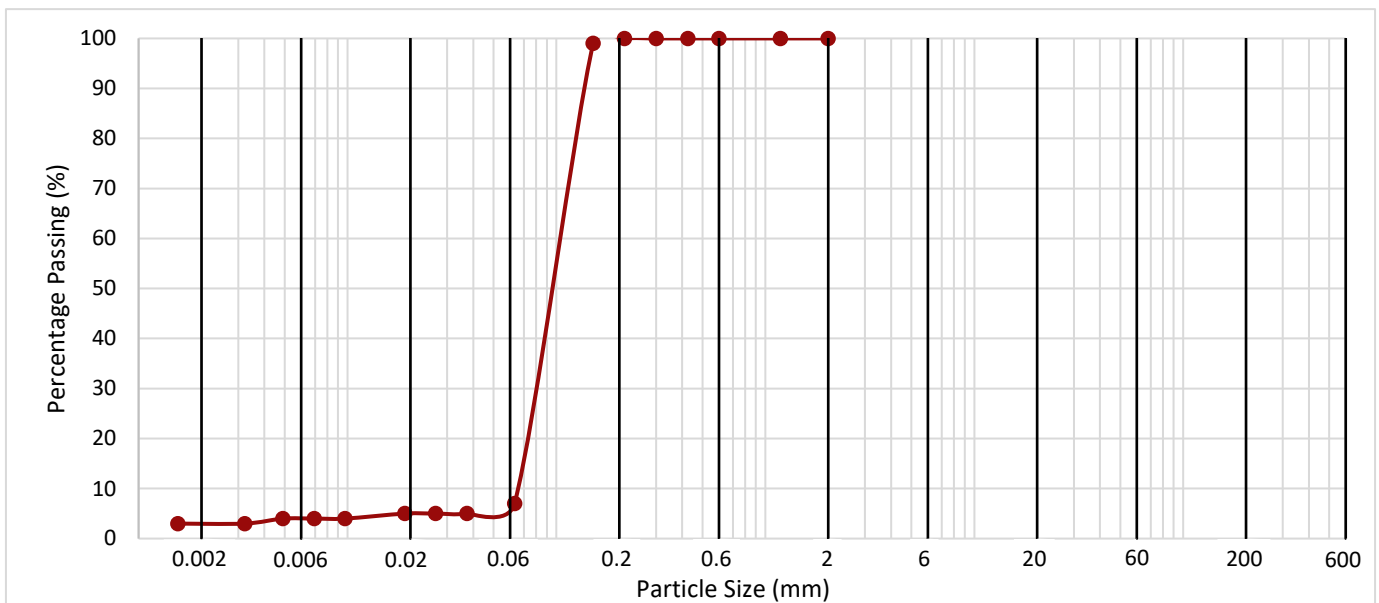


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Serial No.	45476_1

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Pit No.	Depth (m)	Sample		Description	Remarks
		Type	Reference		
TP211	2.00	B	1	Brownish yellow slightly clayey slightly silty SAND	

Method of Test: Hydrometer + Pre-sieve Method of Pretreatment: Not required



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

H y d r o m e t e r	Particle Size (mm)	Passing (%)	Silt by Dry Mass (%)
	0.0373	5	4
	0.0264	5	
	0.0188	5	
	0.0097	4	Clay by Dry Mass (%)
	0.0069	4	
	0.0049	4	
	0.0032	3	3
	0.0015	3	

Sieve Size (mm)	Passing (%)	Sand By Dry Mass (%)
2.00	100	93
1.18	100	
0.600	100	
0.425	100	
0.300	100	
0.212	100	
0.150	99	
0.106	99	
0.075	99	

Fines By Dry Mass (%)	
<0.063mm	7

Sieve Size (mm)	Passing (%)	2mm+ By Dry Mass (%)
300		0
125		
90		
63		
50		
37.5		
28		
20		
14		
10		
6.3		
5		

Method of Preparation: BS1377: Part 1: 2016: 8.3 & 8.4.5
Method of test: BS1377: Part 2: 1990: 9.2,9.5
Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:



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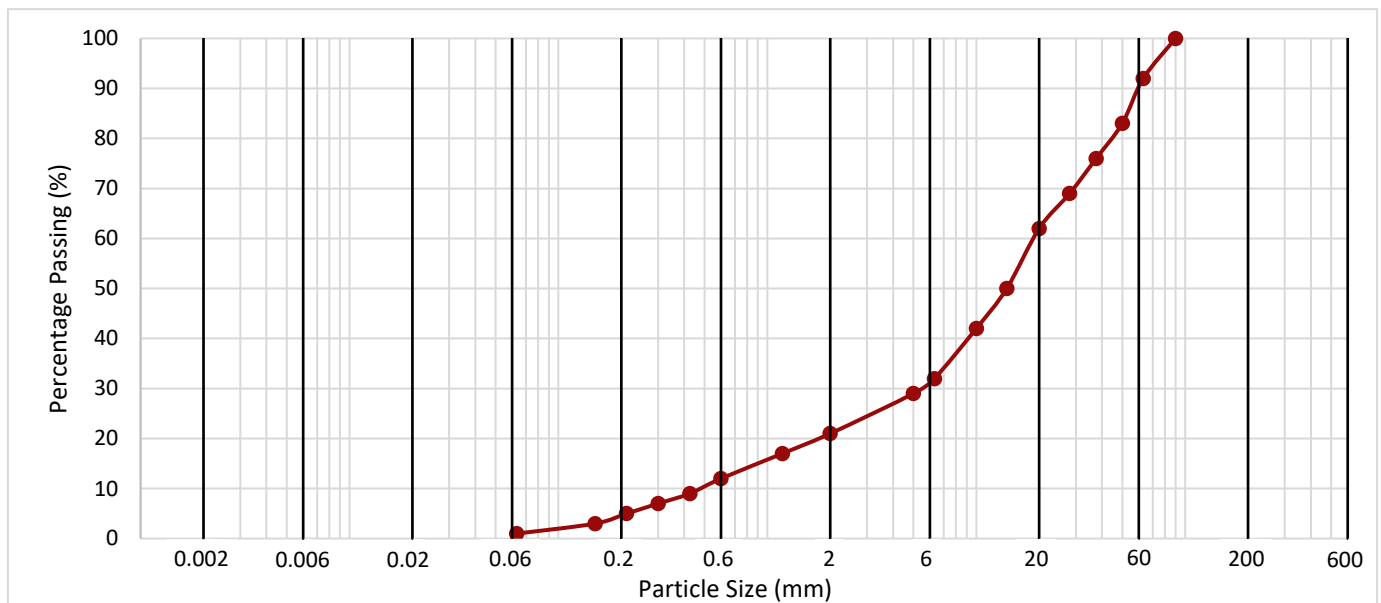
DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Pit No.	Depth (m)	Sample		Description	Remarks
		Type	Reference		
TP213		B	1	MADE GROUND comprising crushed concrete with rare wood, brick and paper fragments	Dry mass of sample required 35kg. Mass of sample submitted 20.077kg. Sample Unrepresentative BS1377:Part 2:1990 Table 3.

Method of Test: Wet Sieve

Method of Pretreatment:

Not required



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

H y d r o m e t e r	Particle Size (mm)	Passing (%)	Silt by Dry Mass (%)
	0.075		
	0.15		
	0.3		
	0.6		
	1.2		
	2.5		
	5.0		
			Clay by Dry Mass (%)
	0.075		
	0.15		
	0.3		
	0.6		
	1.2		
	2.5		
	5.0		

Sieve Size (mm)	Passing (%)	Sand By Dry Mass (%)
2.00	21	20
1.18	17	
0.600	12	
0.425	9	
0.300	7	
0.212	5	
0.150	3	
0.063	1	

Fines By Dry Mass (%)	
<0.063mm	1

Sieve Size (mm)	Passing (%)	2mm+ By Dry Mass (%)
300		79
125		
90	100	
63	92	
50	83	
37.5	76	
28	69	
20	62	
14	50	
10	42	
6.3	32	
5	29	

Method of Preparation: BS1377: Part 1: 2016: 8.3 & 8.4.5
Method of test: BS1377: Part 2: 1990: 9.2
Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:



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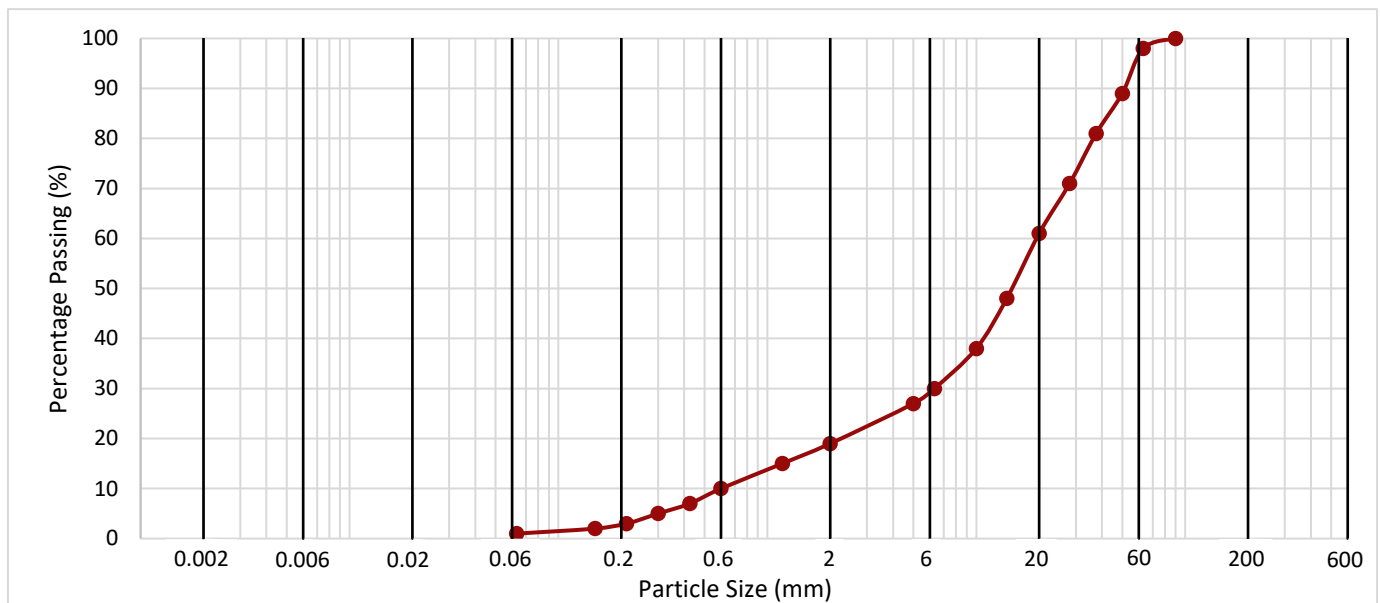
DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Pit No.	Depth (m)	Sample		Description	Remarks
		Type	Reference		
TP214		B	1	MADE GROUND comprising crushed concrete with rare wood, brick, plastic, glass, polystyrene, cable and paper fragments	Dry mass of sample required 35kg. Mass of sample submitted 19.113kg. Sample Unrepresentative BS1377:Part 2:1990 Table 3.

Method of Test: Wet Sieve

Method of Pretreatment:

Not required



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

H y d r o m e t e r	Particle Size (mm)	Passing (%)	Silt by Dry Mass (%)
	0.075		
	0.15		
	0.3		
	0.6		
	1.2		
	2.5		
	5.0		
			Clay by Dry Mass (%)
	0.075		
	0.15		
	0.3		
	0.6		
	1.2		
	2.5		
	5.0		

Sieve Size (mm)	Passing (%)	Sand By Dry Mass (%)
2.00	19	18
1.18	15	
0.600	10	
0.425	7	
0.300	5	
0.212	3	
0.150	2	
0.063	1	

Fines By Dry Mass (%)	
<0.063mm	1

Sieve Size (mm)	Passing (%)	2mm+ By Dry Mass (%)
300		81
125		
90	100	
63	98	
50	89	
37.5	81	
28	71	
20	61	
14	48	
10	38	
6.3	30	
5	27	

Method of Preparation: BS1377: Part 1: 2016: 8.3 & 8.4.5
Method of test: BS1377: Part 2: 1990: 9.2
Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:



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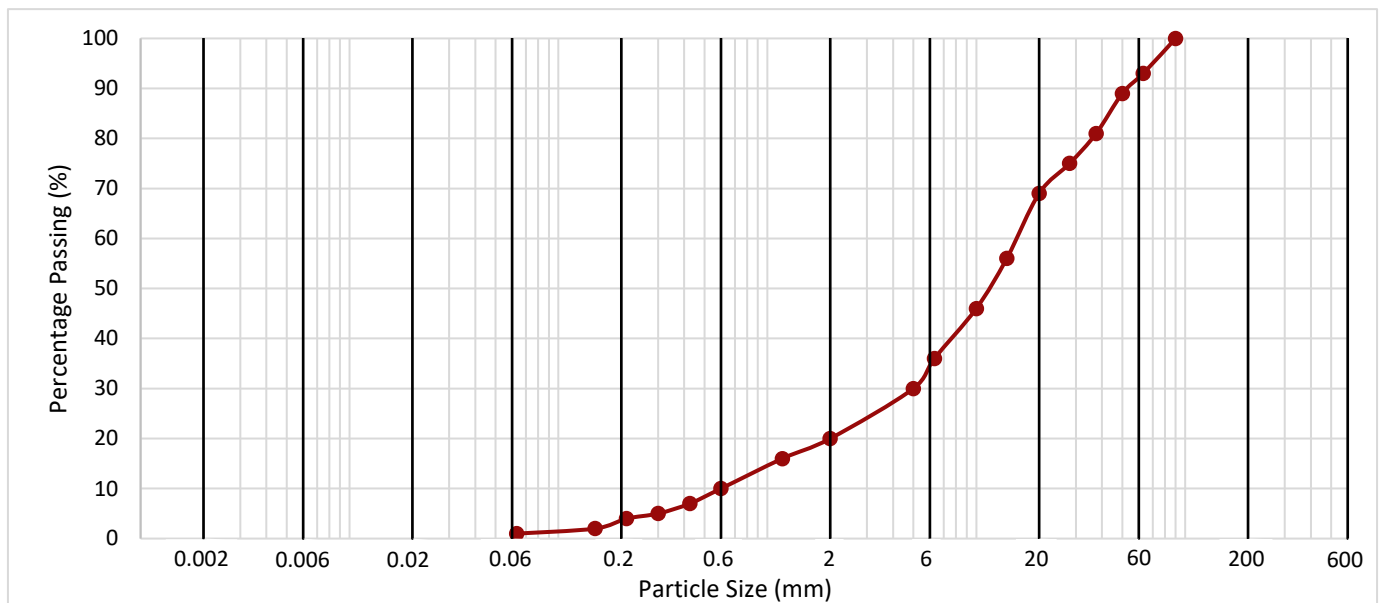
DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Pit No.	Depth (m)	Sample		Description	Remarks
		Type	Reference		
TP215		B	1	MADE GROUND comprising crushed concrete with occasional asphalt and rare wood, brick, plastic, foam and paper fragments	Dry mass of sample required 35kg. Mass of sample submitted 18.594kg. Sample Unrepresentative BS1377:Part 2:1990 Table 3.

Method of Test: Wet Sieve

Method of Pretreatment:

Not required



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

H y d r o m e t e r	Particle Size (mm)	Passing (%)	Silt by Dry Mass (%)
	0.075		
	0.15		
	0.3		
	0.6		
	1.18		
	2.0		
	4.75		
	Particle Size (mm)	Passing (%)	Clay by Dry Mass (%)
	0.075		
	0.15		
	0.3		
	0.6		
	1.18		
	2.0		
	4.75		

Sieve Size (mm)	Passing (%)	Sand By Dry Mass (%)
2.00	20	19
1.18	16	
0.600	10	
0.425	7	
0.300	5	
0.212	4	
0.150	2	
0.063	1	

Fines By Dry Mass (%)	
<0.063mm	1

Sieve Size (mm)	Passing (%)	2mm+ By Dry Mass (%)
300		80
125		
90	100	
63	93	
50	89	
37.5	81	
28	75	
20	69	
14	56	
10	46	
6.3	36	
5	30	

Method of Preparation: BS1377: Part 1: 2016: 8.3 & 8.4.5
Method of test: BS1377: Part 2: 1990: 9.2
Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:



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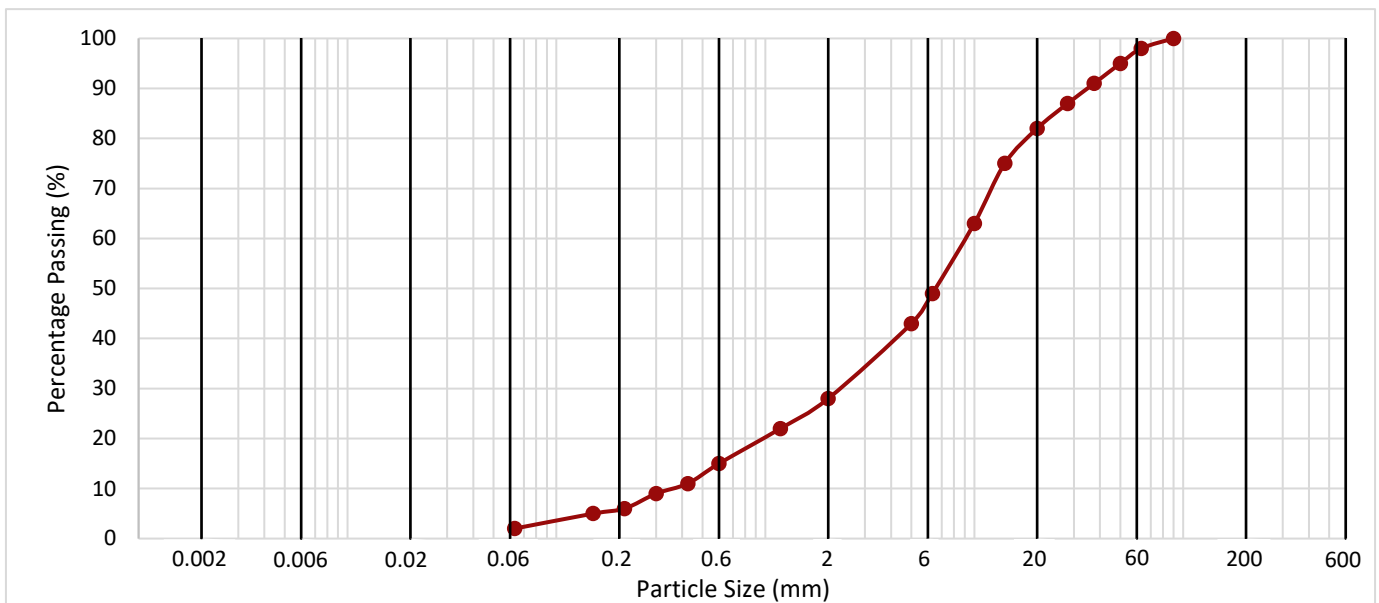
DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Pit No.	Depth (m)	Sample		Description	Remarks
		Type	Reference		
TP216		B	1	MADE GROUND comprising crushed concrete with rare ceramic, wood and plastic fragments	

Method of Test: Wet Sieve

Method of Pretreatment:

Not required



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

H y d r o m e t e r	Particle Size (mm)	Passing (%)	Silt by Dry Mass (%)
	0.075		
	0.15		
	0.25		
	0.425		
	0.6		
	0.85		
	1.18		
	Particle Size (mm)	Passing (%)	Clay by Dry Mass (%)
	0.075		
	0.15		
	0.25		
	0.425		
	0.6		
	0.85		
	1.18		

Sieve Size (mm)	Passing (%)	Sand By Dry Mass (%)
2.00	28	26
1.18	22	
0.600	15	
0.425	11	
0.300	9	
0.212	6	
0.150	5	
0.063	2	

Fines By Dry Mass (%)	
<0.063mm	2

Sieve Size (mm)	Passing (%)	2mm+ By Dry Mass (%)
300		72
125		
90	100	
63	98	
50	95	
37.5	91	
28	87	
20	82	
14	75	
10	63	
6.3	49	
5	43	

Method of Preparation: BS1377: Part 1: 2016: 8.3 & 8.4.5
Method of test: BS1377: Part 2: 1990: 9.2
Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments: