

Site Investigation Photograph 107	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: WS6.07.	

Site Investigation Photograph 108	
Date: 27/07/21	
Direction Photograph Taken: n/a.	
Description: WS6.06.	

Site Investigation Photograph 109	
Date: 29/07/21	
Direction Photograph Taken: n/a.	
Description: WS6.03.	

Site Investigation Photograph 110	
Date: 10/08/21	
Direction Photograph Taken: n/a.	
Description: Wooden post installed next to monitoring wells.	

Site Investigation Photograph 111	
Date: 10/08/21	
Direction Photograph Taken: n/a.	
Description: Wooden post installed next to monitoring wells.	

Site Investigation Photograph 112	
Date: 26/08/21	
Direction Photograph Taken: n/a.	
Description: HP7.01 excavated to 1.00m bgl.	

Method: Cable Percussion

Date(s): 23/08/2021

Logged By: SR

Drilled By: SEDS

Client: Portsmouth City Council

Co-ords: 469818.80, 109068.53

Checked By: DP

Flush:

Hydrock Project No: 19453

Ground Level: 23.34m OD

Scale: 1:50

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Depth (m)	Type	Results							
0.40	B			Pink and grey silty fine to coarse SAND and fine to coarse angular to subangular GRAVEL of limestone and brick (MADE GROUND - SURFACE COVERING)	0.10	(0.10)	23.24		
0.40	ES			Orangish brown clayey silty fine to coarse SAND with rare fine to coarse flint and brick gravel. Rare glass fragments. (MADE GROUND)	0.60	(0.50)	22.74		
1.00	B			Stiff orangish brown mottled grey silty sandy CLAY. Sand is fine to medium. Rare remnant rootlets. (LONDON CLAY FORMATION (WEATHERED))	1				
1.00	ES								
1.50	SPT	N=5 (1,0,1,1,1,2)							
1.50	D					(2.10)			
2.00	D				2				
2.50 - 2.95	U								
					2.70		20.64		
3.00	D			Pale greenish grey mottled orange mottled brown and occasionally dark brown clayey fine and medium SAND. Frequent pockets of stiff brown mottled grey sandy Clay. (LONDON CLAY FORMATION (WEATHERED))	3				
3.50	SPT	N=41 (3,6,7,9,12,13)			3.50		19.84		
3.50	D			Brown mottled dark grey clayey fine and medium SAND. Frequent pockets of stiff brown mottled grey and orange sandy Clay. (LONDON CLAY FORMATION)	4				
4.00	D								
4.50	SPT	N=46 (5,9,11,12,11,12)				(1.90)			
4.50	D				5				
5.50 - 6.00	B			Dark grey clayey silty fine and medium SAND. (LONDON CLAY FORMATION)	5.40		17.94		
6.00	SPT	N=23 (3,5,6,5,6,6)			6				
6.00	D					(1.30)			
					6.70		16.64		
7.00	D			Dark grey MUDSTONE (LONDON CLAY FORMATION)	7				
				Stiff to very stiff dark brownish grey silty CLAY with rare shell fragments. (LONDON CLAY FORMATION)	7.00	(0.30)	16.34		
7.50	U								
7.50 - 8.00	B								
					8				
8.50	D								
9.00	SPT	N=25 (3,5,5,6,6,8)			9				
9.00	D								
10.00	D				10				

Progress and Observations

Chiselling

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 5.00m and 6.90m bgl. 3. Monitoring well installed at 10.00m bgl.

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)



Method: Cable Percussion	Date(s): 23/08/2021	Logged By: SR	Drilled By: SEDS
Client: Portsmouth City Council	Co-ords: 469818.80, 109068.53	Checked By: DP	Flush:
Hydrock Project No: 19453	Ground Level: 23.34m OD		Scale: 1:50

Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Depth (m)	Type	Results							
10.50 - 10.80	U			Stiff to very stiff dark brownish grey silty CLAY with rare shell fragments. (LONDON CLAY FORMATION)					
10.85	D								
					11				
11.50	D								
12.00	SPT	N=29 (4,5,6,7,7,9)			12				
12.00	D								
					13				
13.50 - 13.75	U								
13.80	D					(13.45)			
					14				
14.50	D								
15.00	SPT	N=33 (5,7,7,8,8,10)			15				
15.00	D								
16.00	D				16				
16.50 - 16.80	U								
16.85	D				17				
17.50	D								
18.00	SPT	N=44 (7,9,9,11,11,13)			18				
18.00	D								
19.00	D				19				
19.50 - 19.80	U								
19.85	D				20				

Progress and Observations									Chiselling			General Remarks:
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	
												1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 5.00m and 6.90m bgl. 3. Monitoring well installed at 10.00m bgl.



Method: Cable Percussion	Date(s): 23/08/2021	Logged By: SR	Drilled By: SEDS
Client: Portsmouth City Council	Co-ords: 469818.80, 109068.53	Checked By: DP	Flush:
Hydrock Project No: 19453	Ground Level: 23.34m OD		Scale: 1:50

Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Depth (m)	Type	Results							
				Stiff to very stiff dark brownish grey silty CLAY with rare shell fragments. (LONDON CLAY FORMATION)	20.45		2.89		
				End of Borehole at 20.45m					
					21				
					22				
					23				
					24				
					25				
					26				
					27				
					28				
					29				
					30				

Progress and Observations									Chiselling			General Remarks: 1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 5.00m and 6.90m bgl. 3. Monitoring well installed at 10.00m bgl.
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	

Checked By: DP

Dimensions:	Scale:
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1:25

[illegible]

Method: Trial Pit	Date(s): 23/07/2021	Logged By: DP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 469863.80, 109113.47	Stability: Stable	Dimensions: 3.70m
Hydrock Project No: 19453	Ground Level: 24.78m OD	Plant: KUBOTA KX080-40	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.25	ES			Grass over reddish grey, silty, sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone aggregates. (MADE GROUND - SURFACE COVERING) Orangish brown, silty, fine SAND very weakly cemented with rare calcite crystal. (MADE GROUND)	0.17	(0.17)	24.61	
0.75	B			Light grey and orange, silty fine SAND with a slight sea/salty odour and locally ferreous staining. (BOGNOR SAND MEMBER)	0.65	(0.48)	24.13	
1.50	D				1	(1.65)		
2.00	D				2			
2.50	B			Blueish grey/dark grey, very silty, fine SAND or friable sandy SILT with occasional orange staining/partings. (LONDON CLAY FORMATION)	2.30		22.48	
3.50	D			... At 3.40m bgl occasional damp pockets of sandy silt. Base of Excavation at 3.50m	3.50	(1.20)	21.28	
					4			
					5			

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

[illegible]

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

<div><div></div></div>			Project: Dunsbury Park			Trialpit No TP1.04 Page No. 1 of 1		
Method: Trial Pit			Date(s): 23/07/2021		Logged By: DP		Checked By: DP	
Client: Portsmouth City Council			Co-ords: 469815.28, 109021.05		Stability: Stable		Dimensions: Scale:	
Hydrock Project No: 19453			Ground Level: 22.94m OD		Plant: KUBOTA KX080-40		0.60m 3.50m 1:25	
Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.45 0.50	ES B			Grass over reddish grey, silty, sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone aggregates. (MADE GROUND - SURFACE COVERING)	0.18	(0.18)	22.76	
1.20	D			Orangish brown, silty, fine SAND very weakly cemented with occasional subangular to subrounded fine to coarse rare gravel of limestone aggregates; rare brick fragments; a single piece of fibrous material (possible glass fibres or asbestos) and occasional glass and tile fragments. (MADE GROUND)	1	(1.82)		
1.50	ES							
2.00	B			Orangish brown, silty, gravelly, fine SAND with rare cobble of flint. Gravel is rounded to subangular fine to coarse of flint, limestone aggregates, bricks and tiles fragments. (MADE GROUND)	2	(0.40)	20.94	
2.60 2.60	D HSV	42kPa		Greyish brown, silty, fine SAND with organic dark grey silt/clay pockets. Possible old natural surface. (BOGNOR SAND MEMBER)	2.40 2.50	(0.10)	20.54 20.44	
3.00	HSV	51kPa		Soft, greyish brown, slightly gravelly, silty sandy CLAY. Gravel is subrounded to well rounded medium to coarse of flint. (LONDON CLAY FORMATION)	3	(1.00)		
3.50 3.50	B HSV	73kPa		Base of Excavation at 3.50m	3.50		19.44	
					4			
					5			
<div>General Remarks:</div> <div>1. No groundwater encountered. 2. Backfilled with arisings.</div>								
Logged in general accordance with BS5930:2015								

Method: Dynamic (Windowless) Sampler

Date(s): 26/07/2021

Logged By: LC

Drilled By: Impact Geotechnical

Client: Portsmouth City Council

Co-ords: 469838.41, 109101.78

Checked By: DP

Rig: Terrier

Hydrock Project No: 19453

Ground Level: 24.45m OD

Scale: 1:30

Sample Run Info			Testing			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill	
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results								
1.00 - 2.00		100%	0.50	ES	N=22 (3,4,4,6,6,6)		Reddish brown, gravelly, fine to coarse SAND. Gravel is subangular to angular fine to coarse of ballast/aggregate. (MADE GROUND - SURFACE COVERING) Light brown, gravelly, fine to medium SAND. (MADE GROUND)	0.10	(0.10)	24.35			
			0.50 - 0.70	B					(0.60)				
			0.70 - 1.00						0.70				23.75
			1.20	SPT					1	(0.50)			
2.00 - 3.00		100%	1.50	ES	N=15 (2,3,4,4,4,3)		Orange brown, slightly clayey, fine to medium SAND with occasional patches of light grey and dark orange coloured sand. (BOGNOR SAND MEMBER)	1.20		23.25			
			1.50 - 2.00	B									
3.00 - 4.00		85%	2.00	SPT	N=8 (2,2,2,2,2,2)		Very soft, brown and grey mottled orange, very sandy CLAY. Sand is fine to medium. (LONDON CLAY FORMATION (WEATHERED)) Soft to firm, dark grey, sandy CLAY. Sand is fine. (LONDON CLAY FORMATION)	3.00		21.45			
			3.20	D					3.10	(0.10)			21.35
4.00 - 5.00		85%	4.00	SPT	N=12 (2,2,3,3,3,3)			4					
			5.00	SPT				N=23 (3,4,4,6,6,7)					
5.00	D												
End of Borehole at 5.45m								5.45		19.00			

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 3.50m bgl. 3. Monitoring well installed to 5.0m bgl.

Method: Dynamic (Windowless) Sampler

Date(s): 26/07/2021

Logged By: LC

Drilled By: Impact Geotechnical

Client: Portsmouth City Council

Co-ords: 469805.37, 109031.94

Checked By: DP

Rig: Terrier

Hydrock Project No: 19453

Ground Level: 23.04m OD

Scale: 1:30

Sample Run Info			Testing			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results							
1.00 - 2.00		100%	0.50 0.50 - 1.00	ES B	N=25 (3,4,4,5,8,8)		Brown, sandy, gravelly CLAY (wet) with occasional rootlets. Gravel is subangular fine to coarse of ballast/aggregate. Sand is fine to medium. (MADE GROUND)	0.30	(0.30)	22.74		
							Orange brown, slightly silty, clayey, gravelly, fine to medium SAND with rare pockets of grey clay. Gravel is subangular fine to coarse of flint and redbrick. (MADE GROUND)	1.00	(0.70)			
			1.20	SPT			Soft, orange brown, slightly silty, sandy, friable CLAY with rare subangular to subrounded fine to medium gravel of flint. Sand is fine to medium. (MADE GROUND)			1.35	(0.35)	
			1.50	ES			Brown, slightly clayey, silty, fine to medium SAND with rare rootlets and occasional subangular fine to medium gravel of flint, red brick and peat. (MADE GROUND)	2.00	(0.65)	21.04		
2.00 - 3.00	100%	2.00	SPT	N=12 (3,3,3,3,3,3)	Soft becoming firm, brownish grey, slightly silty, sandy CLAY with rare subangular fine to medium gravel. (LONDON CLAY FORMATION (WEATHERED))	3.00	(1.00)				20.04	
3.00 - 4.00		75%	3.00	SPT	N=11 (1,1,2,2,3,4)			... At 2.75m bgl becoming mottled orange. ... At 2.90m bgl becoming grey.	4.50	(1.50)		
	3.00		D	51kPa	Soft to firm, brownish grey mottled orange CLAY. (LONDON CLAY FORMATION (WEATHERED))							
	3.00		HSV									
4.00 - 5.00		70%	4.00	SPT	N=8 (0,1,2,1,2,3)							
			4.00	HSV	51kPa							
			4.50	HSV	60kPa							
			5.00	SPT	N=55 (2,8,11,14,15,15)							
5.00	D											
End of Borehole at 5.45m								5.45		17.59		
								6				

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. No groundwater encountered. 3. Borehole backfilled with arisings.

Method: Cable Percussion

Date(s): 24/08/2021

Logged By: SR

Drilled By: SEDS

Client: Portsmouth City Council

Co-ords: 469979.27, 109420.13

Checked By: DP

Flush:

Hydrock Project No: 19453

Ground Level: 36.66m OD

Scale: 1:50

Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Depth (m)	Type	Results							
0.50 0.50 - 1.00	B ES			Pink and grey silty fine to coarse SAND and fine to coarse angular to subangular GRAVEL of limestone and brick (MADE GROUND - SURFACE COVERING) Soft to firm orange mottled grey sandy CLAY/SILT with rare fine and medium siltstone and sandstone gravel. (MADE GROUND)	0.10 (0.10)		36.56		
1.50 1.50	SPT D	N=8 (1,1,2,2,2,2)		Soft to firm orange mottled grey sandy CLAY/SILT. (LONDON CLAY FORMATION (WEATHERED))	1.50 (0.50)		35.16		
2.00 2.00 - 2.50	D ES			Stiff dark grey slightly sandy silty CLAY with rare 2-10mm lenses of orange clayey fine to medium SAND (LONDON CLAY FORMATION)	2.00		34.66		
2.50 2.50 - 2.95	SPT D	N=11 (1,2,2,3,3,3)							
3.00	D			... At 3.00m bgl occasional shell fragments.	3				
3.50 - 3.95	U								
4.00	D				4				
4.50 4.50 - 4.95	SPT D	N=23 (2,3,4,6,6,7)							
5.00	D				5				
5.50 - 5.95	U								
6.00	D				6				
7.00 7.00 - 7.45	SPT D	N=26 (3,4,5,6,7,8)							
8.00	D				8				
8.50 - 8.95	U								
9.00	D				9				
					10				

Progress and Observations

Chiselling

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 5.80m and 11.30m bgl. 3. Borehole backfilled with arisings.

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)

Method: Cable Percussion

Date(s): 24/08/2021

Logged By: SR

Drilled By: SEDS

Client: Portsmouth City Council

Co-ords: 469979.27, 109420.13

Checked By: DP

Flush:

Hydrock Project No: 19453

Ground Level: 36.66m OD

Scale: 1:50

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation station / Backfill
Depth (m)	Type	Results							
10.00	SPT	N=24 (3,4,5,5,6,8)		Stiff dark grey slightly sandy silty CLAY with rare 2-10mm lenses of orange clayey fine to medium SAND (LONDON CLAY FORMATION)					
10.00 - 10.45	D								
11.00	D		▼		11.00		25.66		
11.50 - 11.95	U		☒	Firm to stiff, dark grey CLAY. (LONDON CLAY FORMATION)					
12.00	D				12				
13.00	SPT	N=31 (3,5,6,7,9,9)			13				
13.00 - 13.45	D								
14.00	D				14				
14.50 - 14.95	D								
15.00	D				15				
16.00	SPT	N=35 (4,7,8,8,9,10)			16		(9.45)		
16.00 - 16.45	D								
17.00	D				17				
17.50 - 17.95	U								
18.00	D				18				
					19				
					20				

Progress and Observations

Chiselling

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 5.80m and 11.30m bgl. 3. Borehole backfilled with arisings.

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)

<div></div>							Project: Dunsbury Park					Borehole No BH4.01					
												Page No. 3 of 3					
Method: Cable Percussion							Date(s): 24/08/2021					Logged By: SR			Drilled By: SEDS		
Client: Portsmouth City Council							Co-ords: 469979.27, 109420.13					Checked By: DP			Flush:		
Hydrock Project No: 19453							Ground Level: 36.66m OD								Scale: 1:50		
Samples / Tests						Water- Strikes	Stratum Description						Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Depth (m)	Type	Results															
20.00	SPT	N=44				Firm to stiff, dark grey CLAY. (LONDON CLAY FORMATION)						20.45		16.21			
20.00 - 20.45	D	(5,8,10,11,11,12)															
						End of Borehole at 20.45m											
												20.45					
												21					
												22					
												23					
												24					
												25					
												26					
												27					
												28					
												29					
												30					

Progress and Observations										Chiselling			General Remarks: 1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 5.80m and 11.30m bgl. 3. Borehole backfilled with arisings.
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)		

Method: Cable Percussion

Date(s): 23/08/2021

Logged By: SR

Drilled By: SEDS

Client: Portsmouth City Council

Co-ords: 470017.04, 109305.31

Checked By: DP

Flush:

Hydrock Project No: 19453

Ground Level: 32.55m OD

Scale: 1:50

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Depth (m)	Type	Results							
0.50 0.50 - 1.00	B ES			Pink and grey silty fine to coarse SAND and fine to coarse angular to subangular GRAVEL of limestone and brick (MADE GROUND - SURFACE COVERING) Orangish brown silty gravelly fine to coarse SAND with low cobble content. Gravel and cobbles are angular to subangular of siltstone/sandstone. (MADE GROUND)	0.10 (0.10)		32.45		
1.00	D				1	(1.40)			
1.50	SPT	N=10 (1,2,2,3,2,3)			1.50		31.05		
1.50 - 2.00 2.00	D ES D			Dark grey occasionally mottled orange clayey fine and medium SAND. (BOGNOR SAND MEMBER)	2	(1.00)			
2.50	SPT	N=10 (1,2,2,2,3,3)			2.50		30.05		
2.50 - 2.95 3.00	D D			Stiff dark grey slightly sandy silty CLAY (LONDON CLAY FORMATION)	3				
3.50 - 3.95	U				4				
4.00	D				5				
4.50	SPT	N=16 (2,3,3,4,4,5)			6	(4.50)			
4.50 - 4.95 5.00	D D				7				
5.50 - 5.95	U				8				
6.00	D				9				
7.00	SPT	N=20 (2,3,4,5,5,6)			10				
7.00 - 7.45	D			Stiff dark bluish grey silty CLAY. (LONDON CLAY FORMATION)	7.00		25.55		
8.00	D				8				
8.50 - 8.95 8.50 - 9.00	U B				9	(4.40)			
					10				

Progress and Observations

Chiselling

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.60m and 11.30m bgl. 3. Monitoring well installed at 10.00m bgl.

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)

Method: Cable Percussion

Date(s): 23/08/2021

Logged By: SR

Drilled By: SEDS

Client: Portsmouth City Council

Co-ords: 470017.04, 109305.31

Checked By: DP

Flush:

Hydrock Project No: 19453

Ground Level: 32.55m OD

Scale: 1:50

Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Depth (m)	Type	Results							
10.00	SPT	N=21 (2,3,4,5,6,6)		Stiff dark bluish grey silty CLAY. (LONDON CLAY FORMATION) ... From 10.00m bgl rare shell fragments.	10.00 - 10.45				
10.00 - 10.45	D								
11.00	D			Firm to stiff grey CLAY. (LONDON CLAY FORMATION)	11.00 - 11.40		21.15		
11.50 - 11.95	U								
12.00	D				12.00 - 12.45				
13.00	SPT	N=30 (2,4,6,7,8,9)							
13.00 - 13.45	D				13.00 - 13.45				
14.00	D								
14.50 - 14.95	D				14.50 - 14.95				
15.00	D								
16.00	SPT	N=35 (3,7,8,8,9,10)			16.00 - 16.45		(9.05)		
16.00 - 16.45	D								
17.00	D				17.00 - 17.45				
17.50 - 17.95	D								
18.00	D				18.00 - 18.45				
18.00 - 18.45	D								
19.00					19.00 - 19.45				
19.00 - 19.45									
20.00					20.00 - 20.45				
20.00 - 20.45									

Progress and Observations

Chiselling

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.60m and 11.30m bgl. 3. Monitoring well installed at 10.00m bgl.

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)

							Project: Dunsbury Park					Borehole No BH4.02 Page No. 3 of 3				
Method: Cable Percussion							Date(s): 23/08/2021			Logged By: SR			Drilled By: SEDS			
Client: Portsmouth City Council							Co-ords: 470017.04, 109305.31			Checked By: DP			Flush:			
Hydrock Project No: 19453							Ground Level: 32.55m OD						Scale: 1:50			
Samples / Tests						Water- Strikes	Stratum Description					Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Depth (m)	Type	Results														
20.00	SPT	N=40		Firm to stiff grey CLAY. (LONDON CLAY FORMATION)					20.45		12.10					
20.00 - 20.45	D	(4,8,9,10,10,11)														
End of Borehole at 20.45m																
21																
22																
23																
24																
25																
26																
27																
28																
29																
30																
Progress and Observations									Chiselling			General Remarks: 1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.60m and 11.30m bgl. 3. Monitoring well installed at 10.00m bgl.				
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)					

<div></div>			Project: Dunsbury Park			Trialpit No TP4.01 Page No. 1 of 1			
Method: Trial Pit			Date(s): 21/07/2021		Logged By: DP		Checked By: DP		
Client: Portsmouth City Council			Co-ords: 469973.44, 109439.08		Stability: Stable		Dimensions: 3.80m		Scale: 1:25
Hydrock Project No: 19453			Ground Level: 36.60m OD		Plant: ZAXIS 130LCN		0.60m		
Samples / Tests			Water- Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	
Depth (m)	Type	Results							
0.10	ES			Reddish grey, silty, sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone aggregates. (MADE GROUND - SURFACE COVERING)	0.18	(0.18)	36.42		
0.60	B			Stiff, orangish brown, sandy SILT. Sand is fine. (MADE GROUND)	0.55	(0.37)	36.05		
1.20 1.20	D HSV	48kPa		Greyish brown mottled orangish brown, sandy SILT/CLAY. (LONDON CLAY FORMATION (WEATHERED))	1.95	(1.40)	34.65		
2.50 2.50	D HSV	84kPa		Firm to stiff, blueish, slightly sandy to sandy, silty CLAY with rare orange staining. (LONDON CLAY FORMATION)	2.90	(0.95)	33.70		
2.90	B			... At 2.70m bgl elongate fossil.					
				Base of Excavation at 2.90m					
General Remarks: 1. Slow groundwater seepage at 2.20m bgl. 2. Backfilled with 20mm gravel to 1.90m bgl and pipework for infiltration testing.									

Method: Trial Pit

Date(s): 22/07/2021

Logged By: DP

Checked By: DP

Client: Portsmouth City Council

Co-ords: 470077.40, 109396.82

Stability: Stable

Dimensions:

Scale:

Hydrock Project No: 19453

Ground Level: 36.86m OD

Plant: ZAXIS 130LCN

0.60m 3.50m

1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.25	ES			Greyish yellow and reddish grey, silty, sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone aggregates. (MADE GROUND - SURFACE COVERING)	0.12	(0.12)	36.74	
0.50 0.50	B HSV	61kPa		Soft to firm, orangish brown mottled greyish brown and light grey, sandy to very sandy SILT with laminations of fine silt. (LONDON CLAY FORMATION (WEATHERED)) ... At 0.60m bgl becoming soft.		(1.33)		
1.00 1.00	D HSV	42kPa			1			
1.50 1.50	B HSV	73kPa		Greyish brown mottled orangish brown and grey, silty, sandy CLAY with occasional roots. (LONDON CLAY FORMATION (WEATHERED))	1.45		35.41	
2.00	D				2	(0.85)		
2.50 2.50	B HSV	108kPa		Stiff, blueish grey to dark grey, sandy SILT with occasional orange brown staining, locally abundant and occasional off white shell fragments. Sand is fine. (LONDON CLAY FORMATION)	2.30		34.56	
3.10	D				3	(1.20)		
					3.50		33.36	
				Base of Excavation at 3.50m				
					4			
					5			

General Remarks:

1. No groundwater encountered. 2. Backfilled with arisings.

Method: Trial Pit

Date(s): 22/07/2021

Logged By: DP

Checked By: DP

Client: Portsmouth City Council

Co-ords: 469959.66, 109355.61

Stability: Stable

Dimensions:

Scale:

Hydrock Project No: 19453

Ground Level: 36.88m OD

Plant: ZAXIS 130LCN

0.60m

1:25

Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.05	ES			Reddish grey, silty, sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone aggregates. (MADE GROUND - SURFACE COVERING)	0.10	(0.10)	36.78	
0.30	B			Very stiff, sandy SILT with occasional rounded gravel of flint and limestone aggregates. Lumps can be broken by hand but non-plastic. (MADE GROUND)		(0.60)		
0.40	ES				0.70		36.18	
0.80	B			Orangish brown to grey brown, silty fine SAND. (MADE GROUND)	1	(0.45)		
1.30	D			Greyish brown, silty, fine SAND with occasional dark grey organic matter pockets and relic organic fragments (possible horizon below strip/ incomplete strip before earthworks). Locally lenses of laminated light grey and orangish brown, silty sand and sandy clay. (BOGNOR SAND MEMBER)	1.15		35.73	
1.80	B				2			
2.50	D			Dark grey, silty, fine SAND with occasional well rounded fine to coarse gravel of flint. (BOGNOR SAND MEMBER)	2.20		34.68	
3.20	D			Light grey mottled orangish brown, clayey, silty fine SAND. (BOGNOR SAND MEMBER)	3		33.88	
					3.00	(0.80)		
					3.50	(0.50)	33.38	
				Base of Excavation at 3.50m				
					4			
					5			

General Remarks:

1. No groundwater encountered. 2. Backfilled with arisings.

Method: Trial Pit	Date(s): 23/07/2021	Logged By: DP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470019.87, 109342.75	Stability: Stable	Dimensions: 3.50m
Hydrock Project No: 19453	Ground Level: 36.41m OD	Plant: ZAXIS 130LCN	0.60m <input type="text"/> 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.20	ES			Grass over reddish grey, silty, sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone aggregates. (MADE GROUND - SURFACE COVERING)	0.10	(0.10)	36.31	
0.50	B			Stiff, very sandy SILT or silty fine SAND. Sand is fine. (MADE GROUND)		(0.50)		
					0.60		35.81	
1.20	D			Orangish brown and greyish brown, silty, fine SAND. Locally rare to occasional well rounded fine to medium gravel of flint. (MADE GROUND)	1	(1.20)		
					1.80		34.61	
2.00	D			Orangish brown and greyish brown, silty, fine SAND with rare dark grey clay pockets/ partings (possible organic remains). (BOGNOR SAND MEMBER)	2	(0.50)		
					2.30		34.11	
2.50	B			Light grey mottled orange brown, silty, fine SAND with a slight sea/salty odour. (BOGNOR SAND MEMBER)		(0.90)		
3.00	D				3			
					3.20		33.21	
Base of Excavation at 3.20m								
					4			
					5			

General Remarks:

1. No groundwater encountered. 2. Backfilled with arisings.

Checked By: DP

Dimensions:	Scale:
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Diagram of a rectangular box with dimensions 0.60m by 3.50m and a scale of 1:25.

General Remarks:

1. Slow groundwater seepage at 2.90m bgl. 2. Backfilled with arisings.

Logged in general accordance with BS930:2011

Checked By: DP

Dimensions:	Scale:
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0.60m 2.70m 1:25

[illegible]

Method: Hand-dug Pit

Date(s): 28/07/2021

Logged By: YP

Checked By: DP

Client: Portsmouth City Council

Co-ords: 470104.50, 109262.98

Stability:

Dimensions:

Scale:

Hydrock Project No: 19453

Ground Level: 32.60m OD

Plant: Hand dug pit

m

1:10

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.30	ES			Soft (wet) light brown, sandy SILT with frequent roots and rootlets. (MADE GROUND)	0.05	(0.05)	32.55	
				Pinkish brown, sandy subangular medium to coarse GRAVEL of limestone aggregates. (MADE GROUND)	0.15	(0.10)	32.45	
				Very compacted, yellowish brown, fine SAND (possible soil stabilizer added). (MADE GROUND)				
0.70	B					(0.65)		
					0.80		31.80	
Base of Excavation at 0.80m								
					1			
					2			

General Remarks:

1. Inspection hand pit excavated to 0.80m bgl. 2. Mechanical excavation was not possible due to access restrictions. 3. Hand pit terminated at 0.80m bgl due to hardness of strata. 4. Hand pit backfilled with arisings.

Method: Dynamic (Windowless) Sampler

Date(s): 27/07/2021

Logged By: LC

Drilled By: Impact Geotechnical

Client: Portsmouth City Council

Co-ords: 470051.45, 109458.59

Checked By: DP

Rig: Terrier

Hydrock Project No: 19453

Ground Level: 36.63m OD

Scale: 1:30

Sample Run Info			Testing			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results							
0.00 - 1.00		100%	0.15 - 0.30 0.20	B ES			Reddish brown, slightly clayey, slightly sandy GRAVEL with occasional rootlets. Gravel is subangular to angular fine to coarse of ballast/aggregate. (MADE GROUND - SURFACE COVERING)	0.15 (0.15)		36.48		
			0.60	ES			Grey brown, slightly clayey, sandy, friable GRAVEL. Sand is fine to medium. (MADE GROUND)	0.30 (0.15)		36.33		
			0.80 - 1.00	B			Dark grey, slightly clayey, fine to medium SAND with rare shell fragments. (LONDON CLAY FORMATION)	(0.70)				
1.00 - 2.00		100%	1.00	SPT	N=14 (2,3,3,4,3,4)		Dark grey, sandy CLAY. Sand is fine to medium. (LONDON CLAY FORMATION)	1.00		35.63		
										(0.55)		
							Dark grey, clayey, fine SAND. (LONDON CLAY FORMATION) ... Between 1.55m to 1.80m bgl abundant shell fragments.	1.55		35.08		
2.00 - 3.00		100%	2.00	SPT	N=19 (2,4,4,5,5,5)		Dark grey, sandy to very sandy CLAY. Sand is fine. (LONDON CLAY FORMATION)	2.00		34.63		
			2.50	B								
3.00 - 4.00		100%	3.00	SPT	N=27 (3,4,5,7,7,8)			3				
										(3.45)		
4.00 - 5.00		90%	4.00	SPT	N=28 (3,5,5,6,8,9)			4				
			5.00	SPT	N=25 (3,4,5,6,7,7)			5				
			5.00	B								
							End of Borehole at 5.45m	5.45		31.18		
								6				

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. No groundwater encountered. 3. Borehole backfilled with arisings.

Method: Dynamic (Windowless) Sampler

Date(s): 27/07/2021

Logged By: YP

Drilled By: Impact Geotechnical

Client: Portsmouth City Council

Co-ords: 470042.18, 109428.77

Checked By: DP

Rig: Terrier

Hydrock Project No: 19453

Ground Level: 36.61m OD

Scale: 1:30

Sample Run Info			Testing			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results							
0.10 - 1.00		100%	0.30	B			Reddish brown, slightly silty, sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of different aggregates. (MADE GROUND - SURFACE COVERING) Light yellowish brown, very compacted, slightly gravelly, silty, fine SAND with rare white staining. (MADE GROUND) Firm to stiff, dark grey, sandy, silty CLAY. Sand is fine. (LONDON CLAY FORMATION)	0.10 0.45	(0.10) (0.35)	36.51 36.16		
1.00 - 2.00		100%	1.20 1.60	SPT D	N=13 (1,1,2,3,4,4)			1	(1.55)			
2.00 - 3.00		100%	2.00 2.00	SPT HSV	N=13 (1,2,2,3,4,4) 64kPa		... At 1.95m bgl frequent white shell fragments. Stiff, dark grey, sandy, silty CLAY with occasional shell fragments. (LONDON CLAY FORMATION)	2		34.61		
3.00 - 4.00		100%	3.00	SPT	N=16 (1,2,3,4,4,5)			3				
4.00 - 5.00		90%	4.00 4.00	SPT B	N=19 (1,3,4,4,5,6)			4	(3.45)			
			5.00	SPT	N=30 (1,4,5,7,8,10)			5				
							End of Borehole at 5.45m	5.45		31.16		
								6				

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. No groundwater encountered. 3. Borehole backfilled with arisings.

Drilled By: Impact Geotechnical

Riq: Terrier

Scale: 1:30

HoleBASE SI - Hydrock Dynamic Sampling Template v3

Method: Dynamic (Windowless) Sampler

Date(s): 27/07/2021

Logged By: LC

Drilled By: Impact Geotechnical

Client: Portsmouth City Council

Co-ords: 470057.93, 109335.08

Checked By: DP

Rig: Terrier

Hydrock Project No: 19453

Ground Level: 36.47m OD

Scale: 1:30

Sample Run Info			Testing			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results							
0.15 - 1.00		100%	0.20 - 0.50 0.30	B ES			Reddish brown, gravelly SAND. Gravel is subangular to angular fine to coarse of ballast/aggregate. Sand is fine to medium. (MADE GROUND - SURFACE COVERING) Light brown with rare light grey patches, very compacted, fine to medium SAND. (MADE GROUND)	0.15 (0.15)		36.32		
1.00 - 2.00		100%	0.90 1.00 1.20 - 1.50	ES SPT B	N=15 (2,3,3,4,4,4)		Light brown with rare light grey patches, fine to medium SAND. (BOGNOR SAND MEMBER) ... At 0.55m bgl becoming orange brown with rare light grey patches. Brown with orange brown/ light grey mottling, fine to medium SAND with occasional subangular to angular fine to medium flint gravel. (BOGNOR SAND MEMBER)	0.50 (0.35) 0.50 (0.50) 1.00		35.97 35.47		
2.00 - 3.00		85%	2.00	SPT	N=9 (3,3,3,2,2,2)		Brown mottled orange brown and light grey, slightly clayey, fine to medium SAND. (BOGNOR SAND MEMBER)	2.00		34.47		
3.00 - 4.00		90%	3.00 3.20 - 3.50	SPT B	N=23 (4,4,5,6,6,6)		... At 3.65m bgl becoming brown.	3 (2.00)				
4.00 - 5.00		95%	4.00 4.60 - 5.00 5.00	SPT B SPT	N=17 (2,3,4,5,4,4) N=17 (3,3,4,4,4,5)		Orange brown mottled dark grey, slightly clayey, fine to medium SAND. (LONDON CLAY FORMATION (WEATHERED)) Soft to firm, dark grey, sandy CLAY. Sand is fine to medium. (LONDON CLAY FORMATION)	4 (0.40) 4.40 (1.05) 5.45		32.47 32.07 31.02		
End of Borehole at 5.45m												

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. No groundwater encountered. 3. Monitoring well installed to 5.0m bgl.

Method: Dynamic (Windowless) Sampler

Date(s): 28/07/2021

Logged By: YP

Drilled By: Impact Geotechnical

Client: Portsmouth City Council

Co-ords: 469950.49, 109281.23

Checked By: DP

Rig: Terrier

Hydrock Project No: 19453

Ground Level: 32.42m OD

Scale: 1:30

Sample Run Info			Testing			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results							
0.00 - 1.00		70%	0.50 0.60	ES B			Greyish/reddish brown, very sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of aggregate and rare flint gravel. (MADE GROUND - SURFACE COVERING) Yellowish brown, very compacted, fine SAND with occasional gravel of aggregates. (MADE GROUND)	0.10 (0.10)		32.32		
							Yellowish brown, slightly silty, fine SAND with rare subangular flint fragments. (MADE GROUND)	0.50 (0.30)		31.92		
1.00 - 2.00		100%	1.00	SPT	N=18 (4,6,5,5,4,4)		Grey, slightly silty, very compacted, fine SAND with rare black staining (possible degraded old roots), thin rootlets and rounded fine to coarse gravel of flint. (BOGNOR SAND MEMBER) Orangish brown slightly mottled light grey, slightly silty fine SAND. (BOGNOR SAND MEMBER)	1.00 (0.20)		31.42		
2.00 - 3.00		90%	2.00 2.00 - 2.80	SPT B	N=13 (2,2,2,3,4,4)			2 (2.50)				
3.00 - 4.00		90%	3.00	SPT	N=14 (3,3,4,4,3,3)			3				
4.00 - 5.00		100%	3.80 4.00 4.80 5.00	D SPT D SPT	50/150mm (2,3,3,4,7) N=19 (2,3,4,4,5,6)		Firm, dark grey, sandy, silty CLAY. (LONDON CLAY FORMATION) ... At 4.50m bgl rare white shell fragments.	3.50 4 5 5.45		28.92 (1.95) 26.97		
End of Borehole at 5.45m												

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. No groundwater encountered. 3. Monitoring well installed to 5.0m bgl.

Drilled By: Impact Geotechnical

Riq: Terrier

Scale: 1:30

[illegible]

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. No groundwater encountered. 3. Borehole backfilled with arisings.

Progress and Observations									Chiselling			General Remarks: 1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 8.50 and 11.50m bgl. 3. Borehole backfilled with arisings.
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	

Logged in general accordance with BS5930:2015

Method: Cable Percussion	Date(s): 17/08/2021	Logged By: DP	Drilled By: SEDS
Client: Portsmouth City Council	Co-ords: 470094.41, 109550.75	Checked By: DP	Flush:
Hydrock Project No: 19453	Ground Level: 42.87m OD		Scale: 1:50

Samples / Tests			Water- Strikes	Stratum Description	Depth megl	Thickness (m)	Level OD m	Legend	Instrum- entation / Backfill	
Depth (m)	Type	Results								
10.00	SPT	N=23 (2,3,5,6,6,6)		Firm grey sandy SILT. Sand is fine (LONDON CLAY FORMATION)		(3.20)				
10.00 - 10.45	D									
11.00	D					11				
11.50 - 11.95	U					11.70	31.17			
12.00	D				Firm to stiff grey silty sandy CLAY (LONDON CLAY FORMATION) ... At 12.00m bgl becoming sightly sandy.	12				
13.00	SPT	N=29 (4,5,6,7,8,8)				13				
13.00 - 13.45	D						(3.30)			
14.00	D					14				
14.50 - 14.95	U									
15.00	D				Stiff grey silty CLAY (LONDON CLAY FORMATION) ... Between 15.00m and 16.00m bgl closely fissured.	15	15.00			27.87
16.00	SPT	N=37 (3,6,8,9,10,10)				16				
16.00 - 16.45	D									
17.00	D					17				
17.50 - 17.95	U						(5.45)			
18.00	D					18				
						19				
						20				

Progress and Observations									Chiselling			General Remarks: 1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 8.50 and 11.50m bgl. 3. Borehole backfilled with arisings.
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	
												<div> <div></div> <div></div> </div>

Logged in general accordance with BS5930:2015

Drilled By: SEDS

Flush:

Scale: 1:50

Progress and Observations									Chiselling			General Remarks: 1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 8.50 and 11.50m bgl. 3. Borehole backfilled with arisings.
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	

Logged in general accordance with BS5930:2015

Drilled By: SEDS

Flush:

Scale: 1:50

Progress and Observations									Chiselling			General Remarks:
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	
												1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.30m and 9.20m bgl. 3. Monitoring well installed at 10.00m bgl.

Logged in general accordance with BS5930:2015

Method: Cable Percussion

Date(s): 19/08/2021

Logged By: DP

Drilled By: SEDS

Client: Portsmouth City Council

Co-ords: 470182.21, 109484.62

Checked By: DP

Flush:

Hydrock Project No: 19453

Ground Level: 39.84m OD

Scale: 1:50

Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Depth (m)	Type	Results							
10.00	SPT	N=26 (2,4,6,6,7,7)		Soft to firm grey silty sandy CLAY (LONDON CLAY FORMATION) ... Between 10.00m to 12.00m bgl becoming slightly sandy with partings of light grey fine sand.	10.40		29.44		
10.00 - 10.45	D			Stiff grey silty CLAY (LONDON CLAY FORMATION)					
11.00	D				11		(1.60)		
11.50 - 11.95	U								
12.00	D			Very stiff grey silty CLAY (LONDON CLAY FORMATION)	12		27.84		
13.00	SPT	N=32 (2,5,7,8,8,9)			13				
13.00 - 13.45	D								
14.00	D			... Between 14.00m to 15.00m bgl rare off white shell fragments.	14				
14.50 - 14.95	U								
15.00	D				15				
16.00	SPT	N=35 (4,7,8,8,9,10)			16		(8.45)		
16.00 - 16.45	D								
17.00	D				17				
17.50 - 17.95	U								
18.00	D			... From 18.00m bgl becoming very closely fissured.	18				
					19				
					20				

Progress and Observations									Chiselling			General Remarks:
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	
												1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.30m and 9.20m bgl. 3. Monitoring well installed at 10.00m bgl.

<div></div>							Project: Dunsbury Park					Borehole No BH6.02				
												Page No. 3 of 3				
Method: Cable Percussion							Date(s): 19/08/2021				Logged By: DP			Drilled By: SEDS		
Client: Portsmouth City Council							Co-ords: 470182.21, 109484.62				Checked By: DP			Flush:		
Hydrock Project No: 19453							Ground Level: 39.84m OD							Scale: 1:50		
Samples / Tests						Water- Strikes	Stratum Description					Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Depth (m)	Type	Results														
20.00	SPT	N=39		Very stiff grey silty CLAY (LONDON CLAY FORMATION)					20.45		19.38					
20.00 - 20.45	D	(3,7,8,9,11,11)														
							End of Borehole at 20.45m									
												20				
												21				
												22				
												23				
												24				
												25				
												26				
												27				
												28				
												29				
												30				

Progress and Observations									Chiselling			General Remarks: 1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.30m and 9.20m bgl. 3. Monitoring well installed at 10.00m bgl.
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	

Method: Cable Percussion

Date(s): 18/08/2021

Logged By: DP

Drilled By: SEDS

Client: Portsmouth City Council

Co-ords: 470150.37, 109409.82

Checked By: DP

Flush:

Hydrock Project No: 19453

Ground Level: 39.21m OD

Scale: 1:50

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Depth (m)	Type	Results							
0.10 - 0.30 0.20	B ES			Grass and vegetation over brown silty slightly gravelly fine SAND. Gravel is of fine to medium angular to sub rounded flint (TOPSOIL)		(0.50)	38.71		
0.50 - 1.00	B			Orange brown and light grey silty fine SAND (BOGNOR SAND MEMBER)		(1.00)	37.71		
1.50	SPT	N=9 (1,1,2,2,2,3)		Firm orange brown mottled light grey sandy SILT/CLAY. Sand is fine (LONDON CLAY FORMATION (WEATHERED))		(1.00)	36.71		
1.50 - 1.95	D								
2.00	D								
2.50	SPT	N=10 (1,2,2,2,3,3)		Firm orange brown mottled grey brown and light brown sandy to very sandy SILT/CLAY. Sand is fine. (LONDON CLAY FORMATION (WEATHERED))		(0.80)	35.91		
2.50 - 2.95	D								
3.30	D								
3.50 - 3.95	U								
4.00	D			... Between 4.00m to 4.50m bgl very closely fissured.					
4.50	SPT	N=13 (1,2,2,3,4,4)							
4.50 - 4.95	D								
5.00	D			... At 5.00m bgl very closely to extremely closely fissured.					
5.50 - 5.95	U								
6.00	D								
7.00	SPT	N=20 (2,3,4,5,6,5)							
7.00 - 7.45	D								
8.00	D			... At 8.00m bgl soil recovered wet.					
8.50 - 8.95	U								
9.00	D			... Between 9.00m and 10.00m bgl partings of light grey fine sand.					

Progress and Observations

Chiselling

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.40m and 11.40m bgl. 3. Monitoring well installed at 10.00m bgl.

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)

Method: Cable Percussion

Date(s): 18/08/2021

Logged By: DP

Drilled By: SEDS

Client: Portsmouth City Council

Co-ords: 470150.37, 109409.82

Checked By: DP

Flush:

Hydrock Project No: 19453

Ground Level: 39.21m OD

Scale: 1:50

Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Depth (m)	Type	Results							
10.00	SPT	N=28 (2,4,6,7,7,8)		Firm grey silty sandy CLAY. Sand is fine (LONDON CLAY FORMATION)	11				
10.00 - 10.45	D								
11.00	D								
11.50 - 11.95	U								
12.00	D			Stiff grey very closely to closely fissured silty slightly sandy CLAY. (LONDON CLAY FORMATION) ... Between 12.00mm and 13.00m bgl very closely fissured with occasional fine to medium off white shell fragments.	12		27.41		
13.00	SPT	N=31 (3,5,6,8,8,9)			13				
13.00 - 13.45	D								
14.00	D			... At 14.00m bgl very closely to closely fissured.	14				
14.50 - 14.95	U								
15.00	D				15		24.21		
16.00	SPT	N=35 (3,5,7,8,10,10)		Very stiff grey silty CLAY. (LONDON CLAY FORMATION) ... Between 15.00m and 16.00m bgl very closely to closely fissured.	16				
16.00 - 16.45	D								
17.00	D				17				
17.50 - 17.95	U								
18.00	D			... At 18.00m bgl partings of light grey fine sand.	18				
					19				
					20				

Progress and Observations

Chiselling

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.40m and 11.40m bgl. 3. Monitoring well installed at 10.00m bgl.

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)

<div></div>				Project: Dunsbury Park				Borehole No BH6.03 Page No. 3 of 3					
Method: Cable Percussion				Date(s): 18/08/2021				Logged By: DP		Drilled By: SEDS			
Client: Portsmouth City Council				Co-ords: 470150.37, 109409.82				Checked By: DP		Flush:			
Hydrock Project No: 19453				Ground Level: 39.21m OD						Scale: 1:50			
Samples / Tests			Water- Strikes	Stratum Description				Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill	
Depth (m)	Type	Results											
20.00	SPT	N=40		Very stiff grey silty CLAY. (LONDON CLAY FORMATION)				20.45		18.76			
20.00 - 20.45	D	(4,7,9,10,11)											
				End of Borehole at 20.45m									
								20					
								21					
								22					
								23					
								24					
								25					
								26					
								27					
								28					
								29					
								30					

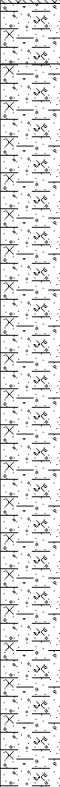
Progress and Observations									Chiselling			General Remarks: 1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.40m and 11.40m bgl. 3. Monitoring well installed at 10.00m bgl.
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	

Method: Trial Pit	Date(s): 22/07/2021	Logged By: YP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470215.41, 109583.50	Stability: Stable	Dimensions: 2.60m
Hydrock Project No: 19453	Ground Level: 42.83m OD	Plant: JCB JS131LC	0.60m <input type="text"/> 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	
Depth (m)	Type	Results							
0.20	ES	50kPa		Long grass over soft, brown, slightly gravelly, sandy SILT with abundant roots and rootlets. Gravel is rounded to subangular fine to coarse of flint. (TOPSOIL)	0.40	(0.40)	42.43		
0.60	B			Brown to orange brown, very sandy, silty CLAY with frequent rootlets. Rare gravel of subangular to subrounded fine to coarse of flint. (HEAD DEPOSITS)	0.70	(0.30)	42.13		
0.80	HSV			Firm, orangish brown slightly mottled light grey, slightly gravelly, sandy, silty CLAY. Gravel is rounded to subrounded fine to medium of flint. Rare black mottling and rare dark orange staining. Sand is fine. (HEAD DEPOSITS)	1				
2.10	D	82kPa			2				
3.00	HSV			Firm to stiff, orangish brown slightly mottled light grey, sandy, silty CLAY. Sand is fine. (LONDON CLAY FORMATION (WEATHERED))	3				
					3.00	(0.50)	39.83		
					3.50		39.33		
				Base of Excavation at 3.50m					
					4				
					5				

General Remarks:

1. No groundwater encountered. 2. Backfilled with arisings.

			Project: Dunsbury Park			Trialpit No TP6.02 Page No. 1 of 1			
Method: Trial Pit			Date(s): 22/07/2021		Logged By: YP		Checked By: DP		
Client: Portsmouth City Council			Co-ords: 470271.02, 109570.34		Stability: Stable		Dimensions: 3.20m		Scale: 1:25
Hydrock Project No: 19453			Ground Level: 39.71m OD		Plant: JCB JS131LC		0.60m		
Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	
Depth (m)	Type	Results							
0.40	ES			Long grass over soft, brown, slightly gravelly sandy SILT with abundant roots and rootlets. Gravel is rounded to subangular fine to coarse of flint. (TOPSOIL)	0.30	(0.30)	39.41		
				Brown to orange brown, very sandy, silty CLAY with frequent rootlets and rare gravel of subangular to subrounded fine to coarse of flint. (HEAD DEPOSITS)	0.50	(0.20)	39.21		
0.80 0.80	B HSV	57kPa		Firm, light grey mottled orange, silty, sandy CLAY with rare gravel of subangular to subrounded fine to coarse of flint. Sand is fine (HEAD DEPOSITS)	1				
2.20 2.20	D HSV	47kPa		... At 2.20m bgl rare pockets/ partings of dark brown fibrous organic material (possible old roots).					(2.40)
3.20	D			Firm to stiff, dark grey, slightly sandy, silty CLAY. (LONDON CLAY FORMATION)	2.90		36.81		
3.50	HSV	89kPa		Base of Excavation at 3.50m	3.50	(0.60)	36.21		
					4				
					5				
General Remarks: 1. Slow groundwater seepage at 3.10m bgl. 2. Backfilled with arisings.									

Method: Trial Pit	Date(s): 22/07/2021	Logged By: YP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470172.49, 109527.86	Stability: Stable	Dimensions: 3.10m
Hydrock Project No: 19453	Ground Level: 42.16m OD	Plant: JCB JS131LC	0.60m <input type="text"/> 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.15	ES			Long grass over soft, brown, slightly gravelly, sandy SILT with abundant roots and rootlets. Gravel is rounded to subangular fine to coarse of flint. (TOPSOIL)	0.30	(0.30)	41.86	
				Brown to orange brown, very sandy, silty CLAY with frequent rootlets and rare gravel of subangular to subrounded fine to coarse of flint. (HEAD DEPOSITS)	0.65	(0.35)	41.51	
1.00 1.00	B HSV	67kPa		Firm, orangish brown mottled light grey, sandy, silty CLAY with rare black mottling and rare dark orange staining. Sand is fine. (HEAD DEPOSITS)	1			
1.80 1.80	D HSV	79kPa		... At 1.80m bgl rare black/ dark brown mottling.	2	(2.35)		
2.60	D							
3.20	D			Firm to stiff (friable) blueish dark grey silty CLAY with rare orange staining. (LONDON CLAY FORMATION)	3		39.16	
				... At 3.40m bgl HSV test not possible due to friability.	3.50	(0.50)	38.66	
				Base of Excavation at 3.50m				
					4			
					5			

General Remarks:

1. No groundwater encountered. 2. Backfilled with arisings.

[illegible]

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.



Project: Dunsbury Park

Trialpit No

TP6.05

Page No. 1 of 1

Method: Trial Pit

Date(s): 23/07/2021

Logged By: YP

Checked By: DP

Client: Portsmouth City Council

Co-ords: 470200.34, 109503.26

Stability: Stable

Dimensions:

0.60m

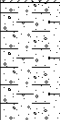
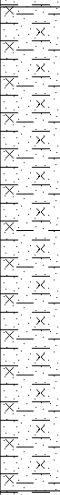
3.60m

Scale: 1:25

Hydrock Project No: 19453

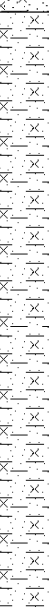
Ground Level: 40.42m OD

Plant: ZAXIS 130LCN

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
				Long grass over soft, brown, slightly gravelly, sandy SILT with abundant roots (up to 10mm diameter) and rootlets. Gravel is rounded to subrounded fine to coarse of flint. (TOPSOIL)		(0.35)		
0.50	B				0.35		40.07	
0.50	D					(0.40)		
0.50	HSV	63kPa		Firm, orangish brown, slightly gravelly, slightly sandy CLAY. Gravel is rounded fine to medium of flint. (HEAD DEPOSITS)	0.75		39.67	
1.00	D				1	(0.95)		
1.00	HSV	113kPa		Stiff, light grey mottled orangish brown, slightly sandy, silty CLAY. (LONDON CLAY FORMATION (WEATHERED))	1.70		38.72	
1.70	B					(1.60)		
1.80	HSV	75kPa		Firm, light grey mottled orangish brown, slightly sandy, silty CLAY. (LONDON CLAY FORMATION (WEATHERED))	2			
2.70	D				3			
2.70	HSV	79kPa		... At 2.70m bgl rare gravel of subrounded to subangular fine to medium of flint.	3.30		37.12	
3.50	B					(0.30)		
3.60	HSV	68kPa		Firm to stiff, dark grey, slightly sandy, silty CLAY. (LONDON CLAY FORMATION)	3.60		36.82	
				Base of Excavation at 3.60m				
					4			
					5			

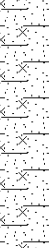
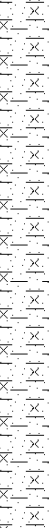
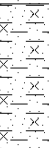
General Remarks:
1. Slow groundwater seepage at 2.70m bgl. 2. Backfilled with arisings.

Method: Trial Pit	Date(s): 23/07/2021	Logged By: YP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470242.26, 109486.53	Stability: Stable	Dimensions: 3.60m 0.60m <input type="text"/>
Hydrock Project No: 19453	Ground Level: 38.54m OD	Plant: ZAXIS 130LCN	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.50	ES			Long grass over soft, brown, slightly gravelly, sandy SILT with abundant roots and rootlets. Gravel is rounded to subrounded fine to coarse of flint. (TOPSOIL)	0.40	(0.40)	38.14	
0.60	B			Orangish brown mottled slightly grey, gravelly, clayey, silty, fine SAND with occasional rootlets. Gravel is rounded fine to medium of flint. (HEAD DEPOSITS)	0.70	(0.30)	37.84	
				Light grey mottled orangish brown, clayey, silty, fine SAND. (BOGNOR SAND MEMBER)	1	(0.70)	37.14	
2.00	HSV	74kPa		Firm, light grey mottled orangish brown, slightly silty, sandy CLAY with rare rootlets. Sand is fine. (BOGNOR SAND MEMBER)	2	(2.00)	35.14	
2.20	B							
3.00	D	67kPa			3			
3.00	HSV							
3.50	B			Firm to stiff, dark grey, slightly sandy, silty CLAY. (LONDON CLAY FORMATION)	3.40	(0.20)	34.94	
3.60	HSV	90kPa		Base of Excavation at 3.60m	3.60			
					4			
					5			

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

Method: Trial Pit	Date(s): 23/07/2021	Logged By: YP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470171.30, 109422.12	Stability: Stable	Dimensions: 3.70m
Hydrock Project No: 19453	Ground Level: 39.34m OD	Plant: ZAXIS 130LCN	0.60m <input type="text"/> 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.20	ES			Long grass over soft, brown, slightly gravelly, sandy SILT with abundant roots and rootlets. Gravel is rounded to subrounded fine to coarse of flint. (TOPSOIL)	0.35	(0.35)	38.99	
0.70	B			Brown and orangish brown, silty, fine SAND with occasional rootlets and rare gravel of subrounded to subangular fine to coarse of flint. (HEAD DEPOSITS)	0.60	(0.25)	38.74	
				Light grey mottled orangish brown, clayey, silty, fine SAND. (BOGNOR SAND MEMBER)	1	(0.90)		
2.00 2.00	B HSV	56kPa		Firm, light grey mottled orangish brown, sandy, silty CLAY with rare dark orange staining. Sand is fine. (BOGNOR SAND MEMBER)	1.50		37.84	
3.50 3.60	HSV B	101kPa		Stiff, dark grey slightly sandy, silty CLAY with rare white shell fragments. (LONDON CLAY FORMATION)	3.30	(1.80)	36.04	
				Base of Excavation at 3.80m	3.80	(0.50)	35.54	
					4			
					5			

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

Method: Trial Pit	Date(s): 23/07/2021	Logged By: YP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470150.28, 109362.26	Stability: Stable	Dimensions: 3.80m
Hydrock Project No: 19453	Ground Level: 36.98m OD	Plant: ZAXIS 130LCN	0.60m <input type="text"/> 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.40	ES			Long grass over soft, brown, slightly gravelly, sandy SILT with abundant roots and rootlets. Gravel is rounded to subrounded fine to coarse of flint. (TOPSOIL)	0.30	(0.30)	36.68	
				Brown and orangish brown, silty, fine SAND with occasional rootlets and rare gravel of subrounded to subangular fine to coarse of flint. (HEAD DEPOSITS)	0.55	(0.25)	36.43	
0.90	B			Light grey mottled orangish brown clayey, silty, fine SAND. (BOGNOR SAND MEMBER)	1	(1.05)		
1.80	B			Firm, light grey mottled orangish brown, slightly silty, sandy CLAY with rare rootlets. Sand is fine. (BOGNOR SAND MEMBER)	1.60		35.38	
2.60	D				2	(1.60)		
3.40	B			Stiff, dark grey slightly sandy silty CLAY. (LONDON CLAY FORMATION)	3.20		33.78	
3.60	HSV	95kPa		Base of Excavation at 3.60m	3.60	(0.40)	33.38	
					4			
					5			

General Remarks:

1. No groundwater encountered. 2. Backfilled with arisings.

Method: Trial Pit	Date(s): 23/07/2021	Logged By: YP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470211.24, 109374.98	Stability: Stable	Dimensions: Scale:
Hydrock Project No: 19453	Ground Level: 36.66m OD	Plant: ZAXIS 130LCN	0.60m 3.80m 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.50 0.50	ES HSV	79kPa		Long grass over soft, brown, slightly gravelly, sandy SILT with abundant roots and rootlets. Gravel is rounded to subrounded fine to coarse of flint. (TOPSOIL) Firm, orangish brown, slightly gravelly, slightly sandy CLAY. Gravel is rounded fine to medium of flint. (MADE GROUND) ... At 0.50m bgl rare brick fragments (possible redundant clay pipework).	0.30 0.60	(0.30) (0.30)	36.36 36.06	
0.80 0.80	B HSV	83kPa		Firm to stiff, light grey mottled orangish brown, slightly sandy, silty CLAY. (LONDON CLAY FORMATION (WEATHERED))	1			
2.30 2.30	D HSV	83kPa			2			
2.90	HSV	69kPa			3			
3.50	B			Firm, dark grey, slightly sandy, silty CLAY. (LONDON CLAY FORMATION)	3.20		33.46	
3.70	HSV	39kPa		Base of Excavation at 3.70m	3.70	(0.50)	32.96	
					4			
					5			

General Remarks:

1. Slow groundwater seepage at 3.70m bgl. 2. Backfilled with arisings.

Method: Dynamic (Windowless) Sampler

Date(s): 29/07/2021

Logged By: YP

Drilled By: Impact Geotechnical

Client: Portsmouth City Council

Co-ords: 470157.34, 109568.28

Checked By: DP

Rig: Terrier

Hydrock Project No: 19453

Ground Level: 42.90m OD

Scale: 1:30

Sample Run Info			Testing			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results							
1.00 - 2.00		90%					Long grass and vegetation over topsoil comprising brown, slightly sandy SILT with abundant roots and rootlets and rare subrounded fine to medium flint gravel. (TOPSOIL)	0.30	(0.30)	42.60		
			0.50	ES			Light greyish brown and orangish brown, very silty, fine SAND with frequent rootlets. (HEAD DEPOSITS)	0.60	(0.30)	42.30		
			0.80	B			Light grey and orange brown, very silty, fine SAND. (BOGNOR SAND MEMBER)	1	(0.70)			
2.00 - 3.00		100%	1.00	SPT	N=6 (2,2,2,1,1,2)			1.30		41.60		
			1.40	HSV B	42kPa		Soft to firm, light grey mottled orange brown, sandy, silty CLAY. (LONDON CLAY FORMATION (WEATHERED))					
			1.50 - 1.70	HSV B	25kPa							
3.00 - 4.00		100%	1.60	HSV B			... At 1.90m bgl becoming more sandy.	2				
			1.70 - 2.00	SPT	N=12 (1,1,3,3,3,3)		... At 2.10m bgl becoming firm with rare black pockets.		(1.70)			
			2.00	SPT			... At 2.80m bgl occasional dark orange staining.	3				
4.00 - 5.00		100%	2.60	HSV	47kPa		Firm, dark grey mottled dark orange, sandy, silty CLAY with occasional pockets of dark orange, silty, fine sand. (LONDON CLAY FORMATION (WEATHERED))	3.00		39.90		
			3.00	SPT	N=12 (2,2,3,3,3,3)				(0.50)			
			3.20	D			Dark grey, slightly sandy, silty CLAY. Sand is fine. (LONDON CLAY FORMATION)	3.50		39.40		
5.00 - 6.00		100%	3.80	D				4				
			4.00	SPT	N=13 (2,3,3,3,3,4)				(1.95)			
			4.80 - 5.00	B			... At 4.80m bgl becoming very sandy with occasional pockets of light grey fine sand.	5				
			5.00	SPT	N=24 (3,3,4,5,6,9)			5.45		37.45		
End of Borehole at 5.45m												

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. No groundwater encountered. 3. Monitoring well installed to 5.0m bgl.

Method: Dynamic (Windowless) Sampler

Date(s): 29/07/2021

Logged By: LC

Drilled By: Impact Geotechnical

Client: Portsmouth City Council

Co-ords: 470190.03, 109564.96

Checked By: DP

Rig: Terrier

Hydrock Project No: 19453

Ground Level: 42.97m OD

Scale: 1:30

Sample Run Info			Testing			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results							
1.00 - 2.00		100%	0.60 0.60 - 1.00	ES B			Long grass and vegetation over brown, slightly silty, fine to medium SAND with occasional roots and rootlets. (TOPSOIL)	0.30	(0.30)	42.67		
			1.20	SPT	N=6 (1,0,1,2,1,2)		Soft, orange brown, very sandy CLAY. Sand is fine to medium. (HEAD DEPOSITS)	1.30	(1.00)	41.67		
2.00 - 3.00		100%	1.50 - 2.00	B			Firm, orange brown, sandy CLAY. Sand is fine to medium. (BOGNOR SAND MEMBER)	2.30	(2.10)			
			2.00	SPT	N=10 (1,1,2,3,2,3)		... At 2.10m bgl becoming brown mottled orange.	3.40		39.57		
3.00 - 4.00		100%	2.30	HSV	62kPa							
			2.90 3.00 3.00	HSV SPT D	56kPa N=13 (1,2,2,4,3,4)							
4.00 - 5.00		100%	3.50	HSV	57kPa		Firm, dark grey, sandy CLAY. Sand is fine. (LONDON CLAY FORMATION)	4.00	(2.05)			
			4.00	SPT	N=15 (1,2,2,4,4,5)							
			5.00 5.00	SPT D	N=18 (1,2,3,4,5,6)							
End of Borehole at 5.45m								5.45		37.52		

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 5.00m bgl. 3. Monitoring well installed to 5.0m bgl.

Method: Dynamic (Windowless) Sampler

Date(s): 29/07/2021

Logged By: LC

Drilled By: Impact Geotechnical

Client: Portsmouth City Council

Co-ords: 470204.75, 109522.45

Checked By: DP

Rig: Terrier

Hydrock Project No: 19453

Ground Level: 41.32m OD

Scale: 1:30

Sample Run Info			Testing			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill	
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results								
1.00 - 2.00		100%	0.20	ES			Long grass and vegetation over topsoil comprising brown, slightly silty, fine to medium SAND with occasional roots and rootlets. (TOPSOIL)	0.30	(0.30)	41.02			
			0.60 0.60 - 1.00	ES B			Soft to firm, orange brown mottled light grey, sandy CLAY. Sand is fine to medium. (BOGNOR SAND MEMBER)						
			1.20	SPT	N=6 (0,1,0,2,1,3)								
			1.30	HSV	58kPa								
			1.50	D									
2.00 - 3.00		100%	2.00	SPT	N=10 (1,1,2,2,3,3)								
			2.50	HSV	65kPa								
3.00 - 4.00		100%	3.00	SPT	N=11 (1,1,2,2,3,4)		Soft to firm, dark brown mottled orange, sandy CLAY. Sand is fine. (LONDON CLAY FORMATION (WEATHERED))	3.00		38.32			
			3.50	D									
4.00 - 5.00		80%	4.00	SPT	N=16 (1,2,3,4,4,5)		Firm, dark grey, sandy CLAY. Sand is fine. (LONDON CLAY FORMATION)	3.60		37.72			
			4.50	D									
			5.00	SPT	N=19 (2,2,3,4,6,6)								
End of Borehole at 5.45m							5.45		35.87				

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 3.00m bgl. 3. Monitoring well installed to 5.0m bgl.

Method: Dynamic (Windowless) Sampler

Date(s): 29/07/2021

Logged By: YP

Drilled By: Impact Geotechnical

Client: Portsmouth City Council

Co-ords: 470123.14, 109467.27

Checked By: DP

Rig: Terrier

Hydrock Project No: 19453

Ground Level: 39.94m OD

Scale: 1:30

Sample Run Info			Testing			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill	
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results								
1.00 - 2.00		95%	0.70	ES	N=8 (2,2,2,2,2,2)		Long grass and vegetation over topsoil comprising brown, slightly sandy SILT with abundant roots and rootlets and rare subrounded fine to medium flint gravel. (TOPSOIL)	0.30	(0.30)	39.64			
							Brown mottled orangish brown, sandy SILT with rare subangular to subrounded fine to coarse flint gravel and occasional rootlets. (HEAD DEPOSITS)	0.50	(0.20)	39.44			
							Light grey and orangish brown, sandy SILT with rare rounded fine to medium flint gravel. Sand is fine. (HEAD DEPOSITS)	1	(0.70)	38.74			
2.00 - 3.00		90%	1.70 1.70	D HSV	42kPa		Soft to firm, light grey mottled orange brown, sandy, silty CLAY. Sand is fine. (BOGNOR SAND MEMBER)	2	(1.10)	37.64			
3.00 - 4.00		100%	2.00	SPT	N=10 (2,2,2,2,3,3)		Firm, light brown mottled orange, slightly sandy, silty CLAY with rare black spots. (BOGNOR SAND MEMBER)	2.30		36.64			
4.00 - 5.00		100%	2.70	D			Firm, dark grey, sandy silty CLAY. Sand is fine. (LONDON CLAY FORMATION)	3	(1.00)				
			3.00	SPT	N=12 (2,2,2,3,3,4)		... At 4.0m bgl occasional white shell fragments.	3.30					
			3.60	D			... Between 4.80m to 4.90m bgl occasional pearlescent very weak shells fragments.	4	(2.15)				
			4.00	SPT	N=15 (2,3,3,3,4,5)			5					
			4.80	D				5.45		34.49			
End of Borehole at 5.45m													
								6					

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. No groundwater encountered. 3. Monitoring well installed to 5.0m bgl.

Method: Dynamic (Windowless) Sampler

Date(s): 29/07/2021

Logged By: YP

Drilled By: Impact Geotechnical

Client: Portsmouth City Council

Co-ords: 470131.62, 109444.45

Checked By: DP

Rig: Terrier

Hydrock Project No: 19453

Ground Level: 40.06m OD

Scale: 1:30

Sample Run Info			Testing			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results							
1.00 - 2.00		100%	0.50 0.60 - 1.00	ES B			Long grass and vegetation over topsoil comprising brown, slightly sandy SILT with abundant roots and rootlets and rare subrounded fine to medium flint gravel. (TOPSOIL)	0.30	(0.30)	39.76		
						Orangish brown slightly silty fine SAND with rare rootlets. (BOGNOR SAND MEMBER)	0.60	(0.30)	39.46			
						Orangish brown mottled light grey silty fine SAND. (BOGNOR SAND MEMBER)	1	(1.00)				
							... At 1.40m bgl becoming more silty recovered slightly wet.	1.60		38.46		
2.00 - 3.00		100%	2.00	SPT	N=11 (2,2,2,3,3,3)		Soft to firm, light brown, light grey mottled, orangish brown sandy silty CLAY. (LONDON CLAY FORMATION (WEATHERED))	2				
			2.30 - 2.70 2.30	B HSV	58kPa		... At 2.30m bgl becoming firm. ... At 2.50m bgl becoming more sandy.		(2.00)			
			2.70	D			... From 2.70m bgl occasional bands of orangish brown fine silty sand.	3				
3.00 - 4.00		100%	3.00	SPT	N=13 (2,2,3,3,3,4)			3.60		36.46		
4.00 - 5.00		100%	4.00	SPT	N=16 (2,3,3,4,4,5)		Firm, dark grey, slightly sandy CLAY. (LONDON CLAY FORMATION)	4				
			4.50 - 5.00	B				(1.85)				
			5.00	SPT	N=18 (2,3,3,5,5,5)		... At 4.80m bgl becoming stiff and more sandy.	5				
End of Borehole at 5.45m								5.45		34.61		

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. No groundwater encountered. 3. Borehole backfilled with arisings.

HoleBASE SI - Hydrock Dynamic Sampling Template v3

Method: Dynamic (Windowless) Sampler

Date(s): 29/07/2021

Logged By: LC

Drilled By: Impact Geotechnical

Client: Portsmouth City Council

Co-ords: 470150.74, 109383.66

Checked By: DP

Rig: Terrier

Hydrock Project No: 19453

Ground Level: 37.98m OD

Scale: 1:30

Sample Run Info			Testing			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results							
			0.20	ES			Long grass and vegetation over topsoil comprising brown, slightly sandy SILT with abundant roots and rootlets and rare subrounded fine to medium flint gravel. (TOPSOIL)	0.30	(0.30)	37.68		
			0.60 0.60 - 1.00	ES B			Orange brown, fine to medium SAND. (BOGNOR SAND MEMBER)		(0.90)			
			1.20	SPT	N=9 (1,1,2,3,2,2)		Orange brown mottled light grey, slightly clayey, fine to medium SAND. (BOGNOR SAND MEMBER)	1.20		36.78		
			2.00 2.00 - 2.50	SPT B	N=12 (1,1,2,3,3,4)		Firm, orange brown mottled light grey, very sandy CLAY. Sand is fine to medium. (LONDON CLAY FORMATION (WEATHERED))	2.00		35.98		
			2.50	HSV	58kPa				(1.45)			
			3.00	SPT	N=14 (1,2,3,4,3,4)							
			3.30 - 3.45	B			... Between 3.25m and 3.45m bgl becoming greyish brown mottled dark red.	3.45		34.53		
							Firm, dark grey, sandy CLAY. Sand is fine. (LONDON CLAY FORMATION)					
			4.00	SPT	N=13 (1,2,2,3,4,4)				(2.00)			
			4.50	D								
			5.00	SPT	N=20 (2,2,4,4,5,7)							
							End of Borehole at 5.45m	5.45		32.53		

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 5.0m bgl. 3. Borehole backfilled with arisings.

							Project: Dunsbury Park					Borehole No BH7.01			
												Page No. 1 of 4			
Method: Cable Percussion							Date(s): 16/08/2021 - 17/08/2021				Logged By: DP			Drilled By: SEDS	
Client: Portsmouth City Council							Co-ords: 470201.88, 109869.76				Checked By: DP			Flush:	
Hydrock Project No: 19453							Ground Level: 52.77m OD							Scale: 1:50	
Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation	Backfill					
Depth (m)	Type	Results													
0.20	ES			Brown to orange brown silty fine SAND with frequent rootlets (TOPSOIL)	0.30	(0.30)	52.47								
0.50	B			Light greyish brown and orangish brown locally reddish brown (ferrous staining) silty fine SAND with occasional rootlets (BOGNOR SAND MEMBER)	0.50	(0.20)	52.27								
1.00	D			Light greyish brown and orangish brown locally reddish brown very silty fine SAND with occasional rootlets. Thin lamination apparent locally (BOGNOR SAND MEMBER)	1.00	(0.50)	51.77								
1.50	SPT	N=14 (1,2,3,4,3,4)		Soft to firm orange brown mottled light grey sandy SILT/CLAY. Sand is fine (BOGNOR SAND MEMBER)											
1.50 - 1.95	D														
2.00	D			... At 2.00m bgl locally reddish brown (ferrous) with slight salt/sea odour.	2										
2.50 - 2.95	U														
3.00	D			... From 3.00m bgl becoming firm and orange brown mottled grey.	3										
3.50	SPT	N=15 (2,3,4,3,4,4)													
3.50 - 3.95	D														
4.00	D				4										
4.50 - 4.80	U														
4.85	D				4.85		47.92								
5.00 - 5.50	B			Orange to greyish brown silty fine SAND or sandy to very sandy SILT. (BOGNOR SAND MEMBER) ... Between 4.85m and 7.90m bgl sandstone.	5										
				Firm grey brown silty sandy CLAY (LONDON CLAY FORMATION (WEATHERED))	5.10	(0.25)	47.67								
				Firm grey silty sandy CLAY with occasional fine to medium off white shell fragments (LONDON CLAY FORMATION)	5.50	(0.40)	47.27								
6.00	SPT	N=22 (3,4,5,5,6,6)		... At 6.00m bgl becoming sandy to very sandy.	6										
6.00	D														
7.00	D				7										
7.50 - 7.95	U														
8.00	D			... From 8.00m bgl becoming slightly sandy.	8										
8.50	D														
9.00	SPT	N=20 (2,4,4,5,5,6)			9										
9.50 - 10.00	B				10										

Progress and Observations									Chiselling			General Remarks: 1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.20m bgl. 3. Monitoring well installed at 10.00m bgl.
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	

Method: Cable Percussion

Date(s): 16/08/2021 - 17/08/2021

Logged By: DP

Drilled By: SEDS

Client: Portsmouth City Council

Co-ords: 470201.88, 109869.76

Checked By: DP

Flush:

Hydrock Project No: 19453

Ground Level: 52.77m OD

Scale: 1:50

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Depth (m)	Type	Results							
10.50 - 10.80	U			Firm grey silty sandy CLAY with occasional fine to medium off white shell fragments (LONDON CLAY FORMATION)					
10.85	D			... At 10.85m bgl very closely fissured.	11				
11.50	D				11.50		41.27		
12.00	SPT	N=25 (4,4,5,6,7,7)		Firm to stiff grey silty CLAY (LONDON CLAY FORMATION)	12				
12.00	D								
13.00	D				13				
13.50 - 13.95	U								
14.00	D				14		38.77		
14.50	D			Stiff very closely fissured grey silty CLAY with occasional off white fine shell fragments. (LONDON CLAY FORMATION)					
15.00	SPT	N=27 (5,6,6,7,7,7)			15				
15.00	D								
16.00	D				16				
16.50 - 16.90	U								
16.95	D				17				
17.50	D								
18.00	SPT	N=37 (5,7,8,8,10,11)			18				
18.00	D								
19.00	D				19		33.77		
19.50 - 19.85	U			Stiff to very stiff grey silty CLAY (LONDON CLAY FORMATION)					
19.90	D				20				

Progress and Observations

Chiselling

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.20m bgl. 3. Monitoring well installed at 10.00m bgl.

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)

Method: Cable Percussion

Date(s): 16/08/2021 - 17/08/2021

Logged By: DP

Drilled By: SEDS

Client: Portsmouth City Council

Co-ords: 470201.88, 109869.76

Checked By: DP

Flush:

Hydrock Project No: 19453

Ground Level: 52.77m OD

Scale: 1:50

Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Depth (m)	Type	Results							
20.50	D			Stiff to very stiff grey silty CLAY (LONDON CLAY FORMATION)					
21.00	D				21				
22.00	D				22	(6.00)			
22.80	D			... Between 22.80m to 24m bgl closely to very closely fissured.	23				
23.50	D								
24.00	D			... At 24.00m bgl 12mm band of extremely weak siltstone.	24				
25.00	D			Very stiff grey silty CLAY (LONDON CLAY FORMATION)	25		27.77		
25.95	D				26				
26.50	D								
27.00	D			... At 27.00m bgl very closely fissured CLAY.	27				
27.70	D			... At 27.70m bgl fine white crystals (probably selenite).	28	(5.45)			
28.00	D								
29.50	D				29				
30.00	D				30				

Progress and Observations

Chiselling

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.20m bgl. 3. Monitoring well installed at 10.00m bgl.

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)



Method: Cable Percussion	Date(s): 16/08/2021 - 17/08/2021	Logged By: DP	Drilled By: SEDS
Client: Portsmouth City Council	Co-ords: 470201.88, 109869.76	Checked By: DP	Flush:
Hydrock Project No: 19453	Ground Level: 52.77m OD		Scale: 1:50

Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Depth (m)	Type	Results							
				Very stiff grey silty CLAY (LONDON CLAY FORMATION) ... At 30.00m bgl partings of grey fine sand.	30.45		22.32		
				End of Borehole at 30.45m					
					31				
					32				
					33				
					34				
					35				
					36				
					37				
					38				
					39				
					40				

Progress and Observations									Chiselling			General Remarks:
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	
												1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.20m bgl. 3. Monitoring well installed at 10.00m bgl.

Method: Cable Percussion

Date(s): 18/08/2021 - 19/08/2021

Logged By: DP

Drilled By: SEDS

Client: Portsmouth City Council

Co-ords: 470177.93, 109814.13

Checked By: DP

Flush:

Hydrock Project No: 19453

Ground Level: 52.67m OD

Scale: 1:50

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Depth (m)	Type	Results							
0.10	ES			Brown silty slightly gravelly fine SAND with rootlets. Gravel is fine to medium sub rounded to subangular flint. (TOPSOIL)		(0.50)			
0.50	B			Orange brown silty slightly gravelly fine SAND with occasional roots. Gravel is fine to medium angular flint. (BOGNOR SAND MEMBER)	0.50		52.17		
1.00	B			Orange brown silty fine SAND with locally pockets of sandy SILT. (BOGNOR SAND MEMBER)	0.80		51.87		
1.50	SPT	N=16 (2,3,3,4,4,5)		... At 1.50m bgl becoming orangish brown and light grey fine silty SAND with occasional black organic remains/fragments.	1				
1.50 - 1.95	D					(2.20)			
2.00	D			... At 2.00m bgl becoming vey silty.	2				
2.50 - 2.95	U								
3.00	D			Firm orange brown silty sandy CLAY (LONDON CLAY FORMATION (WEATHERED))	3		49.67		
3.50	SPT	N=19 (2,3,4,4,5,6)				(1.00)			
3.50	D								
4.00	D			Firm orange brown mottled light grey silty sandy CLAY (LONDON CLAY FORMATION (WEATHERED))	4		48.67		
4.50 - 4.95	U					(1.10)			
5.00	D				5				
5.50	B			Firm grey brown sandy SILT/CLAY with partings of orange fine sand and reddish brown ferrous staining. (LONDON CLAY FORMATION (WEATHERED))	5.10		47.57		
5.50 - 6.00	B			Firm grey silty sandy CLAY with occasional off white to light brown fine shell fragments. (LONDON CLAY FORMATION)	5.50	(0.40)	47.17		
6.00	SPT	N=23 (3,4,5,5,6,7)		... At 6.00m bgl becoming firm to stiff.	6				
6.00	D					(1.30)			
6.80 - 7.00	B			Stiff to very stiff grey silty slightly sandy CLAY (LONDON CLAY FORMATION) ... Between 6.80m to 7.00m bgl (Moderately strong or stronger) grey SILTSTONE/ CLAYSTONE with off white shell fragments.	6.80		45.87		
7.50 - 7.95	U				7				
8.00	D				8				
8.50	D			... Between 8.50m to 10.00m bgl becoming extremely to very closely fissured.					
9.00	SPT	N=33 (4,5,6,8,10,9)			9				
9.00	D					(4.70)			
10.00	D				10				

Progress and Observations

Chiselling

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.50m bgl. 3. Borehole backfilled with arisings.

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)

Method: Cable Percussion

Date(s): 18/08/2021 - 19/08/2021

Logged By: DP

Drilled By: SEDS

Client: Portsmouth City Council

Co-ords: 470177.93, 109814.13

Checked By: DP

Flush:

Hydrock Project No: 19453

Ground Level: 52.67m OD

Scale: 1:50

Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Depth (m)	Type	Results							
10.50 - 10.95	U			Stiff to very stiff grey silty slightly sandy CLAY (LONDON CLAY FORMATION)	11				
11.50	D			Stiff grey silty CLAY (LONDON CLAY FORMATION)	11.50		41.17		
12.00	SPT	N=28 (4,4,6,7,7,8)		... Between 12.00m to 13.00m bgl becoming extremely to very closely fissured slightly sandy silty CLAY.	12				
12.00	D								
13.00	D				13				
13.50 - 13.95	U				14				
14.50	D						(6.50)		
15.00	SPT	N=35 (5,5,7,8,10,10)			15				
15.00	D								
16.00	D				16				
16.50 - 16.95	U				17				
17.00	D								
17.50	D			... From 17.50m bgl becoming stiff to very stiff.					
18.00	SPT	N=39 (6,8,8,9,11,11)		Very stiff grey silty CLAY (LONDON CLAY FORMATION)	18	18.00	34.67		
18.00	D								
19.00	D				19				
19.50 - 19.70	U						(2.45)		
19.75	D								
20.00	D			... Between 19.75mm to 20.00m bgl becming very closely fissured.	20				

Progress and Observations

Chiselling

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.50m bgl. 3. Borehole backfilled with arisings.

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)

Drilled By: SEDS

Flush:

Scale: 1:50

Progress and Observations									Chiselling			General Remarks: 1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.50m bgl. 3. Borehole backfilled with arisings.
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	

Logged in general accordance with BS5930:2015

Method: Cable Percussion

Date(s): 19/08/2021 - 20/08/2021

Logged By: DP

Drilled By: SEDS

Client: Portsmouth City Council

Co-ords: 470163.70, 109731.08

Checked By: DP

Flush:

Hydrock Project No: 19453

Ground Level: 49.31m OD

Scale: 1:50

Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Depth (m)	Type	Results							
0.30	ES			Brown silty slightly gravelly fine SAND with rootlets. Gravel is of fine to medium rounded to angular flint. (TOPSOIL)	0.30	(0.30)	49.01		
0.50	B			Orange brown and grey brown silty fine SAND (BOGNOR SAND MEMBER)	0.50	(0.20)	48.81		
1.00	B			Orange brown and grey brown silty to very silty fine SAND (BOGNOR SAND MEMBER) ... At 1.00m bgl slight saline odour.	1				
1.50	SPT	N=12 (1,1,2,3,3,4)		... From 1.50m bgl becoming silty.					
1.50	D					(2.50)			
2.00	D			... From 2.00m bgl becoming orangish brown and light grey mottled.	2				
2.50 - 2.95	U								
3.00	D			Orange and light grey very thinly bedded or thickly laminated fine silty SAND (BOGNOR SAND MEMBER)	3		46.31		
3.50	SPT	N=15 (2,3,3,3,4,5)				(0.90)			
3.50	D				3.90		45.41		
4.00 - 4.50	B			Orange brown and reddish brown silty fine SAND. (BOGNOR SAND MEMBER)	4	(0.10)	45.31		
4.50 - 4.95	U			Firm grey to greyish brown clayey fine SAND or very sandy CLAY (LONDON CLAY FORMATION (WEATHERED))		(1.00)			
5.00	D			Firm grey silty sandy CLAY. Sand is fine (LONDON CLAY FORMATION)	5		44.31		
5.50	D			... From 5.5m bgl becoming firm to stiff.					
6.00	SPT	N=24 (4,4,5,6,6,7)			6	(2.10)			
6.00	D								
7.00	D			... At 6.90m bgl claystone.	7		42.21		
7.50 - 7.75	U			Weak to medium strong grey SILTSTONE with off white shell fragments (LONDON CLAY FORMATION)		(0.90)			
8.00	D			Grey clayey fine SAND with occasional off white fine to medium shell fragments (LONDON CLAY FORMATION)	8		41.31		
8.50	D					(1.00)			
9.00	SPT	N=23 (2,5,5,5,6,7)		Firm to stiff grey extremely closely fissured silty slightly sandy CLAY. Sand is fine. (LONDON CLAY FORMATION)	9		40.31		
9.00	D								
10.00	D				10	(2.00)			

Progress and Observations

Chiselling

General Remarks:

1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.90m bgl. 3. Monitoring well installed at 5.00m bgl.

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)

				Project: Dunsbury Park				Borehole No BH7.03				
								Page No. 2 of 3				
Method: Cable Percussion				Date(s): 19/08/2021 - 20/08/2021				Logged By: DP		Drilled By: SEDS		
Client: Portsmouth City Council				Co-ords: 470163.70, 109731.08				Checked By: DP		Flush:		
Hydrock Project No: 19453				Ground Level: 49.31m OD						Scale: 1:50		
Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill			
Depth (m)	Type	Results										
10.50 - 10.95	U			Firm to stiff grey extremely closely fissured silty slightly sandy CLAY. Sand is fine. (LONDON CLAY FORMATION) ... From 10.00m bgl becoming stiff.								
11.00	D				11	11.00	38.31					
11.50	D			Stiff grey silty CLAY. (LONDON CLAY FORMATION)								
12.00	SPT	N=30 (5,4,7,7,8,8)		... Between 11.50m to 14.50m bgl becoming silty slightly sandy CLAY with partings of light grey silty fine SAND.	12							
12.00	D											
13.00	D				13							
13.50 - 13.95	U											
14.00	D				14							
14.50	D					(6.50)						
15.00	SPT	N=35 (5,7,9,8,9,9)		... At 15.00m bgl becoming slightly sandy.	15							
15.00	D											
16.00	D				16							
16.50 - 16.95	U											
17.00	D			... From 17.00m bgl becoming stiff to very stiff.	17							
17.50	D				17.50		31.81					
18.00	SPT	N=36 (6,7,8,9,9,10)		Very stiff grey silty CLAY. (LONDON CLAY FORMATION)	18							
18.00	D											
19.00	D				19		(2.95)					
19.50 - 19.95	U											
20.00	D				20							
Progress and Observations									Chiselling			General Remarks: 1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.90m bgl. 3. Monitoring well installed at 5.00m bgl.
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	



Method: Cable Percussion	Date(s): 19/08/2021 - 20/08/2021	Logged By: DP	Drilled By: SEDS
Client: Portsmouth City Council	Co-ords: 470163.70, 109731.08	Checked By: DP	Flush:
Hydrock Project No: 19453	Ground Level: 49.31m OD		Scale: 1:50

Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrum- entation / Backfill
Depth (m)	Type	Results							
				Very stiff grey silty CLAY. (LONDON CLAY FORMATION) ... At 20.00m bgl becoming very closely fissured grey silty CLAY with rare off white fine shell fragments. End of Borehole at 20.45m	20.45		28.86		
					21				
					22				
					23				
					24				
					25				
					26				
					27				
					28				
					29				
					30				

Progress and Observations									Chiselling			General Remarks:
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	
												1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 6.90m bgl. 3. Monitoring well installed at 5.00m bgl.

Method: Hand-dug Pit

Date(s): 26/08/2021

Logged By: SR

Checked By: DP

Client: Portsmouth City Council

Co-ords: 470185.80, 109928.31

Stability: Stable

Dimensions:

Scale:

Hydrock Project No: 19453

Ground Level: 58.00m OD

Plant: Hand dug pit

0.50m

1:10

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.20	ES			Grass over firm, orangish brown sandy gravelly CLAY/SILT. Gravel is rounded to angular fine to coarse of flint, concrete, limestone, ceramic and glass. Rare wood/timber and plastic. (MADE GROUND)		(0.45)		
0.80	ES			Soft to firm, greyish brown and locally orangish brown, slightly gravelly silty CLAY. Gravel is rounded to angular fine to coarse of flint, brick, concrete, ceramic, limestone, asphalt and metal fragments. Rare glass fragments. Occasional black wood remains and associated black staining. (MADE GROUND)	0.45	(0.55)	57.55	
Base of Excavation at 1.00m					1.00		57.00	
2								

General Remarks:

1. Inspection Hand pit excavated to 1.0m. 2. Backfilled with arisings.

Method: Trial Pit			Date(s): 21/07/2021		Logged By: DP		Checked By: DP		
Client: Portsmouth City Council			Co-ords: 470217.61, 109839.42		Stability: Stable		Dimensions: 3.80m		Scale: 1:25
Hydrock Project No: 19453			Ground Level: 53.11m OD		Plant: ZAXIS 130LCN		0.60m <div></div>		
Samples / Tests			Water-Strikes	Stratum Description	Depth m(g)	Thickness (m)	Level m OD	Legend	
Depth (m)	Type	Results							
0.20	ES			Brown, slightly gravelly, silty, fine SAND with abundant roots and rootlets. Gravel is angular to well rounded fine to coarse of flint. (TOPSOIL)	0.26	(0.26)	52.85		
0.60	B			Orangish brown mottled light grey, silty fine SAND. Locally undulated lamination apparent and reddish/ferrous staining and slight very weak to weak cementing. (BOGNOR SAND MEMBER)	0.60	(0.34)	52.51		
1.80 1.80	D HSV	48kPa		Firm, light grey mottled orange, sandy SILT with locally undulated laminations. (BOGNOR SAND MEMBER)	1				
2.80 2.80 3.00	D HSV D	69kPa			2	(2.80)			
					3				
					3.40		49.71		
				Base of Excavation at 3.40m					
					4				
					5				

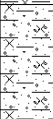
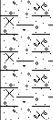
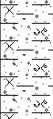
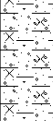
General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

Method: Trial Pit	Date(s): 21/07/2021	Logged By: DP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470140.59, 109789.56	Stability: Stable	Dimensions: 3.50m
Hydrock Project No: 19453	Ground Level: 51.04m OD	Plant: ZAXIS 130LCN	0.60m <input type="text"/> 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.20	ES	66kPa		Brown, slightly gravelly, silty, fine SAND with abundant roots and rootlets. Gravel is angular to well rounded fine to coarse of flint. (TOPSOIL)	0.35	(0.35)	50.69	
0.50	HSV			Orange brown mottled greyish brown and light grey, slightly gravelly, silty SAND. Gravel is angular to well rounded medium to coarse of flint. (BOGNOR SAND MEMBER)	0.60	(0.25)	50.44	
0.80	D			Orange brown, greyish brown and light grey mottled silty SAND. (BOGNOR SAND MEMBER)				
1.50	B				1			
2.50	D				2	(2.40)		
					3			
					4			
					5			
								
								
								
								
								
								
								
								
								
								
								
								
								
								

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

Method: Trial Pit	Date(s): 22/07/2021	Logged By: YP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470262.53, 109857.32	Stability: Stable	Dimensions: 2.70m
Hydrock Project No: 19453	Ground Level: 52.40m OD	Plant: ZAXIS 130LCN	0.60m <input type="text"/> 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.50 0.50	B ES			Long grass over soft, brown, slightly gravelly, sandy SILT with abundant roots and rootlets. Gravel is rounded to subangular fine to coarse of flint. (TOPSOIL)	0.35	(0.35)	52.05	
				Orangish brown slightly mottled light grey, slightly gravelly, clayey, sandy SILT. Gravel is rounded fine to medium of flint. Sand is fine. (BOGNOR SAND MEMBER)	0.75	(0.40)	51.65	
1.35 1.35	D HSV	74kPa		Firm, orangish brown slightly mottled light grey, slightly gravelly, sandy, silty CLAY. Gravel is rounded to subrounded fine to medium of flint. Sand is fine. (BOGNOR SAND MEMBER)	1			
2.80	HSV	58kPa			2	(2.35)		
3.20	B				3			
				Base of Excavation at 3.10m	3.10		49.30	
					4			
					5			

General Remarks:

1. No groundwater encountered. 2. Backfilled with arisings.

Method: Trial Pit			Date(s): 21/07/2021		Logged By: DP		Checked By: DP			
Client: Portsmouth City Council			Co-ords: 470261.33, 109804.52		Stability: Stable		Dimensions:		Scale:	
Hydrock Project No: 19453			Ground Level: 51.53m OD		Plant: ZAXIS 130LCN		0.60m <div></div> 3.50m		1:25	
Samples / Tests			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend		
Depth (m)	Type	Results								
0.50 0.50	B ES			Brown, slightly gravelly, silty, fine SAND with abundant roots and rootlets and rare angular medium brick fragments. Gravel is angular to well rounded fine to coarse of flint. (TOPSOIL)	0.24	(0.24)	51.29			
				Orangish brown mottled light grey, silty, fine SAND. Locally undulated lamination apparent and reddish/ferrous staining and slight very weak to weak cementing. (BOGNOR SAND MEMBER)						
2.00	D				2	(2.86)				
3.00	D				3					
				Base of Excavation at 3.10m						
					4					
					5					

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

Method: Trial Pit	Date(s): 22/07/2021	Logged By: YP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470220.00, 109795.37	Stability: Stable	Dimensions: 2.80m
Hydrock Project No: 19453	Ground Level: 52.26m OD	Plant: KUBOTA KX080-40	Scale: 1:25

Samples / Tests			Water- Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.20	ES			Long grass over soft, brown, slightly gravelly, sandy SILT with abundant roots and rootlets. Gravel is rounded to subangular fine to coarse of flint. (TOPSOIL)	0.35	(0.35)	51.91	
0.50	B			Orangish brown slightly mottled light grey, slightly gravelly, sandy SILT. Gravel is rounded fine to medium of flint. Sand is fine. (HEAD DEPOSITS)	0.70	(0.35)	51.56	
2.80	B			Firm, orangish brown mottled light grey, clayey, silty, fine SAND with rare dark brown/black fibrous material (possible old roots). (BOGNOR SAND MEMBER)	3.20	(2.50)	49.06	
3.50 3.50	D HSV	53kPa		Soft to firm, light grey mottled orange, silty, sandy CLAY. Sand is fine. (LONDON CLAY FORMATION (WEATHERED))	3.70	(0.50)	48.56	
				Base of Excavation at 3.70m				
					4			
					5			

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

Method: Trial Pit	Date(s): 22/07/2021	Logged By: YP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470227.89, 109743.90	Stability: Stable	Dimensions: 3.10m
Hydrock Project No: 19453	Ground Level: 50.88m OD	Plant: KUBOTA KX080-40	Scale: 1:25

Samples / Tests			Water- Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.50	ES			Long grass over soft, brown, slightly gravelly, sandy SILT with frequent roots and rootlets. Gravel is rounded to subangular fine to coarse of flint. (TOPSOIL)	0.35	(0.35)	50.53	
0.70	B			Orangish brown slightly mottled light grey, slightly gravelly, silty, fine SAND. Gravel is rounded fine to medium of flint. (HEAD DEPOSITS)	0.80	(0.45)	50.08	
2.50	B			Firm, orangish brown mottled light grey, silty, fine SAND. (BOGNOR SAND MEMBER)	1			
3.20	HSV	48kPa		Firm, light grey mottled orange, silty, sandy CLAY. Sand is fine. (LONDON CLAY FORMATION (WEATHERED))	3.10		47.78	
				Base of Excavation at 3.50m	3.50	(0.40)	47.38	
					4			
					5			

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

Method: Trial Pit	Date(s): 21/07/2021	Logged By: YP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470121.97, 109723.34	Stability: Stable	Dimensions: Scale:
Hydrock Project No: 19453	Ground Level: 50.02m OD	Plant: KUBOTA KX080-40	0.50m <input type="text"/> 3.50m 1:25

Samples / Tests			Water- Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
				Long grass over brown, slightly sandy, gravelly SILT (dry) with abundant roots and rootlets. Gravel is subrounded to rounded fine to coarse of flint. (TOPSOIL)	0.30	(0.30)	49.72	
0.50	ES			Brown with occasional black mottling, slightly sandy, slightly gravelly SILT with rare bricks, concrete, ceramic, plastic, wood/ timber fragments and rare chalk fragments. Gravel is subrounded to rounded fine to coarse of flint. (MADE GROUND)				
0.70	B							
1.00	ES				1	(1.25)		
				... At 1.50m bgl one piece of metal pipework approximately 300mm long.	1.55		48.47	
1.70	B			Orangish brown mottled light grey, clayey, fine SAND with rare rounded fine to coarse of flint. (BOGNOR SAND MEMBER)	2	(0.95)		
					2.50		47.52	
2.70	HSV	65kPa		Light grey mottled orange and brown, sandy, silty CLAY. (BOGNOR SAND MEMBER)				
3.00	D				3	(1.00)		
					3.50		46.52	
				Base of Excavation at 3.50m				
					4			
					5			

General Remarks:

1. No groundwater encountered. 2. Backfilled with arisings.

Method: Trial Pit	Date(s): 21/07/2021	Logged By: YP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470186.83, 109722.50	Stability: Stable	Dimensions: 3.40m
Hydrock Project No: 19453	Ground Level: 50.27m OD	Plant: KUBOTA KX080-40	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
				Long grass over brown, slightly sandy, gravelly SILT with abundant roots and rootlets. Gravel is rounded to subangular fine to coarse of flint. (TOPSOIL)	0.40	(0.40)	49.87	
0.60	ES			Orangish brown and light grey mottled silty clayey fine SAND with occasional rootlets. (BOGNOR SAND MEMBER)	0.90	(0.50)	49.37	
0.80	B			Soft to firm, orangish brown mottled light grey and light brown, very sandy, silty CLAY. (BOGNOR SAND MEMBER)	1			
2.60	B				2	(2.10)		
				Base of Excavation at 3.00m	3.00		47.27	
3.40	D				4			
					5			

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

Checked By: DP

Dimensions:	Scale:
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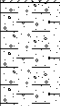
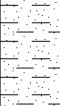
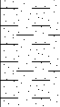
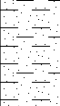
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Method: Trial Pit	Date(s): 22/07/2021	Logged By: YP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 470238.24, 109691.08	Stability: Stable	Dimensions: 3.20m
Hydrock Project No: 19453	Ground Level: 48.07m OD	Plant: KUBOTA KX080-40	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
2.10	HSV	53kPa		Long grass over soft, brown, slightly gravelly, sandy SILT with frequent roots and rootlets. Gravel is rounded to subangular fine to coarse of flint. (TOPSOIL)	0.40	(0.40)	47.67	
				Orangish brown slightly mottled light grey, slightly gravelly, silty, clayey, fine SAND. Gravel is subrounded fine to medium of flint. (BOGNOR SAND MEMBER)	1.90	(1.50)	46.17	
3.50	HSV	56kPa		Firm, orangish brown mottled light grey, sandy, silty CLAY with rare dark orange staining. Sand is fine. (LONDON CLAY FORMATION (WEATHERED))	3.50	(1.60)	44.57	
				Base of Excavation at 3.50m				
					4			
					5			

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

			Project: Dunsbury Park			Trialpit No TP7.11 Page No. 1 of 1			
Method: Trial Pit			Date(s): 21/07/2021		Logged By: YP		Checked By: DP		
Client: Portsmouth City Council			Co-ords: 470249.20, 109662.55		Stability: Stable		Dimensions:		Scale:
Hydrock Project No: 19453			Ground Level: 46.59m OD		Plant: KUBOTA KX080-40		0.50m <input type="text"/> 3.10m		1:25
Samples / Tests			Water- Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	
Depth (m)	Type	Results							
0.30	ES	71kPa		Long grass over brown, slightly sandy, slightly gravelly SILT with abundant roots and rootlets. Gravel is subrounded to subangular fine to coarse of flint. (TOPSOIL)	0.35	(0.35)	46.24		
0.60	ES			Orangish brown mottled light grey, slightly gravelly, silty, sandy CLAY with frequent rootlets. Gravel is rounded to subrounded fine to coarse of flint. (HEAD DEPOSITS)	0.70	(0.35)	45.89		
0.90 1.00 1.20	B B HSV			Firm, orangish brown mottled light grey, slightly laminated, silty, sandy CLAY. Sand is fine. (BOGNOR SAND MEMBER)	1				
2.10	D	65kPa			2	(2.80)			
2.80 2.80	D HSV				3				
3.50	D			Base of Excavation at 3.50m	3.50		43.09		
					4				
					5				

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

HoleBASE SI - Hydrock Dynamic Sampling Template v3

Drilled By: Impact Geotechnical

Rig: Terrier

Scale: 1:30

General Remarks:
1. Inspection hand pit excavated to 1.20m bgl. 2. No groundwater encountered. 3. Borehole backfilled with arisings.

Logged in general accordance with BS5930:2015

HoleBASE SI - Hydrock Dynamic Sampling Template v3

HoleBASE SI - Hydrock Dynamic Sampling Template v3

HoleBASE SI - Hydrock Dynamic Sampling Template v3

Drilled By: Impact Geotechnical

Riq: Terrier

Scale: 1:30

General Remarks:
1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 1.40m bgl. 3. Borehole backfilled with arisings.

Appendix D Geotechnical Test Results and Geotechnical Plots





Laboratory Report



GEO Site & Testing Services Ltd

Contract Number: 55407

Client Ref: **19453-GELO**

Report Date: **10-09-2021**

Client PO:

Client **Hydrock Limited**
Hydrock
First Floor
5 Castlebridge
5-19 Cowbridge Road East
Cardiff
CF11 9AB
Tel: 02920 023665 Mob: 07392 081090

Contract Title: **Dunsbury Park**
For the attention of: **David Pethica**

Date Received: **17-08-2021**
Date Completed: **10-09-2021**

Test Description	Qty
Moisture Content BS 1377:1990 - Part 2 : 3.2 - * UKAS	44
4 Point Liquid & Plastic Limit BS 1377:1990 - Part 2 : 4.3 & 5.3 - * UKAS	33
PSD Wet Sieve method BS 1377:1990 - Part 2 : 9.2 - * UKAS	15
BRE Reduced Suite includes pH, water & acid soluble sulphate and total sulphur Sub-contracted Test - @ Non Accredited Test	19
Dry Den/MC (Vibrating Hammer Method) BS 1377:1990 - Part 4 : 3.7 - * UKAS	3
Dry Den/MC (4.5kg Rammer Method 1 litre mould/CBR Mould) BS 1377:1990 - Part 4 : 3.6 - * UKAS	1

Notes: **Observations and Interpretations are outside the UKAS Accreditation**
* - denotes test included in laboratory scope of accreditation
- denotes test carried out by approved contractor
@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories:

Emma Sharp (Business Support Manager) - Paul Evans (Director) - Richard John (Quality/Technical Manager)
Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (Quality Assistant / Administrator / Health and Safety Coordinator)



Laboratory Report



GEO Site & Testing Services Ltd

Contract Number: 55407

Test Description	Qty
CBR: Rem specified MC and tested at top only BS 1377:1990 - Part 4 : 7 - * UKAS	13
Soaking or Curing CBR specimens BS 1377:1990 - Part 4 : 7.3 - @ Non Accredited Test	28
One-dimensional Consolidation 75mm or 50mm diameter specimens (5 days) BS 1377:1990 - Part 5 : 3 - * UKAS	7
Disposal of samples for job	1

Notes: Observations and Interpretations are outside the UKAS Accreditation

* - denotes test included in laboratory scope of accreditation

- denotes test carried out by approved contractor

@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories:

Emma Sharp (Business Support Manager) - Paul Evans (Director) - Richard John (Quality/Technical Manager)

Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (Quality Assistant / Administrator / Health and Safety Coordinator)

GEO Site & Testing Services Ltd

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

Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk



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

Contract Number	55407	
Site Name	Dunsbury Park	
Date Tested	02/09/2021	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
WS101			0.50	-	0.70	Brown fine gravelly sandy silty CLAY.
WS101			5.00	-		Brown fine sandy silty CLAY.
WS401			2.50	-		Brown fine sandy silty CLAY.
WS402			4.00	-		Brown fine sandy silty CLAY.
WS403			2.00	-		Brown fine sandy silty CLAY.
WS404			4.60	-	5.00	Brown fine sandy silty CLAY.
WS405			3.80	-		Brown fine sandy silty CLAY.
WS406			3.80	-		Brown fine sandy silty CLAY.
WS602			0.60	-	1.00	Brown fine sandy silty CLAY.
WS603			1.80	-		Brown fine sandy silty CLAY.
WS604			3.60	-		Brown fine sandy silty CLAY.
WS605			2.70	-		Brown fine sandy silty CLAY.
WS606			5.00	-		Brown fine sandy silty CLAY.
WS701			1.50	-		Brown fine sandy silty CLAY.
WS702			0.70	-		Brown fine sandy silty CLAY.
WS703			3.80	-	4.00	Brown fine sandy silty CLAY.
WS704			4.00	-		Brown fine sandy silty CLAY.
WS706			4.00	-		Brown fine sandy silty CLAY.
WS707			2.00	-	2.50	Brown fine sandy silty CLAY.
WS707			5.00	-		Brown fine sandy silty CLAY.
				-		
				-		
				-		
				-		

Operators	Checked	09/09/2021	Richard John (Advanced Testing Manager)
Clayton Jenkins	Approved	09/09/2021	Paul Evans (Quality/Technical Manager)

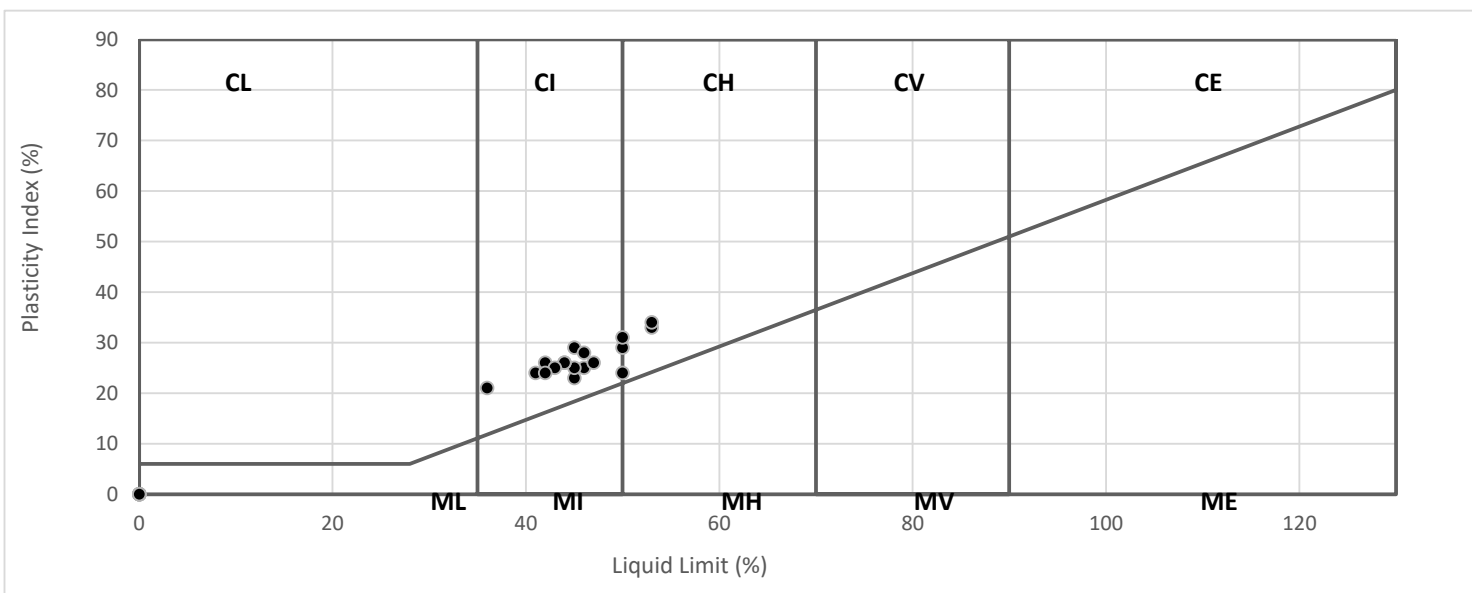


Contract Number	55407	
Project Location	Dunsbury Park	
Date Tested	02/09/2021	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
WS101			0.50	-	0.70	16	36	15	21	60	CI Intermediate Plasticity
WS101			5.00	-		17	45	16	29	100	CI Intermediate Plasticity
WS401			2.50	-		23	53	20	33	100	CH High Plasticity
WS402			4.00	-		19	53	19	34	100	CH High Plasticity
WS403			2.00	-		20					
WS404			4.60	-	5.00	17	42	16	26	100	CI Intermediate Plasticity
WS405			3.80	-		22	45	22	23	100	CI Intermediate Plasticity
WS406			3.80	-		21	46	18	28	100	CI Intermediate Plasticity
WS602			0.60	-	1.00	24	46	21	25	100	CI Intermediate Plasticity
WS603			1.80	-		20	50	21	29	100	CI/H Inter/High Plasticity
WS604			3.60	-		21	45	20	25	100	CI Intermediate Plasticity
WS605			2.70	-		19	50	26	24	100	CI/H Inter/High Plasticity
WS606			5.00	-		19	44	18	26	100	CI Intermediate Plasticity
WS701			1.50	-		25	47	21	26	100	CI Intermediate Plasticity
WS702			0.70	-		19	41	17	24	100	CI Intermediate Plasticity
WS703			3.80	-	4.00	21	44	18	26	100	CI Intermediate Plasticity
WS704			4.00	-		22	50	19	31	100	CI/H Inter/High Plasticity
WS706			4.00	-		21	43	18	25	100	CI Intermediate Plasticity
WS707			2.00	-	2.50	25					
WS707			5.00	-		21	42	18	24	100	CI Intermediate Plasticity
				-							
				-							
				-							
				-							

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION BS 5930:1999+A2:2010



Operators	Checked	09/09/2021	Richard John (Advanced Testing Manager)
Clayton Jenkins	Approved	09/09/2021	Paul Evans (Quality/Technical Manager)



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

Contract Number	55407	
Site Name	Dunsbury Park	
Date Tested	02/09/2021	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
TP101			2.50	-		Brown fine sandy silty CLAY.
TP101			3.00	-		Brown fine sandy silty CLAY.
TP102			1.50	-		Brown fine sandy silty CLAY.
TP102			2.00	-		Brown fine sandy silty CLAY.
TP102			2.50	-		Brown fine sandy silty CLAY.
TP103			3.00	-		Brown fine sandy silty CLAY.
TP401			0.60	-		Brown fine sandy silty CLAY.
TP402			1.00	-		Brown fine sandy silty CLAY.
TP403			2.50	-		Brown fine sandy silty CLAY.
TP405			3.00	-		Brown fine sandy silty CLAY.
TP406			2.50	-		Brown fine sandy silty CLAY.
TP601			0.60	-		Brown fine sandy silty CLAY.
TP603			3.20	-		Brown fine sandy silty CLAY.
TP604			1.20	-		Brown fine sandy silty CLAY.
TP608			1.80	-		Brown fine sandy silty CLAY.
TP609			0.80	-		Brown fine sandy silty CLAY.
TP701			1.80	-		Brown fine sandy silty CLAY.
TP702			0.80	-		Brown fine sandy silty CLAY.
TP702			1.50	-		Brown fine sandy silty CLAY.
TP704			0.50	-		Brown fine sandy silty CLAY.
TP704			3.00	-		Brown fine sandy silty CLAY.
				-		
				-		
				-		

Operators	Checked	09/09/2021	Richard John (Advanced Testing Manager)
Clayton Jenkins	Approved	09/09/2021	Paul Evans (Quality/Technical Manager)



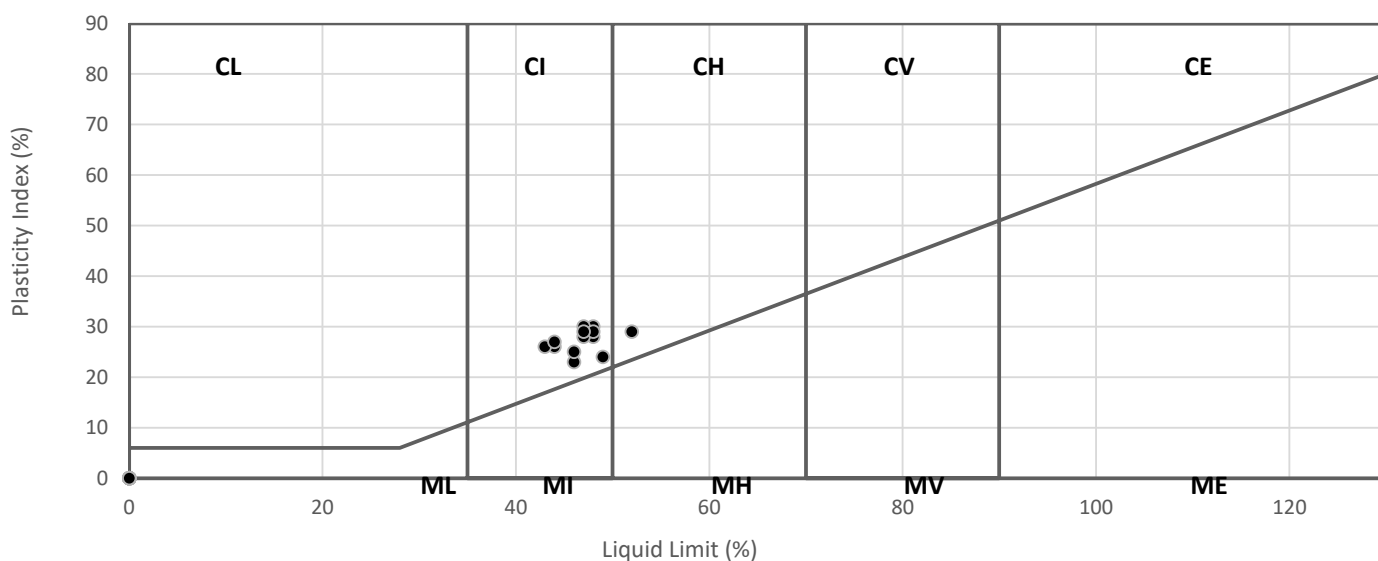
NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)

Contract Number	55407	
Project Location	Dunsbury Park	
Date Tested	02/09/2021	

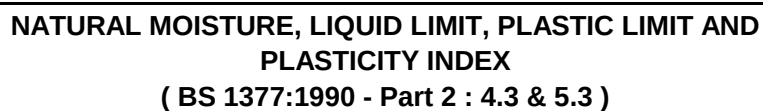
Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
TP101			2.50	-		16					
TP101			3.00	-		22					
TP102			1.50	-		23					
TP102			2.00	-		31					
TP102			2.50	-		22	44	18	26	100	CI Intermediate Plasticity
TP103			3.00	-		29	52	23	29	100	CH High Plasticity
TP401			0.60	-		20	48	18	30	100	CI Intermediate Plasticity
TP402			1.00	-		27	49	25	24	100	CI Intermediate Plasticity
TP403			2.50	-		17	47	17	30	100	CI Intermediate Plasticity
TP405			3.00	-		21	48	20	28	100	CI Intermediate Plasticity
TP406			2.50	-		29					
TP601			0.60	-		19	43	17	26	100	CI Intermediate Plasticity
TP603			3.20	-		23	47	19	28	100	CI Intermediate Plasticity
TP604			1.20	-		26	46	23	23	100	CI Intermediate Plasticity
TP608			1.80	-		24	46	21	25	100	CI Intermediate Plasticity
TP609			0.80	-		19	44	17	27	100	CI Intermediate Plasticity
TP701			1.80	-		24	48	19	29	100	CI Intermediate Plasticity
TP702			0.80	-		19	47	18	29	100	CI Intermediate Plasticity
TP702			1.50	-		24					
TP704			0.50	-		22					
TP704			3.00	-		26					
				-							
				-							
				-							

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION BS 5930:1999+A2:2010



Operators	Checked	09/09/2021	Richard John (Advanced Testing Manager)
Clayton Jenkins	Approved	09/09/2021	Paul Evans (Quality/Technical Manager)



Contract Number	55407	
Site Name	Dunsbury Park	
Date Tested	02/09/2021	
	DESCRIPTIONS	

[illegible]

Operators	Checked	09/09/2021	Richard John (Advanced Testing Manager)
Clayton Jenkins	Approved	09/09/2021	Paul Evans (Quality/Technical Manager)





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

Contract Number 55407

Borehole/Pit No. WS601

Site Name Dunsbury Park

Sample No.

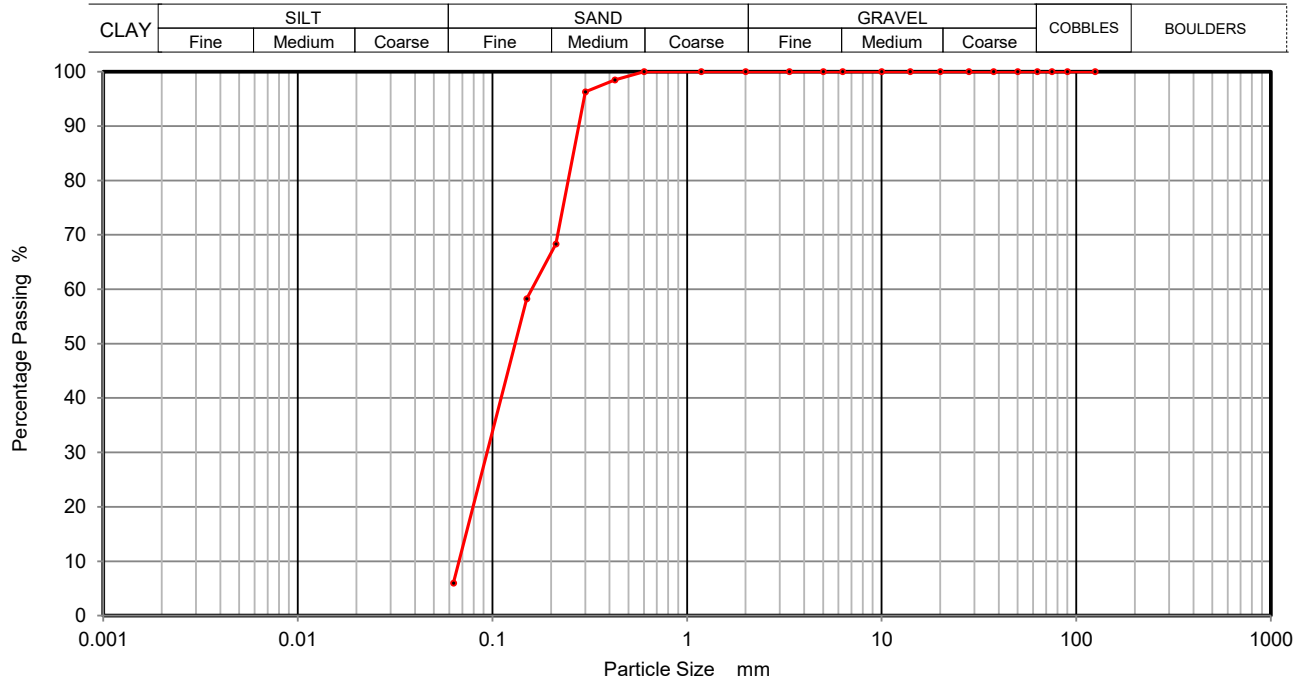
Soil Description Brown silty fine to coarse SAND.

Depth Top 0.80

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	98		
0.3	96		
0.212	68		
0.15	58		
0.063	6		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	94
Silt and Clay	6

Remarks

Preparation and testing in accordance with BS1377 unless noted below

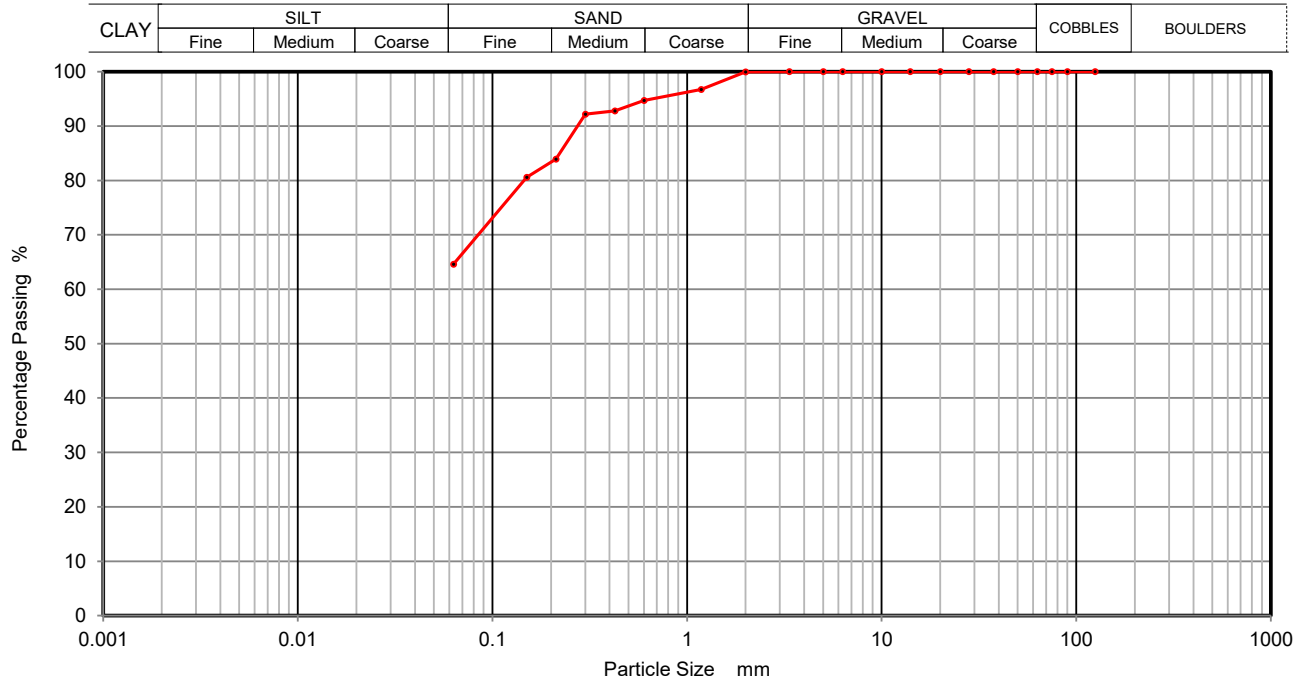
Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

	PARTICLE SIZE DISTRIBUTION BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Contract Number	55407
		Borehole/Pit No.	TP404
Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown fine to medium sandy silty CLAY.	Depth Top	0.50
		Depth Base	
Date Tested	03/09/2021	Sample Type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	97		
0.6	95		
0.425	93		
0.3	92		
0.212	84		
0.15	81		
0.063	65		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	35
Silt and Clay	65

Remarks
 Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

Contract Number 55407

Borehole/Pit No. TP407

Site Name Dunsbury Park

Sample No.

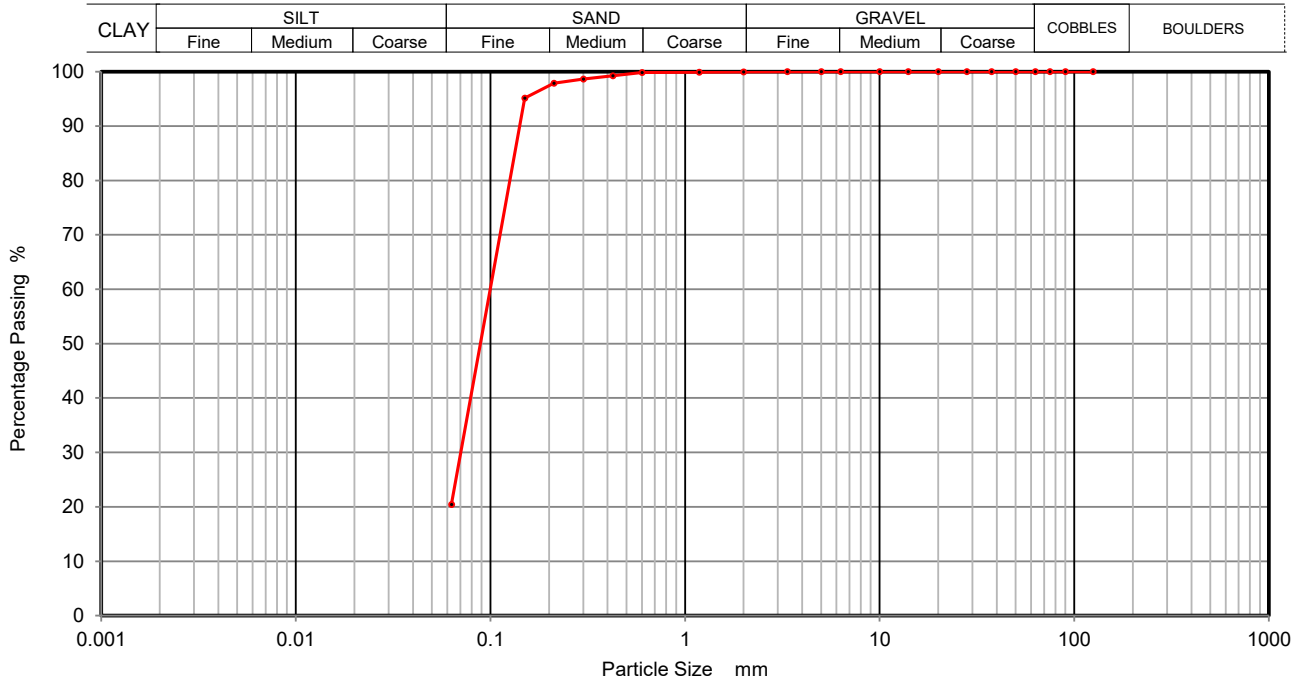
Soil Description Brown silty clayey fine to coarse SAND.

Depth Top 0.70

Depth Base 0.80

Date Tested 03/09/2021

Sample Type B



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

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	80
Silt and Clay	20

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

Contract Number 55407

Borehole/Pit No. TP604

Site Name Dunsbury Park

Sample No.

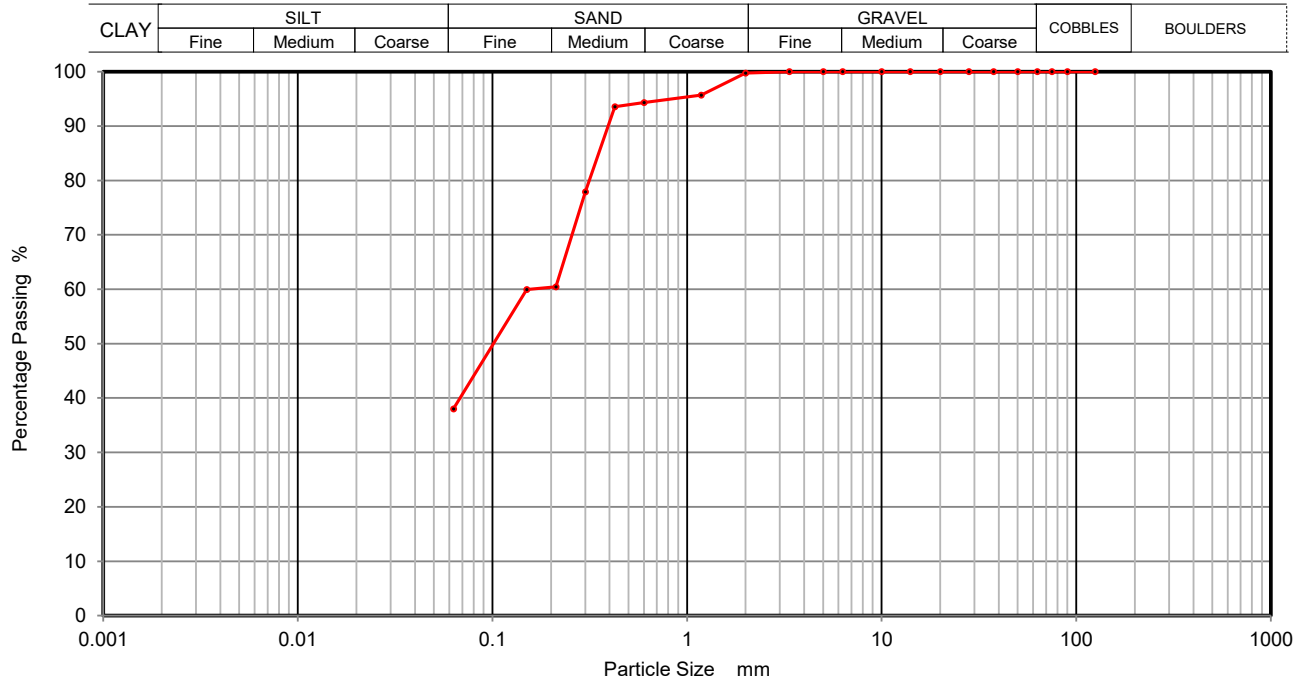
Soil Description Brown silty clayey fine to coarse SAND.

Depth Top 1.00

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	96		
0.6	94		
0.425	94		
0.3	78		
0.212	60		
0.15	60		
0.063	38		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	62
Silt and Clay	38

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

Contract Number 55407

Borehole/Pit No. TP606

Site Name Dunsbury Park

Sample No.

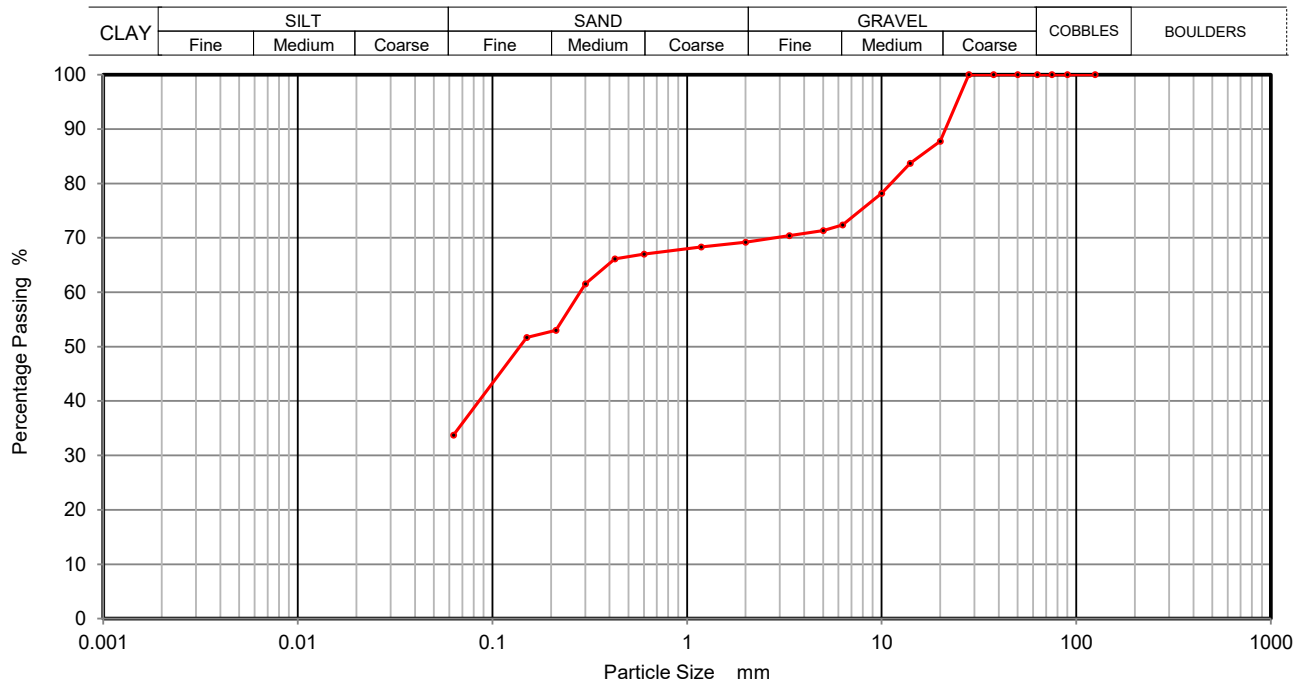
Soil Description Brown fine to coarse gravelly silty clayey fine to coarse SAND.

Depth Top 0.60

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	88		
14	84		
10	78		
6.3	72		
5	71		
3.35	70		
2	69		
1.18	68		
0.6	67		
0.425	66		
0.3	62		
0.212	53		
0.15	52		
0.063	34		

Sample Proportions	% dry mass
Cobbles	0
Gravel	31
Sand	35
Silt and Clay	34

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

Contract Number 55407

Borehole/Pit No. TP607

Site Name Dunsbury Park

Sample No.

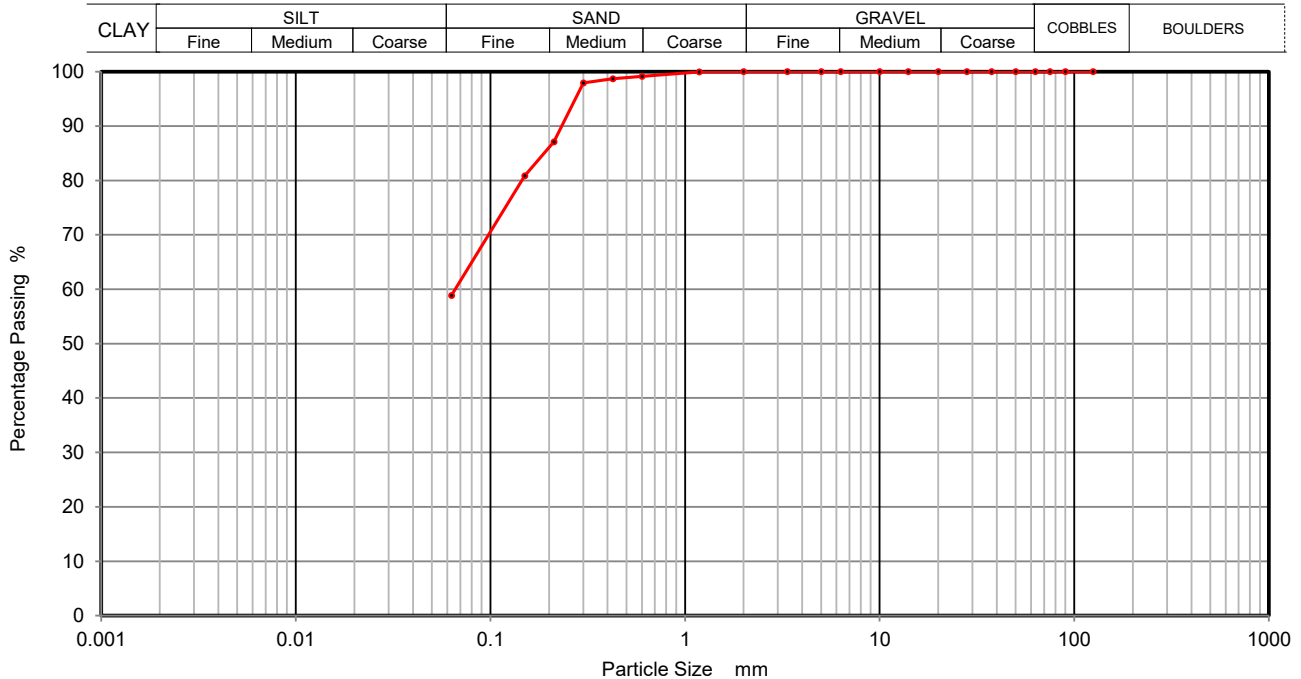
Soil Description Brown fine to coarse sandy silty CLAY.

Depth Top 0.70

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	99		
0.3	98		
0.212	87		
0.15	81		
0.063	59		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	41
Silt and Clay	59

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

Contract Number 55407

Borehole/Pit No. TP608

Site Name Dunsbury Park

Sample No.

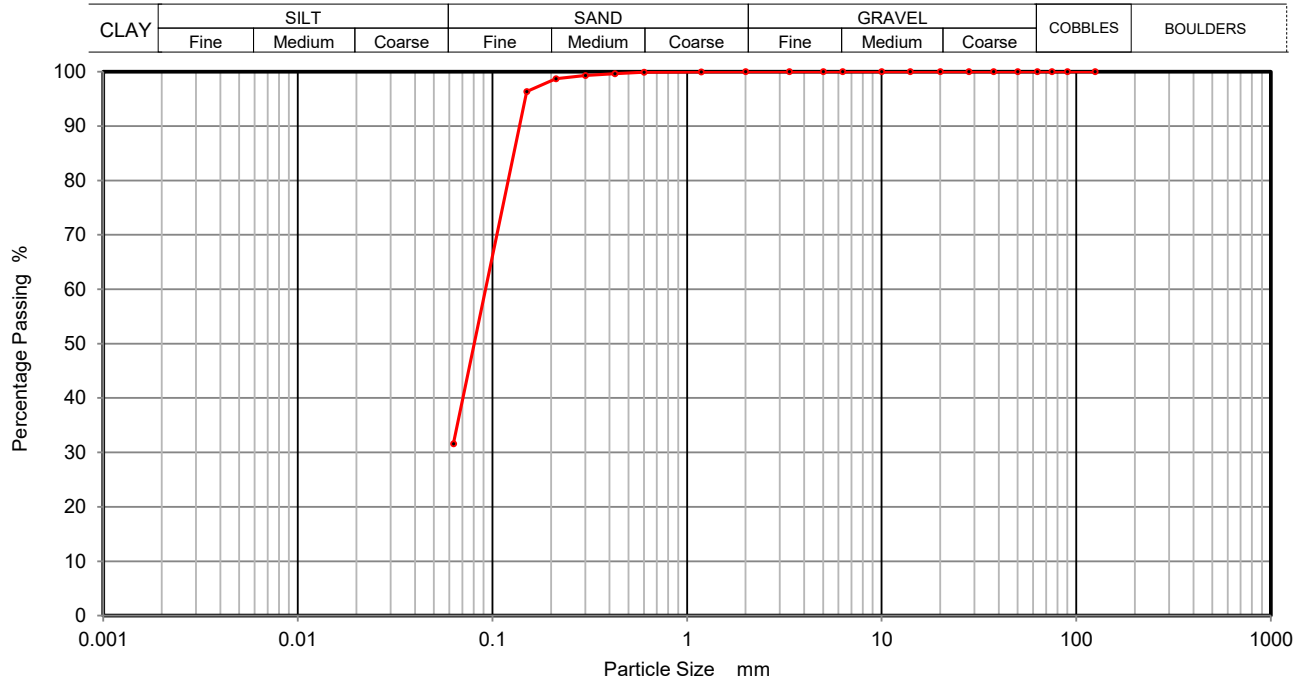
Soil Description Brown silty clayey fine to coarse SAND.

Depth Top 0.90

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	100		
0.3	99		
0.212	99		
0.15	96		
0.063	32		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	68
Silt and Clay	32

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

Contract Number 55407

Borehole/Pit No. TP703

Site Name Dunsbury Park

Sample No.

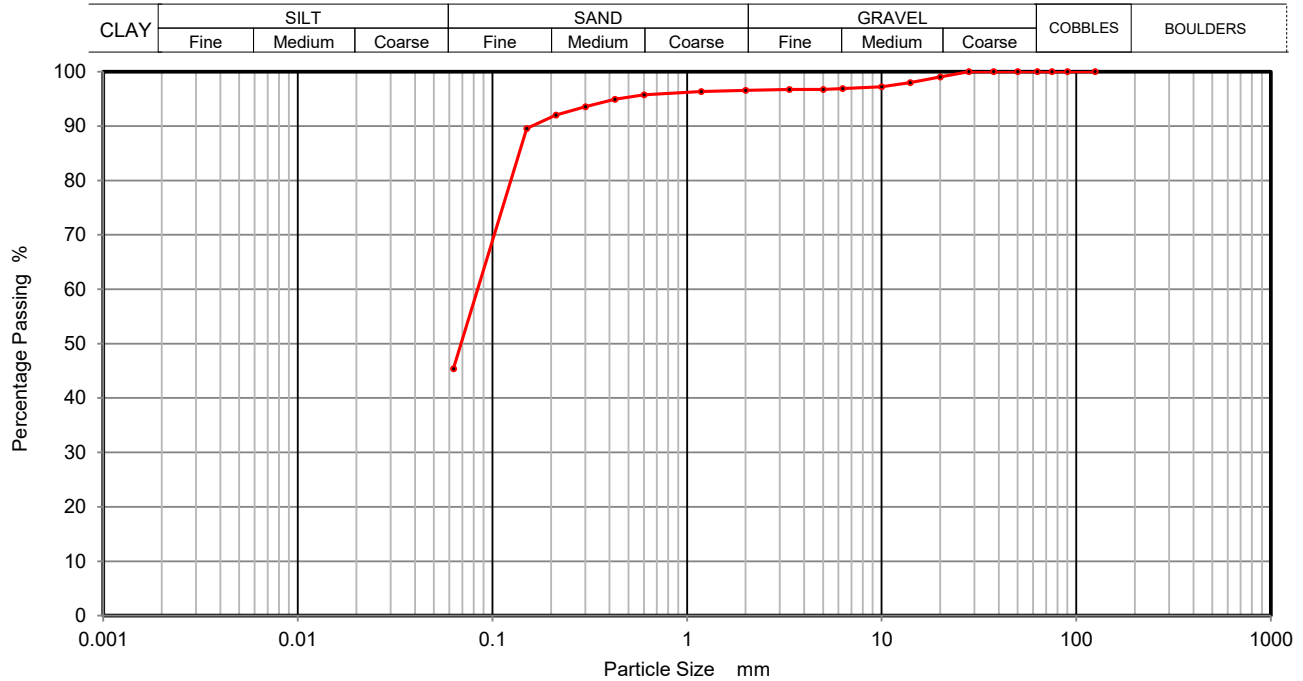
Soil Description Brown fine slightly gravelly silty clayey fine to coarse SAND.

Depth Top 0.50

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	99		
14	98		
10	97		
6.3	97		
5	97		
3.35	97		
2	97		
1.18	96		
0.6	96		
0.425	95		
0.3	94		
0.212	92		
0.15	90		
0.063	45		

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	52
Silt and Clay	45

Remarks

Preparation and testing in accordance with BS1377 unless noted below

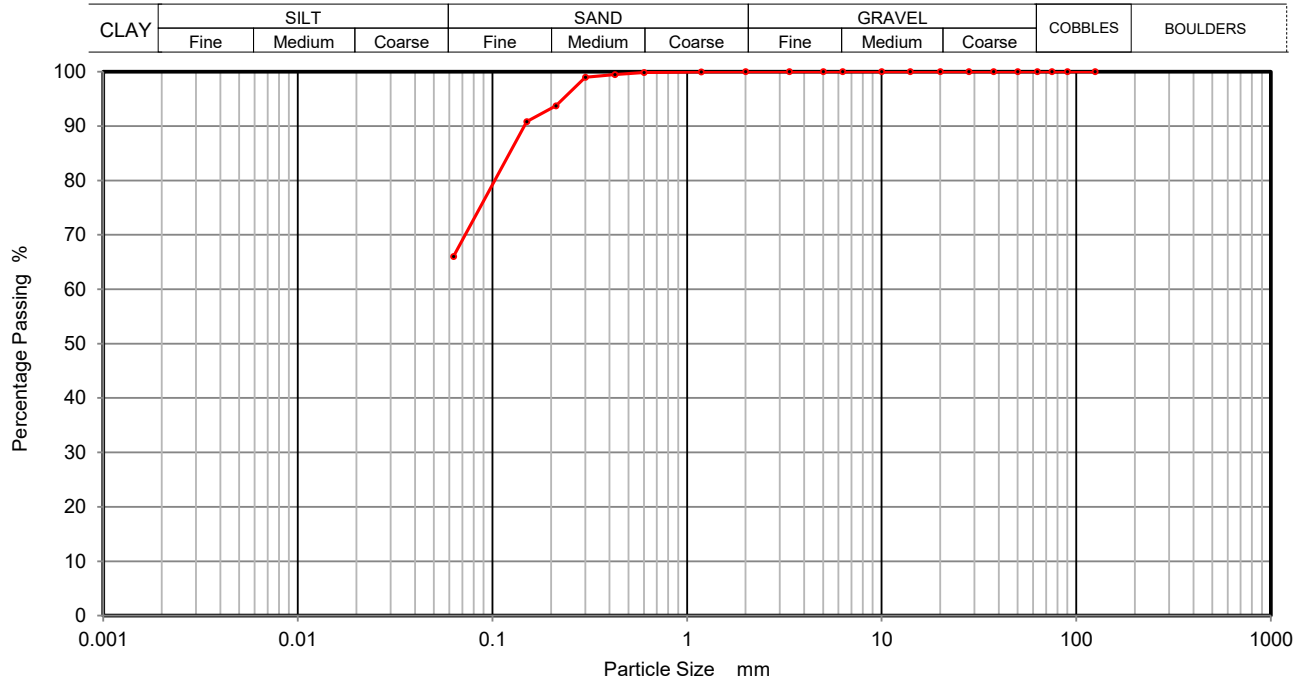
Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

Contract Number	55407
	Borehole/Pit No. TP705
Site Name	Dunsbury Park
Soil Description	Brown fine to coarse sandy silty CLAY.
	Depth Top 2.80
Date Tested	03/09/2021
	Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	99		
0.3	99		
0.212	94		
0.15	91		
0.063	66		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	34
Silt and Clay	66

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

Contract Number 55407

Borehole/Pit No. TP706

Site Name Dunsbury Park

Sample No.

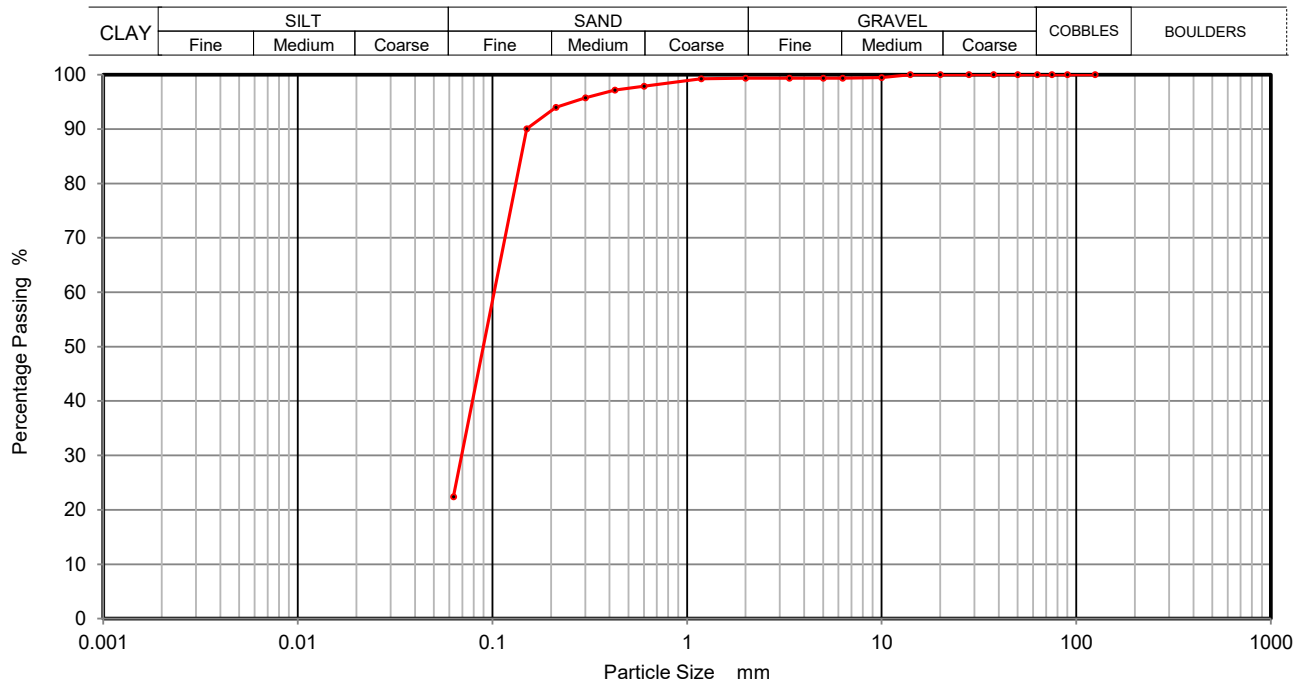
Soil Description Brown fine slightly gravelly silty clayey fine to coarse SAND.

Depth Top 0.80

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	99		
3.35	99		
2	99		
1.18	99		
0.6	98		
0.425	97		
0.3	96		
0.212	94		
0.15	90		
0.063	22		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	77
Silt and Clay	22

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

Contract Number 55407

Borehole/Pit No. TP707

Site Name Dunsbury Park

Sample No.

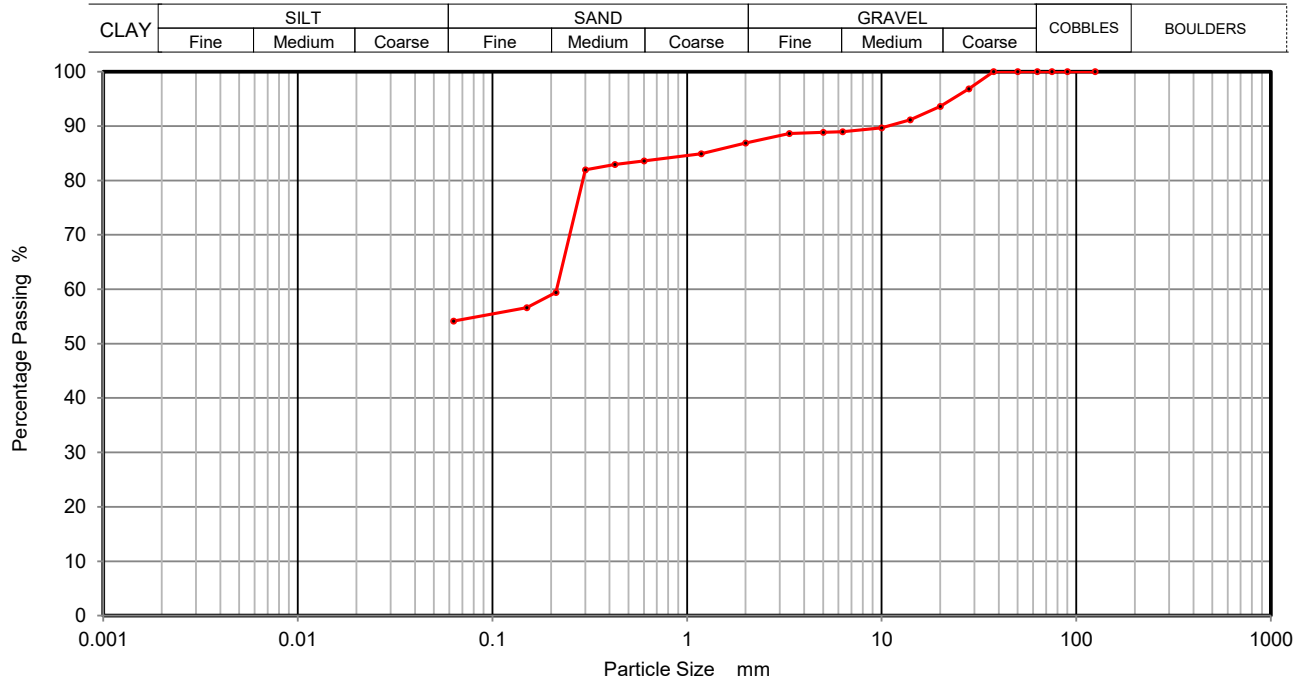
Soil Description Brown fine slightly gravelly fine to coarse sandy silty CLAY.

Depth Top 1.70

Depth Base

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	97		
20	94		
14	91		
10	90		
6.3	89		
5	89		
3.35	89		
2	87		
1.18	85		
0.6	84		
0.425	83		
0.3	82		
0.212	59		
0.15	57		
0.063	54		

MC in accordance with BS1377 Part 2 1990 Clause 3.2	
Moisture Content %	19

Sample Proportions	% dry mass
Cobbles	0
Gravel	13
Sand	33
Silt and Clay	54

Remarks

Preparation and testing in accordance with BS1377 unless noted below

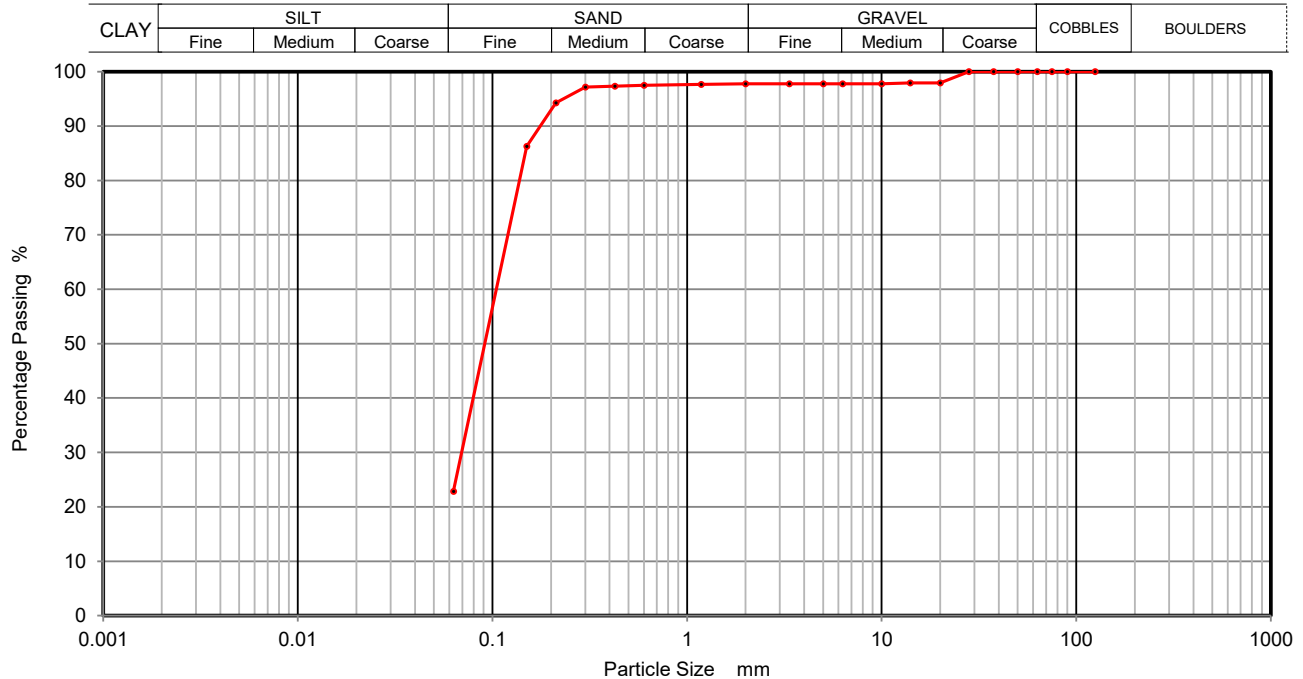
Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

Contract Number	55407
	Borehole/Pit No. TP709
Site Name	Dunsbury Park
Soil Description	Brown fine slightly gravelly silty clayey fine to coarse SAND.
Date Tested	03/09/2021
Sample No.	
Depth Top	0.80
Depth Base	
Sample Type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	98		
10	98		
6.3	98		
5	98		
3.35	98		
2	98		
1.18	98		
0.6	98		
0.425	97		
0.3	97		
0.212	94		
0.15	86		
0.063	23		

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	75
Silt and Clay	23

Remarks
Preparation and testing in accordance with BS1377 unless noted below

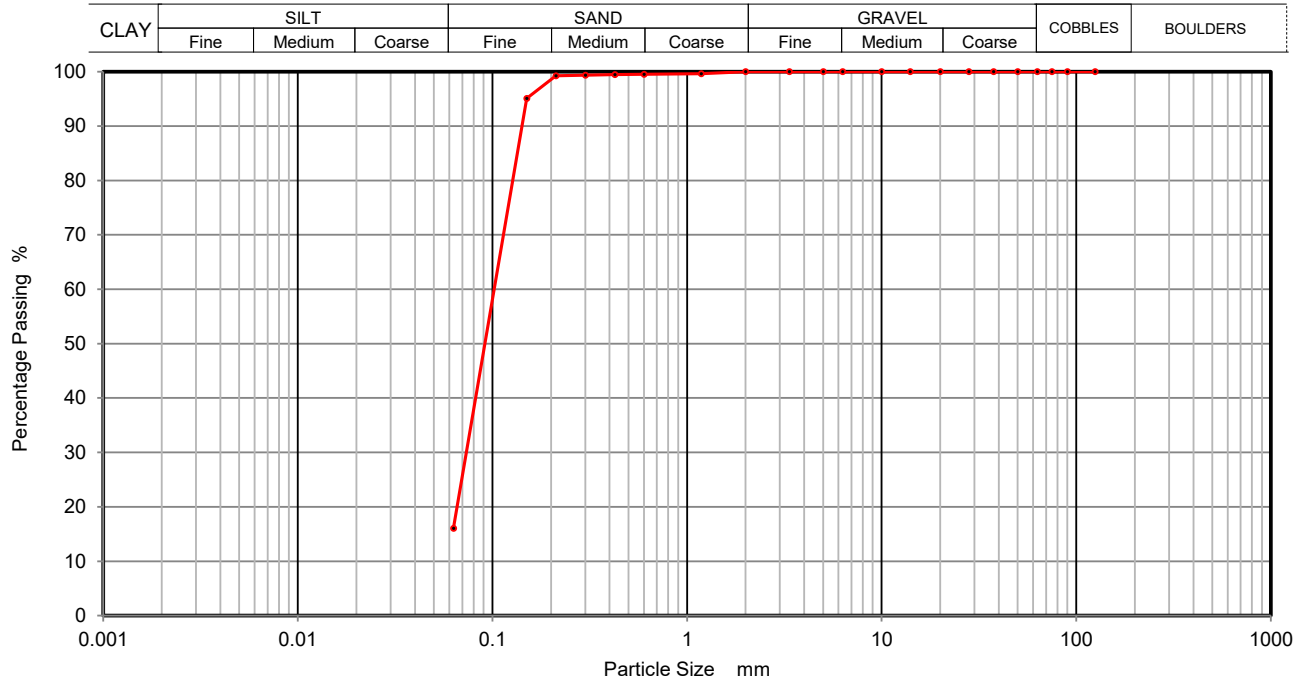
Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

Contract Number	55407	
	Borehole/Pit No.	
WS101		
Site Name	Dunsbury Park	
Soil Description	Brown silty clayey fine to coarse SAND.	Sample No.
Depth Top	1.50	
Depth Base	2.00	
Date Tested	03/09/2021	
Sample Type	B	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	99		
0.3	99		
0.212	99		
0.15	95		
0.063	16		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	84
Silt and Clay	16

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

Contract Number 55407

Borehole/Pit No. WS102

Site Name Dunsbury Park

Sample No.

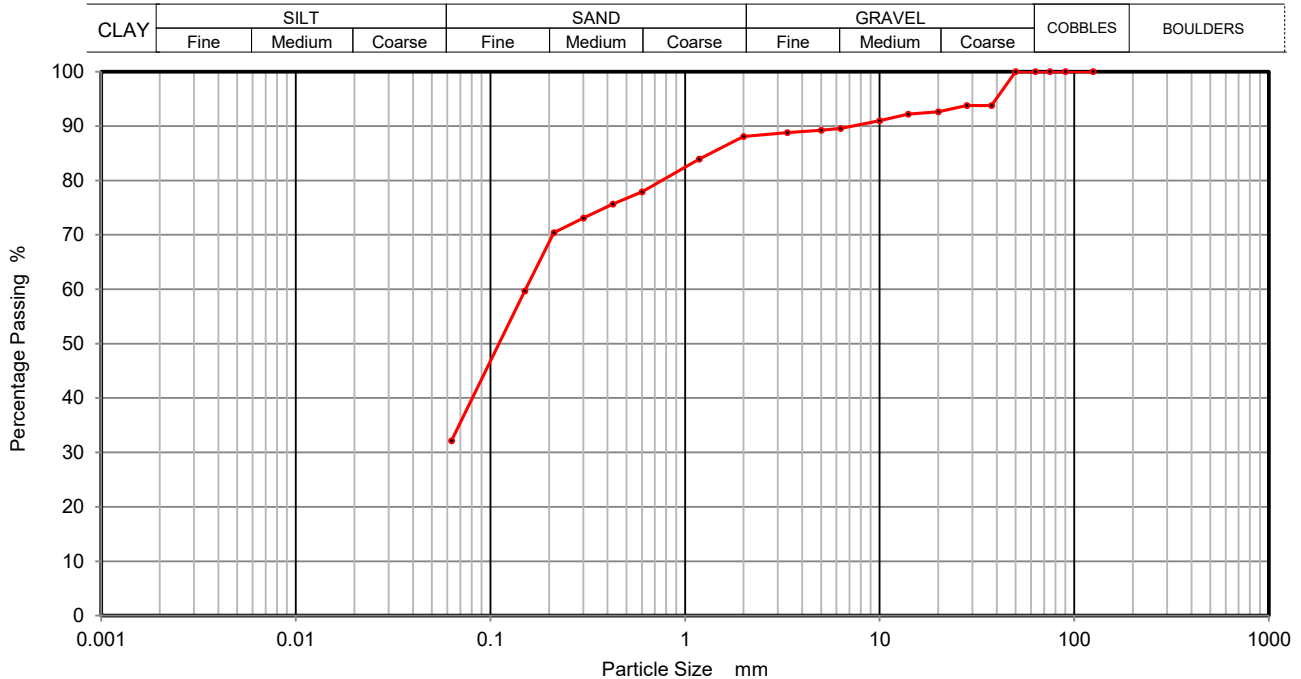
Soil Description Brown fine to medium gravelly silty clayey fine to coarse SAND.

Depth Top 0.50

Depth Base 1.00

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	94		
28	94		
20	93		
14	92		
10	91		
6.3	90		
5	89		
3.35	89		
2	88		
1.18	84		
0.6	78		
0.425	76		
0.3	73		
0.212	70		
0.15	60		
0.063	32		

Sample Proportions	% dry mass
Cobbles	0
Gravel	12
Sand	56
Silt and Clay	32

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	





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

Contract Number 55407

Borehole/Pit No. WS401

Site Name Dunsbury Park

Sample No.

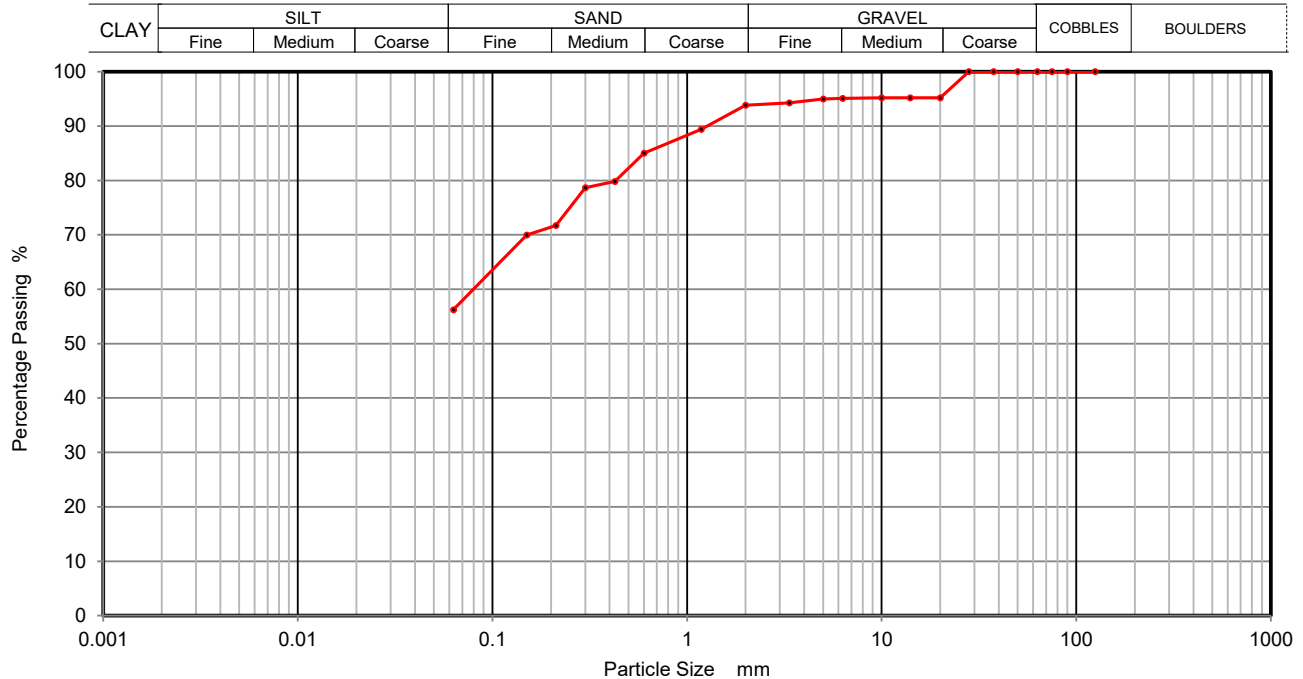
Soil Description Brown fine to medium gravelly fine to coarse sandy silty CLAY.

Depth Top 0.15

Depth Base 0.30

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	95		
14	95		
10	95		
6.3	95		
5	95		
3.35	94		
2	94		
1.18	89		
0.6	85		
0.425	80		
0.3	79		
0.212	72		
0.15	70		
0.063	56		

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	38
Silt and Clay	56

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	



2788



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

Contract Number 55407

Borehole/Pit No. WS405

Site Name Dunsbury Park

Sample No.

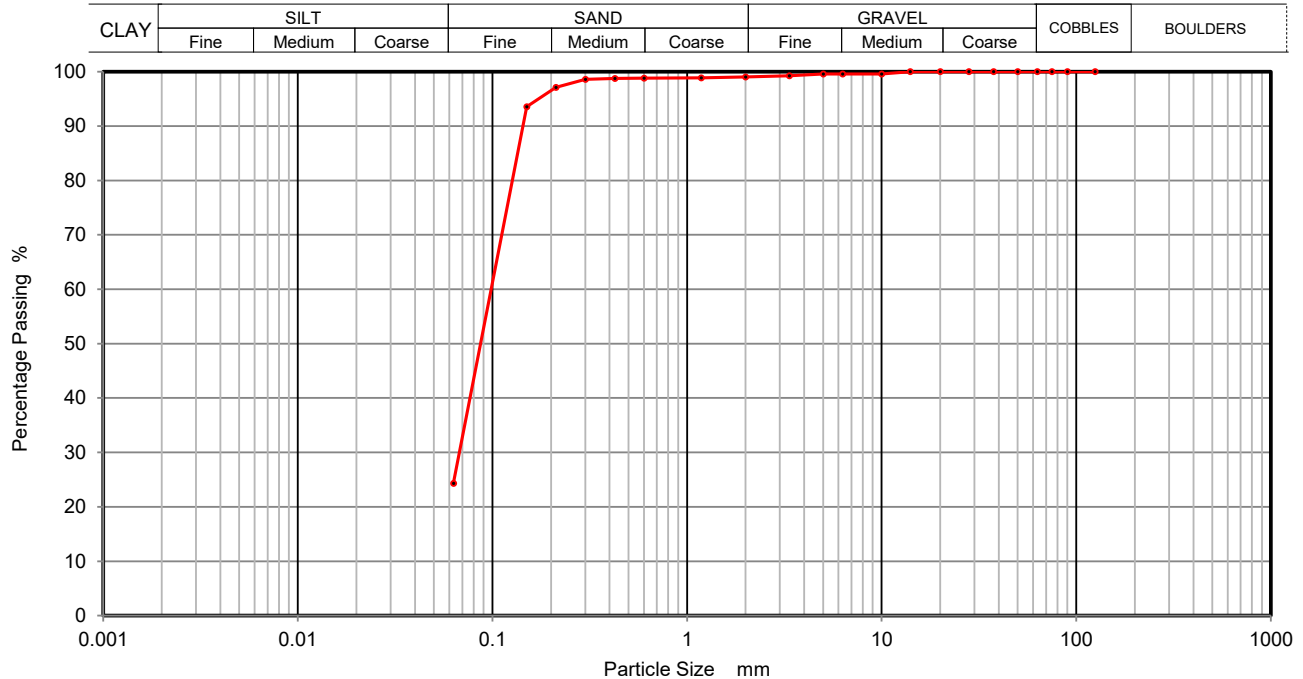
Soil Description Brown fine slightly gravelly silty clayey fine to coarse SAND.

Depth Top 2.00

Depth Base 2.80

Date Tested 03/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	99		
0.6	99		
0.425	99		
0.3	99		
0.212	97		
0.15	94		
0.063	24		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	75
Silt and Clay	24

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	08/09/2021	Richard John	
David	Approved	09/09/2021	Paul Evans	



2788



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

Contract Number

55407

Borehole/Trialpit No.

TP102

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

2.50

Depth Base (m)

Lab Temperature

20°C

Sample Location

Top

Remarks

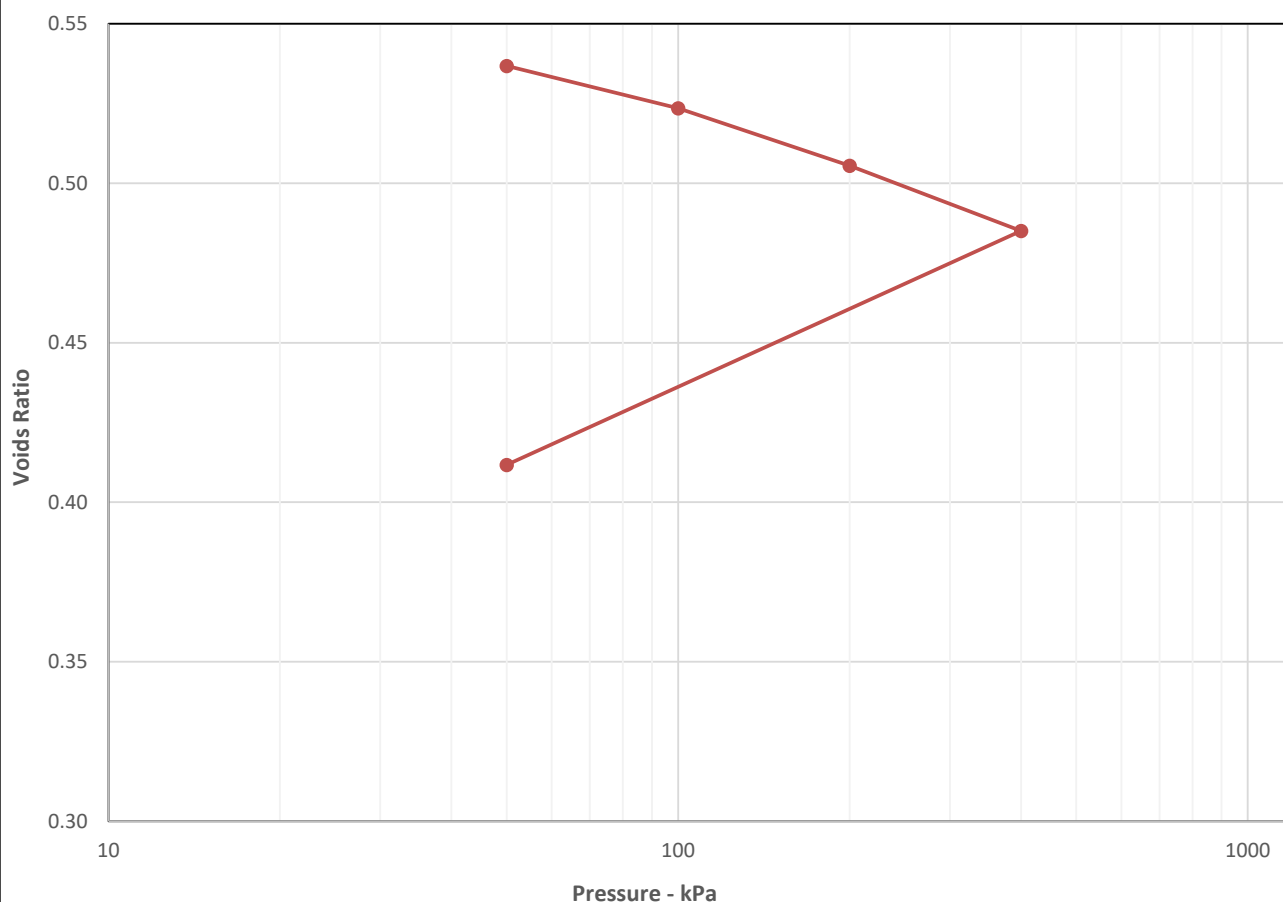
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	22	0	-	50	0.4	10		-			
Bulk Density (Mg/m3)	2.06	50	-	100	0.17	16		-			
Dry Density (Mg/m3)	1.69	100	-	200	0.12	10		-			
Voids Ratio	0.5685	200	-	400	0.07	17.0		-			
Degree of saturation	102.2	400	-	50	-0.14	31		-			
Height (mm)	19.84		-					-			
Diameter (mm)	50.24		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





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

Contract Number

55407

Borehole/Trialpit No.

TP605

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

3.50

Depth Base (m)

Lab Temperature

20°C

Sample Location

Top

Remarks

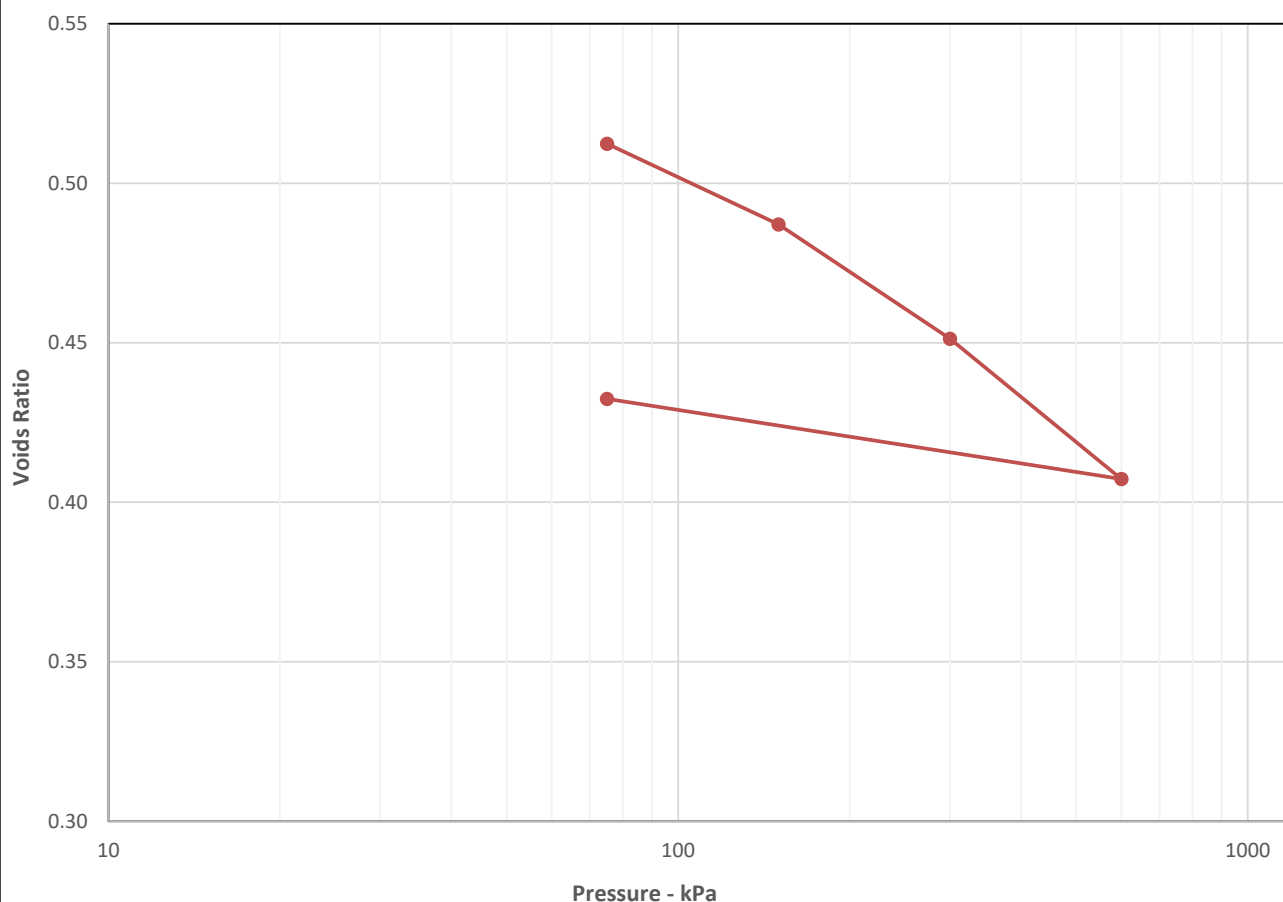
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	25	0	-	75	0.4	5.4		-			
Bulk Density (Mg/m3)	2.12	75	-	150	0.22	1.5		-			
Dry Density (Mg/m3)	1.70	150	-	300	0.16	2.3		-			
Voids Ratio	0.5591	300	-	600	0.10	1.5		-			
Degree of saturation	116.6	600	-	75	0.034	1.5		-			
Height (mm)	19.83		-					-			
Diameter (mm)	50.23		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





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

Contract Number

55407

Borehole/Trialpit No.

WS404

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

4.60

Depth Base (m)

5.00

Lab Temperature

20°C

Sample Location

Top

Remarks

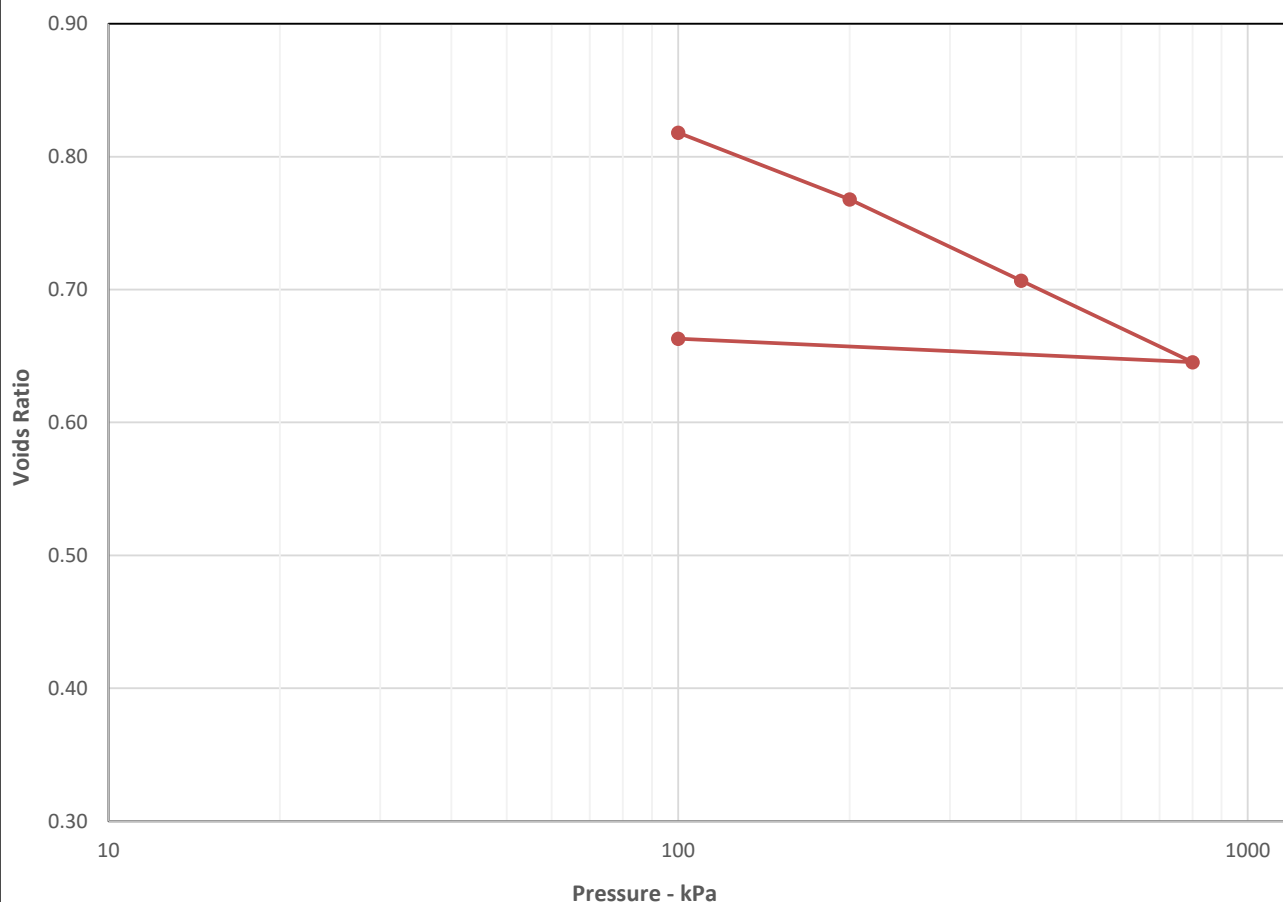
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	33	0	-	100	0.6	1.7		-			
Bulk Density (Mg/m3)	1.82	100	-	200	0.28	1.6		-			
Dry Density (Mg/m3)	1.37	200	-	400	0.17	1.5		-			
Voids Ratio	0.9338	400	-	800	0.09	2.2		-			
Degree of saturation	93.8	800	-	100	0.015	3.6		-			
Height (mm)	20.15		-					-			
Diameter (mm)	50.3		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





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

Contract Number

55407

Borehole/Trialpit No.

WS406

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

3.60

Depth Base (m)

4.00

Lab Temperature

20°C

Sample Location

Top

Remarks

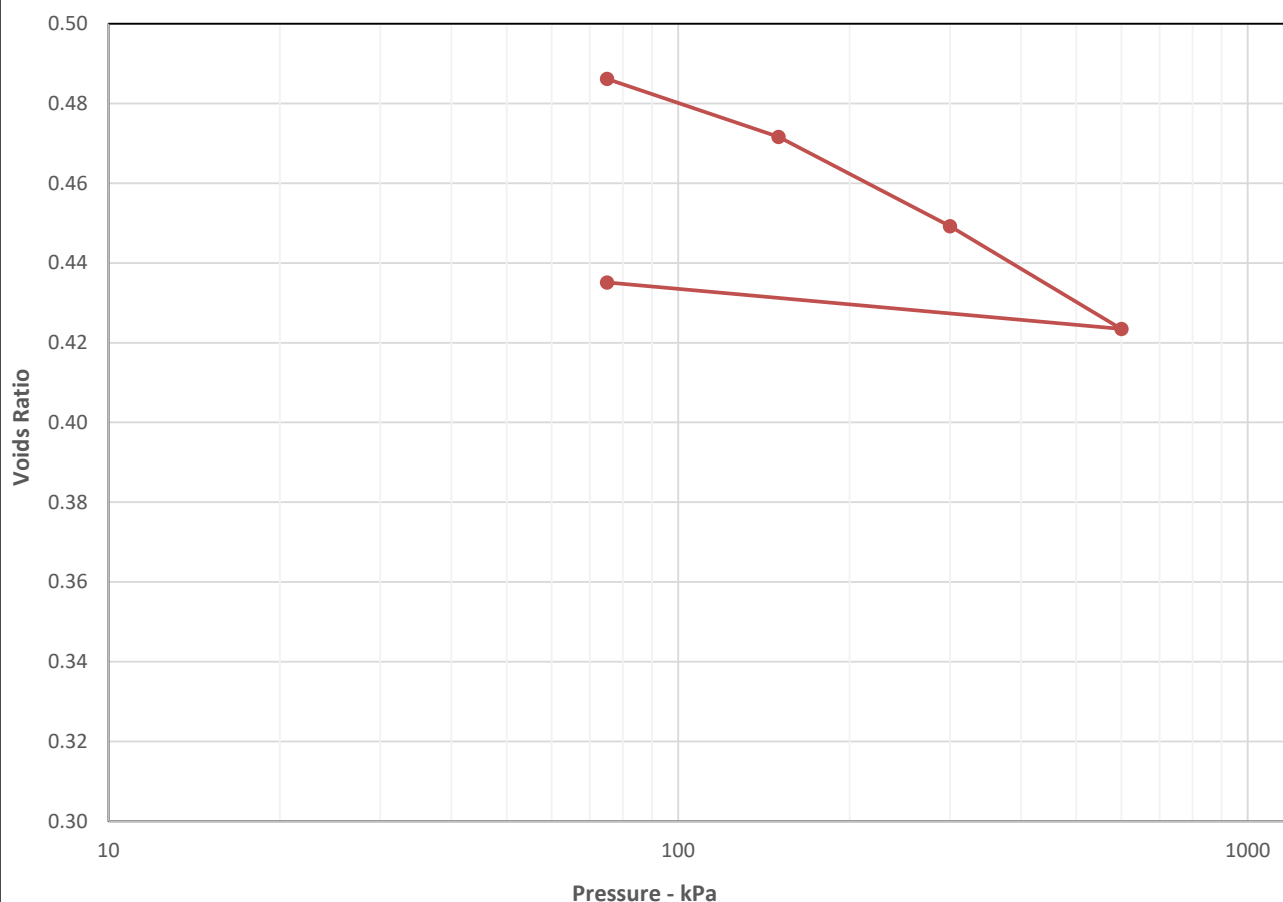
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	20	0	-	75	0.3	6.9		-			
Bulk Density (Mg/m3)	2.10	75	-	150	0.13	6.7		-			
Dry Density (Mg/m3)	1.75	150	-	300	0.1	9.7		-			
Voids Ratio	0.5154	300	-	600	0.06	6.3		-			
Degree of saturation	104.2	600	-	75	0.016	6.2		-			
Height (mm)	19.72		-					-			
Diameter (mm)	75.1		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





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

Contract Number

55407

Borehole/Trialpit No.

WS607

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

2.00

Depth Base (m)

2.50

Lab Temperature

20°C

Sample Location

Top

Remarks

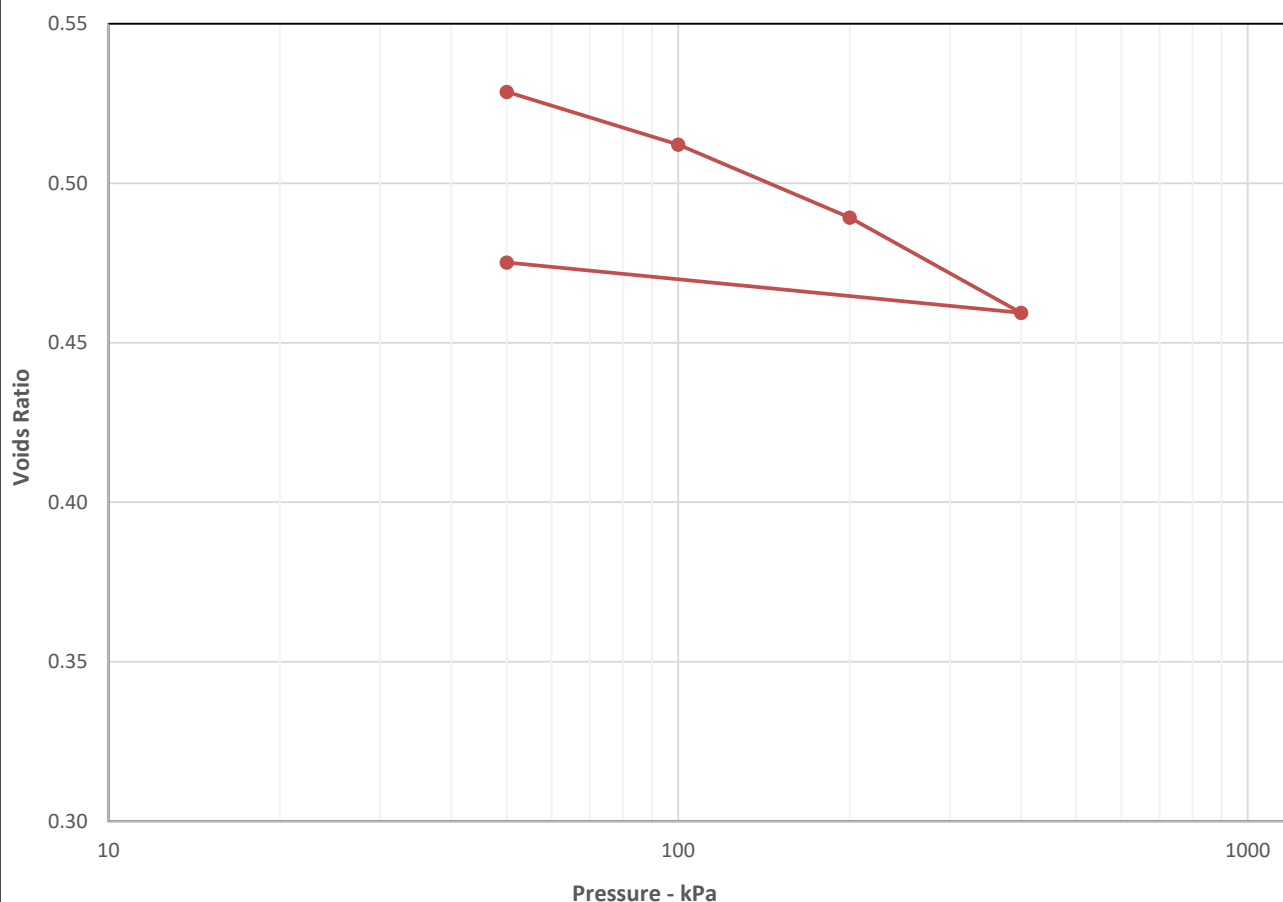
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	23	0	-	50	0.4	3.7		-			
Bulk Density (Mg/m3)	2.09	50	-	100	0.22	4.2		-			
Dry Density (Mg/m3)	1.70	100	-	200	0.15	2.7		-			
Voids Ratio	0.5628	200	-	400	0.10	3.0		-			
Degree of saturation	109.3	400	-	50	0.031	8.1		-			
Height (mm)	18.54		-					-			
Diameter (mm)	75.23		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





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

Contract Number

55407

Borehole/Trialpit No.

WS701

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

5.00

Depth Base (m)

Lab Temperature

20°C

Sample Location

Top

Remarks

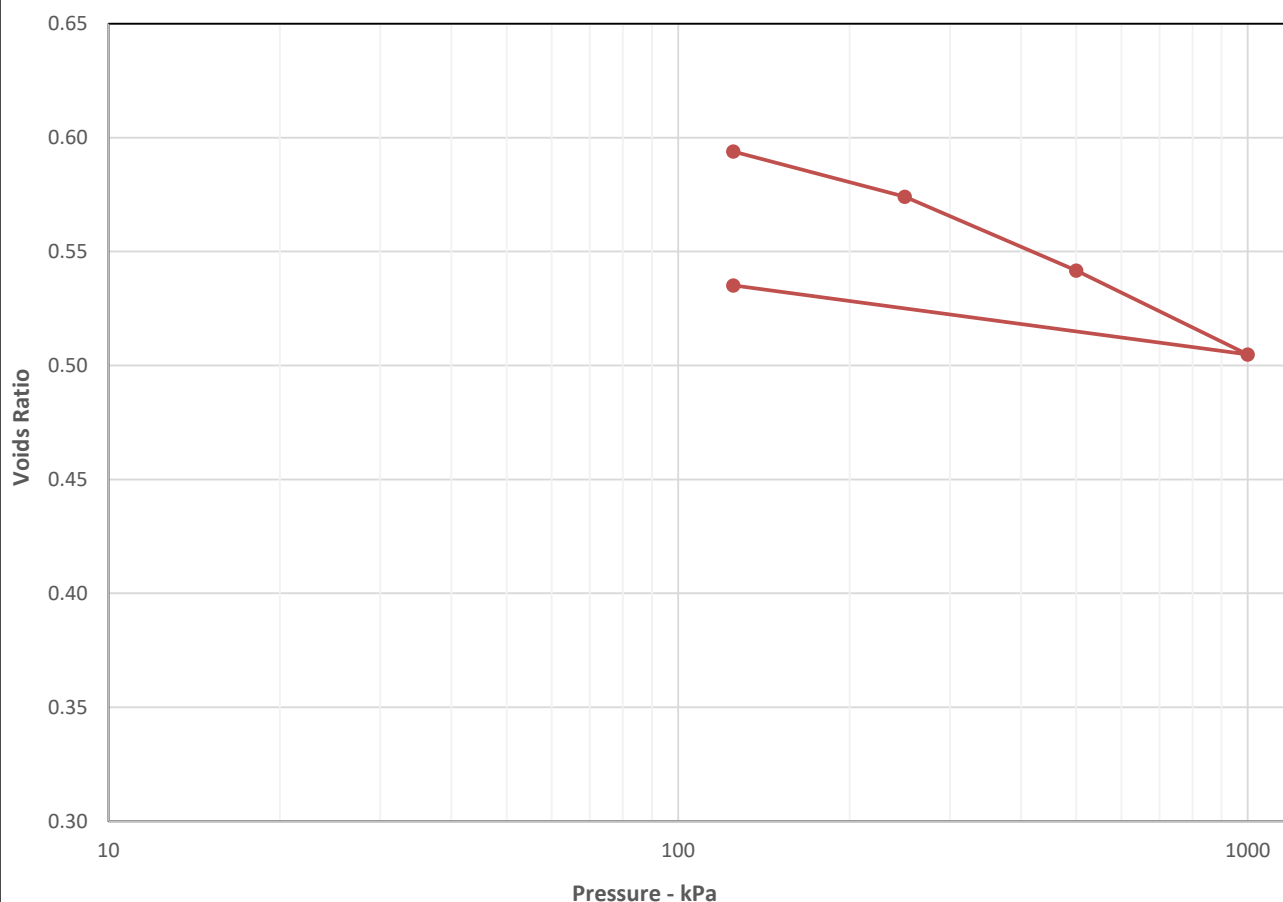
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	-183.0	0	-	125	0.3	4.4		-			
Bulk Density (Mg/m3)	-1.34	125	-	250	0.099	10		-			
Dry Density (Mg/m3)	1.61	250	-	500	0.082	6.6		-			
Voids Ratio	0.6444	500	-	1000	0.05	6.3		-			
Degree of saturation	-752.4	1000	-	125	0.023	6.3		-			
Height (mm)	20.2		-					-			
Diameter (mm)	75.29		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





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

Contract Number

55407

Borehole/Trialpit No.

WS701

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

5.00

Depth Base (m)

Lab Temperature

20°C

Sample Location

Top

Remarks

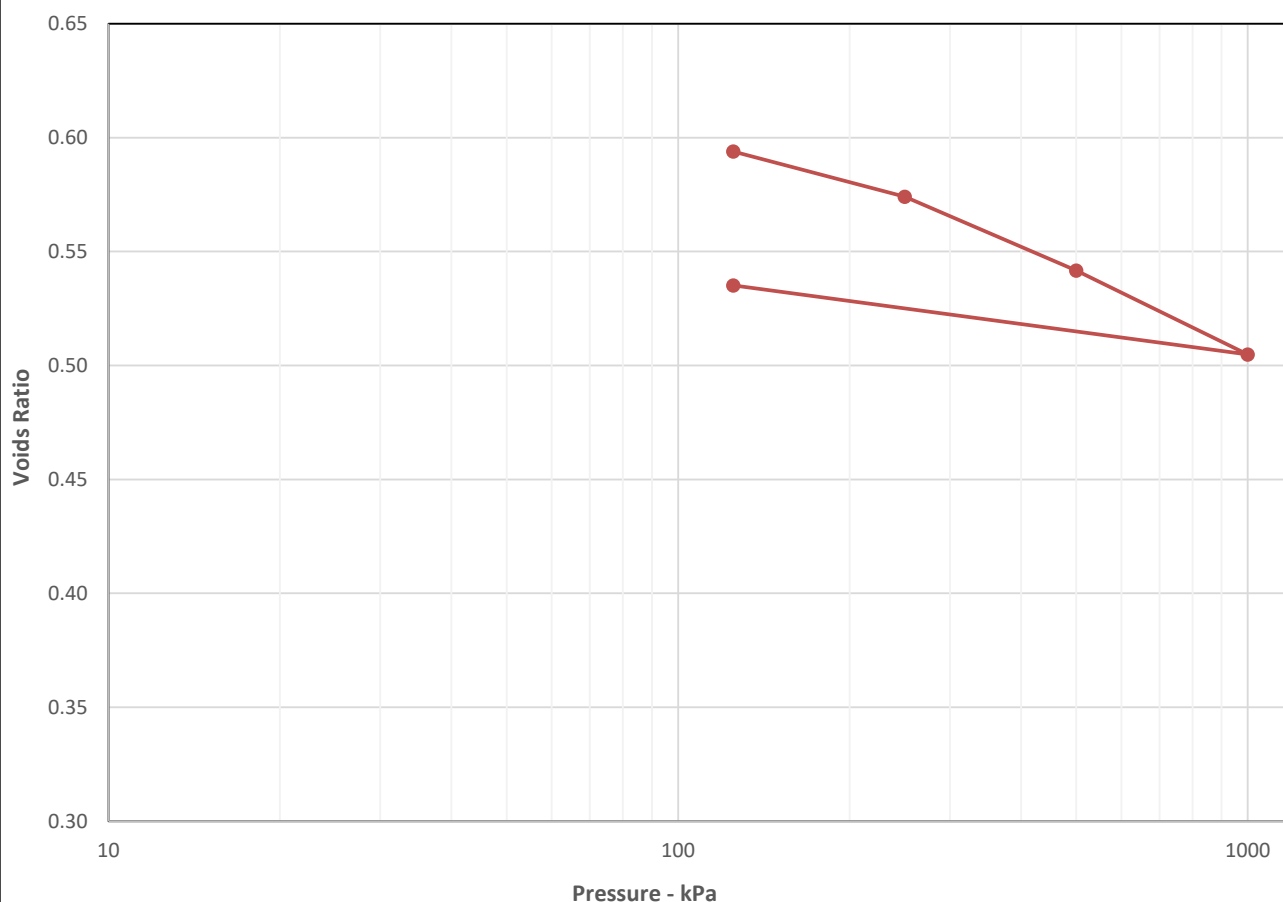
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	24	0	-	125	0.3	4.4		-			
Bulk Density (Mg/m3)	2.00	125	-	250	0.099	10		-			
Dry Density (Mg/m3)	1.61	250	-	500	0.082	6.6		-			
Voids Ratio	0.6444	500	-	1000	0.05	6.3		-			
Degree of saturation	98.9	1000	-	125	0.023	6.3		-			
Height (mm)	20.2		-					-			
Diameter (mm)	75.29		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





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

Contract Number

55407

Borehole/Trialpit No.

WS702

Site Name

Dunsbury Park

Sample No.

Soil Description

Greyish brown silty CLAY

Depth Top (m)

4.50

Depth Base (m)

5.00

Lab Temperature

20°C

Sample Location

Top

Remarks

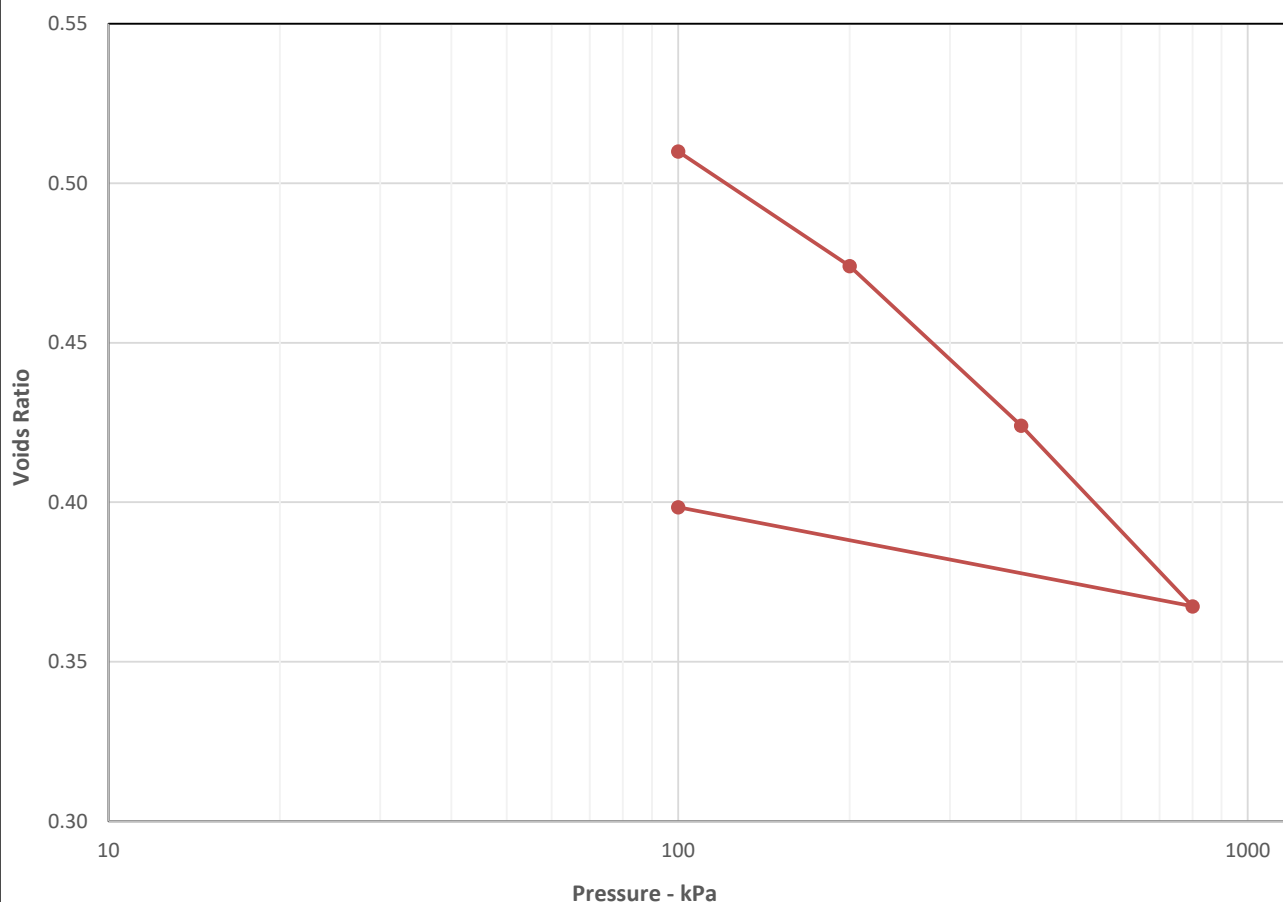
Cv Calculated Using T90
Particle Density Assumed Unless Stated Otherwise

Sample Type

B

Date Tested

24/08/2021



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	27	0	-	100	0.9	5.5		-			
Bulk Density (Mg/m3)	2.02	100	-	200	0.24	3.5		-			
Dry Density (Mg/m3)	1.60	200	-	400	0.17	4.6		-			
Voids Ratio	0.6605	400	-	800	0.10	3.0		-			
Degree of saturation	107.7	800	-	100	0.032	7.9		-			
Height (mm)	18.81		-					-			
Diameter (mm)	75.09		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operators	Checked	08/09/2021	Richard John	
Wayne W	Approved	09/09/2021	Paul Evans	





Certificate of Analysis

Certificate Number 21-17749

Issued: 31-Aug-21

Client GEO Site and Testing Services Ltd
Unit 4
Heol Aur
Dafen Ind Est
Dafen
Carmarthenshire
SA14 8QN

Our Reference 21-17749

Client Reference 19453-GELO

Order No (not supplied)

Contract Title Dunsbury Park

Description 19 Soil samples.

Date Received 23-Aug-21

Date Started 23-Aug-21

Date Completed 31-Aug-21

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

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

Approved By

A handwritten signature in black ink, appearing to read "A Fenwick", is written over a light blue circular stamp.

Adam Fenwick
Contracts Manager



Summary of Chemical Analysis

Soil Samples

Our Ref 21-17749

Client Ref 19453-GELO

Contract Title Dunsbury Park

Lab No	1893781	1893782	1893783	1893784	1893785	1893786	1893787	1893788	1893789	1893790	1893791
Sample ID	TP7.07	TP6.05	TP4.01	TP1.02	WS4.01	WS4.03	WS6.07	WS6.06	WS4.05	WS7.03	TP1.01
Depth	3.00	1.00	2.50	3.50	0.80-1.00	0.40-0.80	0.60-1.00	4.00	0.60	1.60-2.30	2.00
Other ID											
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units											
Inorganics														
pH	DETSC 2008#		pH	6.0	6.5	5.9	7.8	7.6	10.6	6.1	8.0	9.9	5.2	6.3
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	11	< 10	700	600	880	230	13	430	75	21	19
Sulphur as S, Total	DETSC 2320	0.01	%	0.04	< 0.01	0.45	0.55	1.2	0.06	0.02	0.47	0.01	0.03	< 0.01
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.10	0.02	0.19	0.16	0.22	0.11	0.05	0.12	0.04	0.05	0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 21-17749
 Client Ref 19453-GELO
 Contract Title Dunsbury Park

Lab No	1893792	1893793	1893794	1893795	1893796	1893797	1893798	1893799
Sample ID	TP1.04	TP4.05	TP6.01	WS6.01	TP7.09	TP7.06	TP7.02	TP7.01
Depth	0.50	1.00	2.10	3.20	0.80	2.50	0.80	1.80
Other ID								
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units								
Inorganics											
pH	DETSC 2008#		pH	11.0	6.8	7.6	5.9	6.7	5.3	6.1	6.4
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	160	21	42	24	12	< 10	< 10	< 10
Sulphur as S, Total	DETSC 2320	0.01	%	0.10	0.01	< 0.01	< 0.01	0.03	0.01	< 0.01	< 0.01
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.13	0.01	0.02	0.02	0.08	0.04	0.02	0.02

Information in Support of the Analytical Results

Our Ref 21-17749
 Client Ref 19453-GELO
 Contract Dunsbury Park

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1893781	TP7.07 3.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893782	TP6.05 1.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893783	TP4.01 2.50 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893784	TP1.02 3.50 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893785	WS4.01 0.80-1.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893786	WS4.03 0.40-0.80 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893787	WS6.07 0.60-1.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893788	WS6.06 4.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893789	WS4.05 0.60 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893790	WS7.03 1.60-2.30 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893791	TP1.01 2.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893792	TP1.04 0.50 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	

Information in Support of the Analytical Results

Our Ref 21-17749
Client Ref 19453-GELO
Contract Dunsbury Park

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1893793	TP4.05 1.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893794	TP6.01 2.10 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893795	WS6.01 3.20 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893796	TP7.09 0.80 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893797	TP7.06 2.50 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893798	TP7.02 0.80 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1893799	TP7.01 1.80 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

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

Soil Analysis Notes

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

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

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

Disposal

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

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

End of Report



California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP101

Site Name Dunsbury Park

Sample No.

Soil Description Brown fine to medium gravelly silty CLAY

Depth Top 0.50

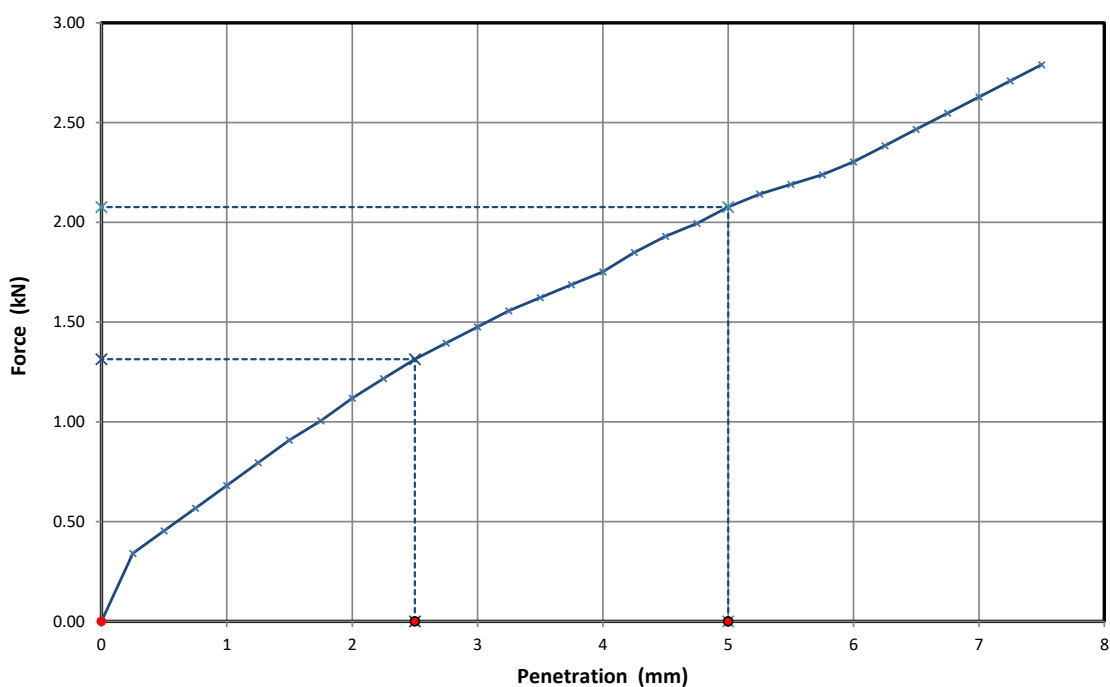
Compaction Method 2.5 Kg Rammer

Depth Base

Retained 20mm (%) 6

Sample Type B

Date Tested 06/09/2021



Initial Sample Conditions	
Moisture Content (%)	16
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.97
Dry Density (Mg/m3)	1.70

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.17
Remarks	

CBR Test Values			
2.5mm Top	10	2.5mm Bottom	
5mm Top	10	5mm Bottom	
CBR Value %	10	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



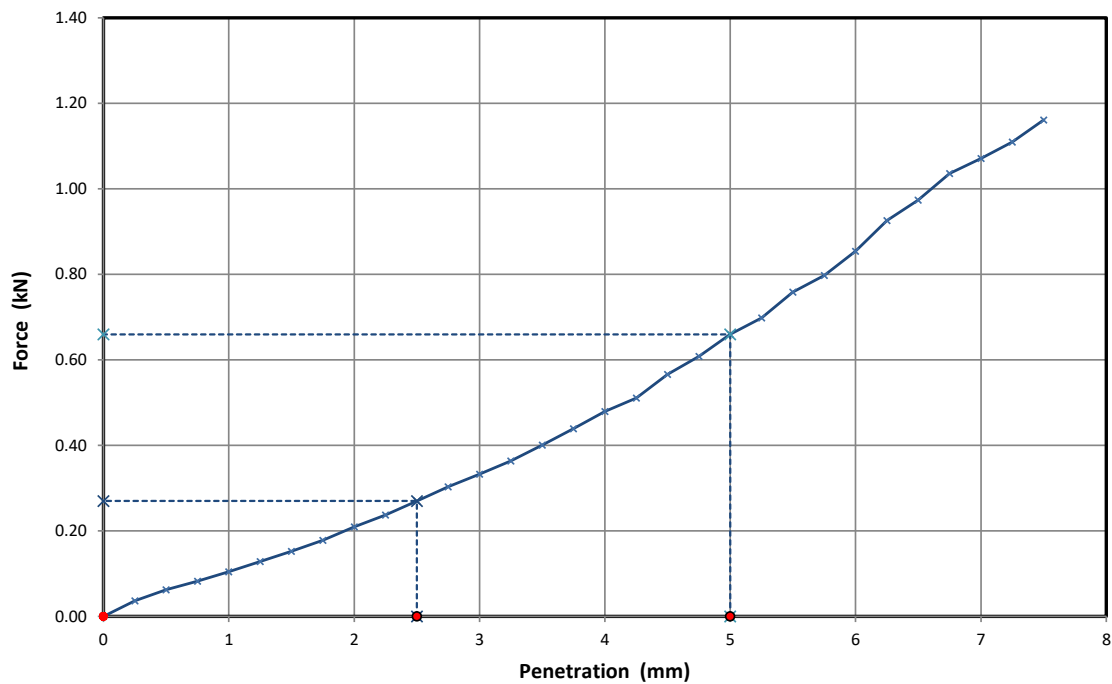


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP102

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.75
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	18
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m ³)	1.99
Dry Density (Mg/m ³)	1.68

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.16
Remarks	

CBR Test Values			
2.5mm Top	2	2.5mm Bottom	
5mm Top	3.3	5mm Bottom	
CBR Value %	3.3	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	





California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP103

Site Name Dunsbury Park

Sample No.

Soil Description Brown fine to medium gravelly silty CLAY

Depth Top 1.00

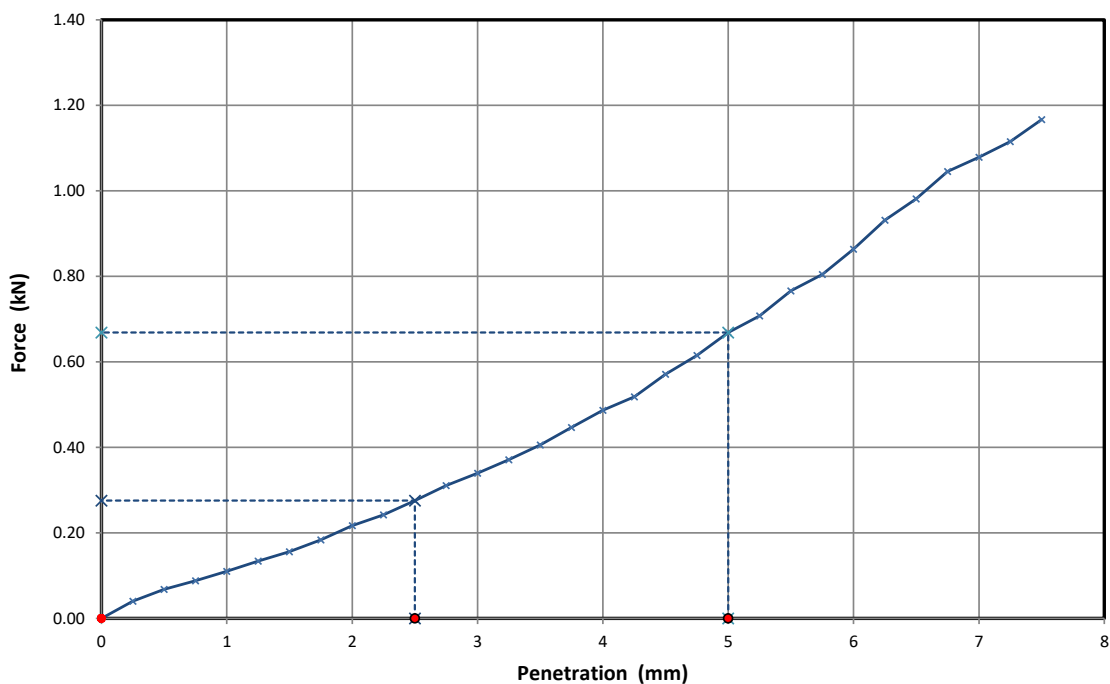
Compaction Method 2.5 Kg Rammer

Depth Base

Retained 20mm (%) 0

Sample Type B

Date Tested 06/09/2021



Initial Sample Conditions	
Moisture Content (%)	25
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.99
Dry Density (Mg/m3)	1.60

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	2.1	2.5mm Bottom	
5mm Top	3.3	5mm Bottom	
CBR Value %	3.3	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	





California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP104

Site Name Dunsbury Park

Sample No.

Soil Description Brown silty CLAY

Depth Top 0.50

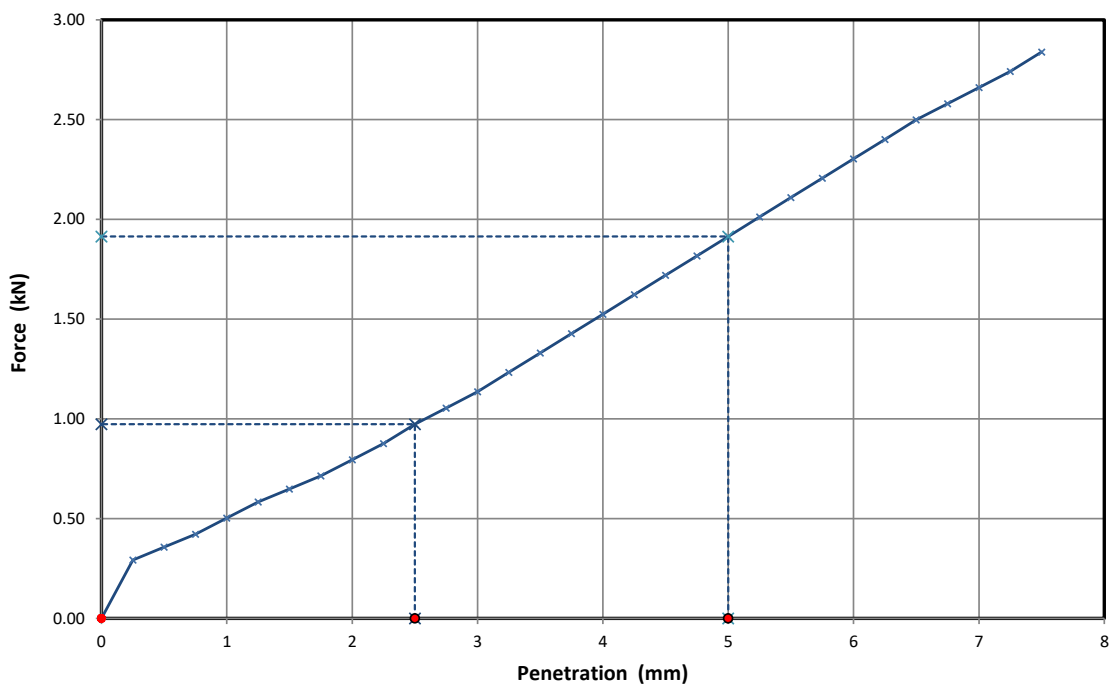
Compaction Method 2.5 Kg Rammer

Depth Base

Retained 20mm (%) 0

Sample Type B

Date Tested 06/09/2021



Initial Sample Conditions	
Moisture Content (%)	21
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m ³)	1.99
Dry Density (Mg/m ³)	1.65

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	7.4	2.5mm Bottom	
5mm Top	9.6	5mm Bottom	
CBR Value %	9.6	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



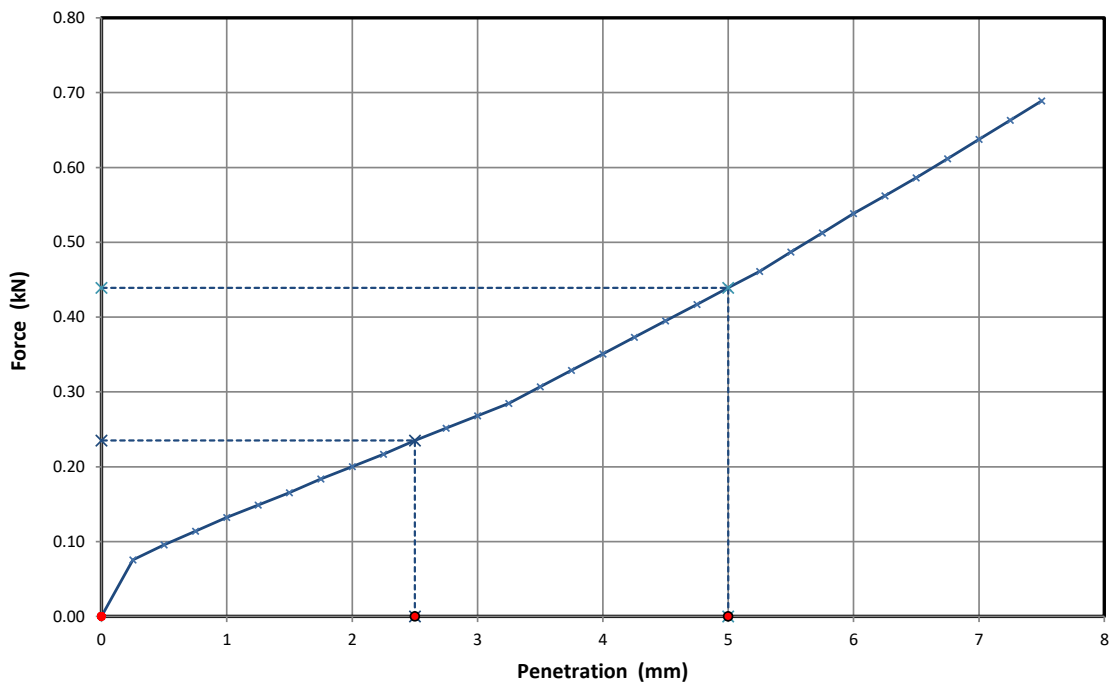


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP401

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.60
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	23
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m ³)	1.96
Dry Density (Mg/m ³)	1.59

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	1.8	2.5mm Bottom	
5mm Top	2.2	5mm Bottom	
CBR Value %	2.2	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



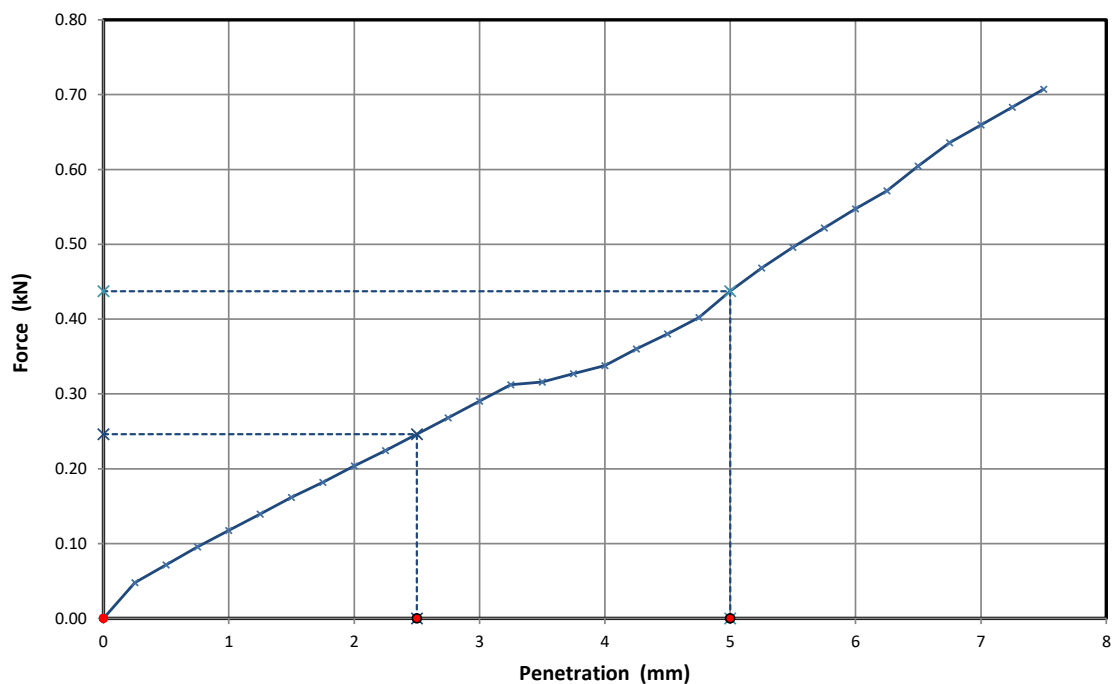


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP402

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	26
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.97
Dry Density (Mg/m3)	1.57

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	1.9	2.5mm Bottom	
5mm Top	2.2	5mm Bottom	
CBR Value %	2.2	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



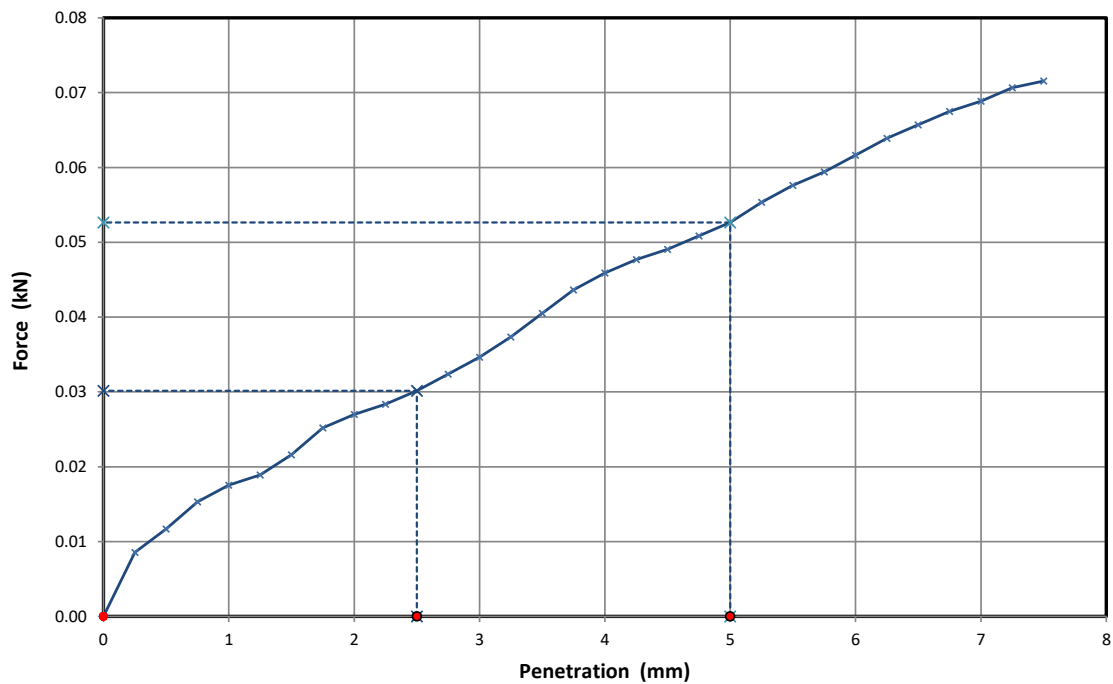


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP602

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.80
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	25
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.90
Dry Density (Mg/m3)	1.52

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.18
Remarks	

CBR Test Values			
2.5mm Top	0.23	2.5mm Bottom	
5mm Top	0.26	5mm Bottom	
CBR Value %	0.26	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



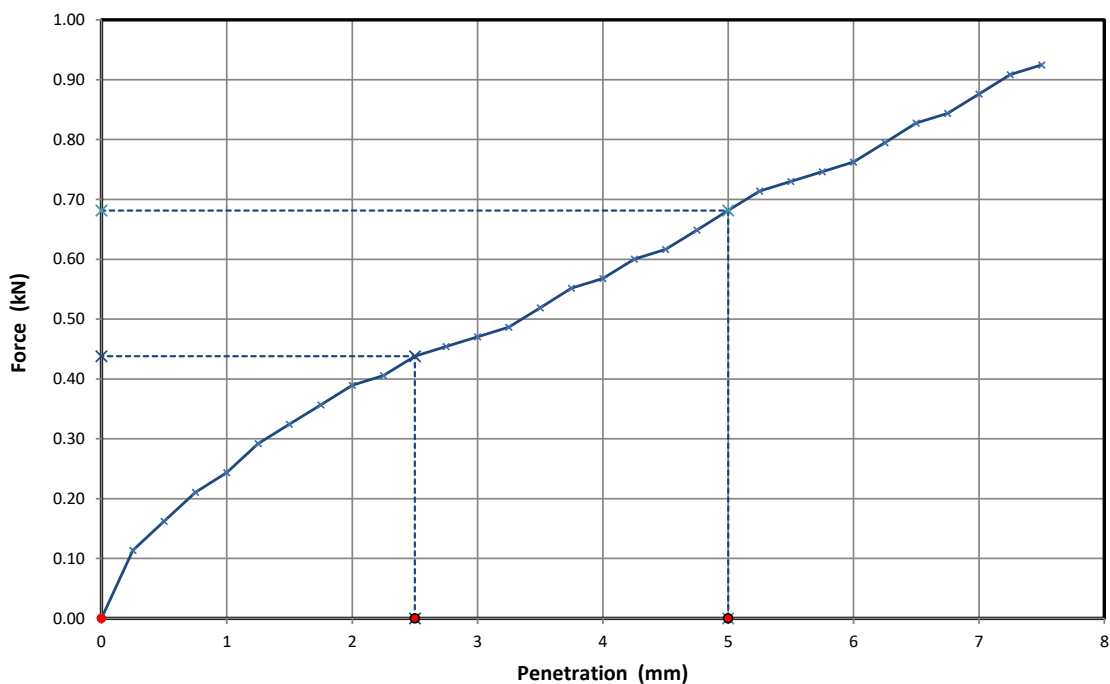


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP603

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	1.00
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	23
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.95
Dry Density (Mg/m3)	1.59

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	3.3	2.5mm Bottom	
5mm Top	3.4	5mm Bottom	
CBR Value %	3.4	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



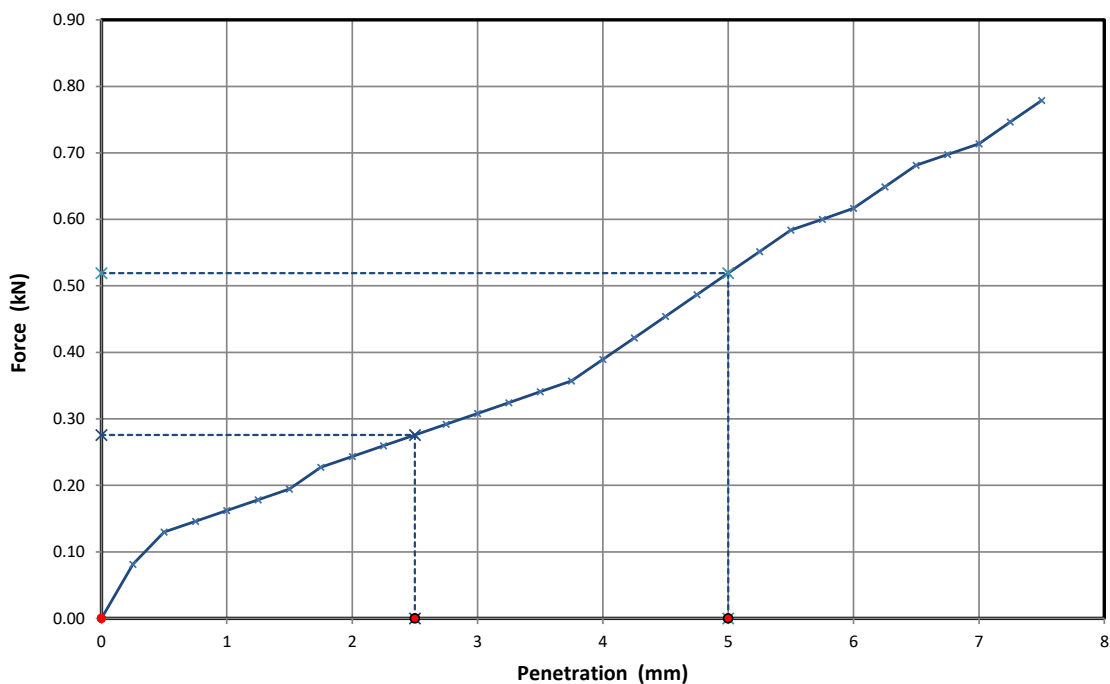


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP609

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.80
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	22
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.96
Dry Density (Mg/m3)	1.60

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.14
Remarks	

CBR Test Values			
2.5mm Top	2.1	2.5mm Bottom	
5mm Top	2.6	5mm Bottom	
CBR Value %	2.6	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



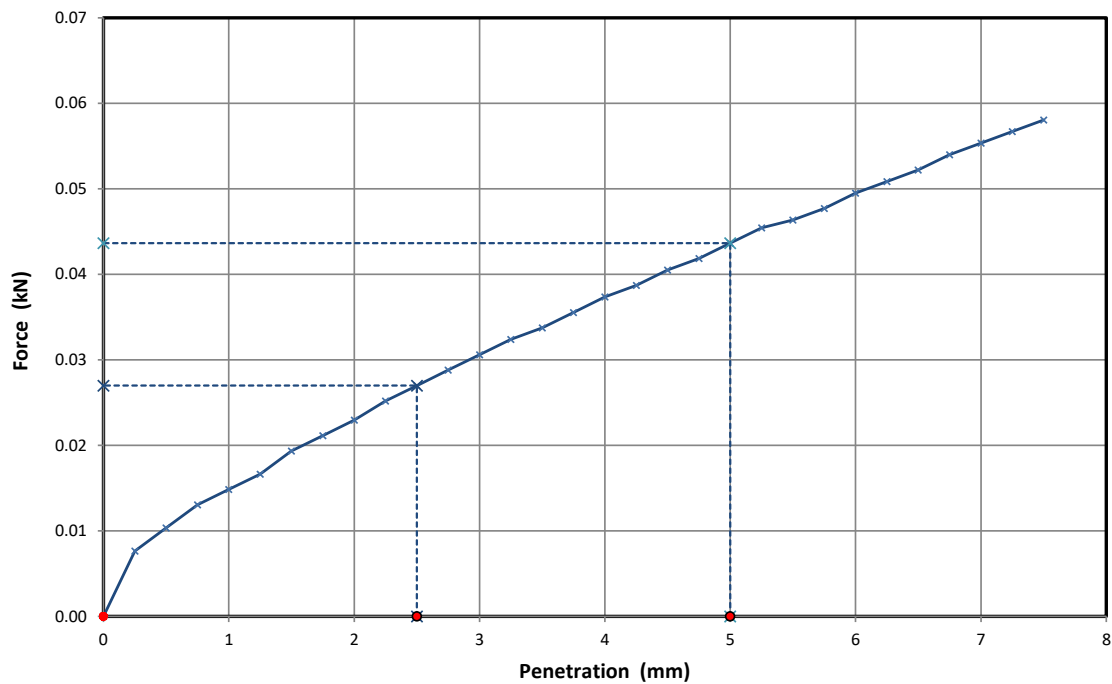


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP704

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown fine to medium sandy silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	23
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.92
Dry Density (Mg/m3)	1.56

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	0.2	2.5mm Bottom	
5mm Top	0.22	5mm Bottom	
CBR Value %	0.22	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	





**California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7**

Contract Number 55407

Borehole/Pit No. TP707

Site Name Dunsbury Park

Sample No.

Soil Description Brown fine to medium gravelly silty CLAY

Depth Top 0.70

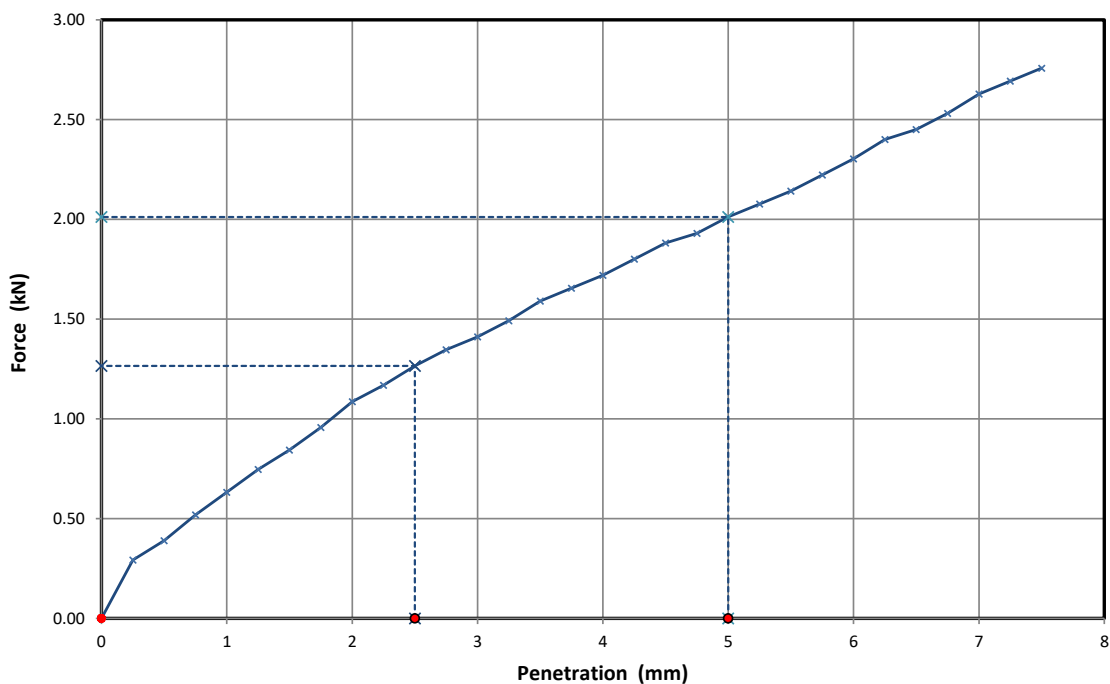
Compaction Method 2.5 Kg Rammer

Depth Base

Retained 20mm (%) 6

Sample Type B

Date Tested 06/09/2021



Initial Sample Conditions	
Moisture Content (%)	17
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.96
Dry Density (Mg/m3)	1.67

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.15
Remarks	

CBR Test Values			
2.5mm Top	9.6	2.5mm Bottom	
5mm Top	10	5mm Bottom	
CBR Value %	10	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	



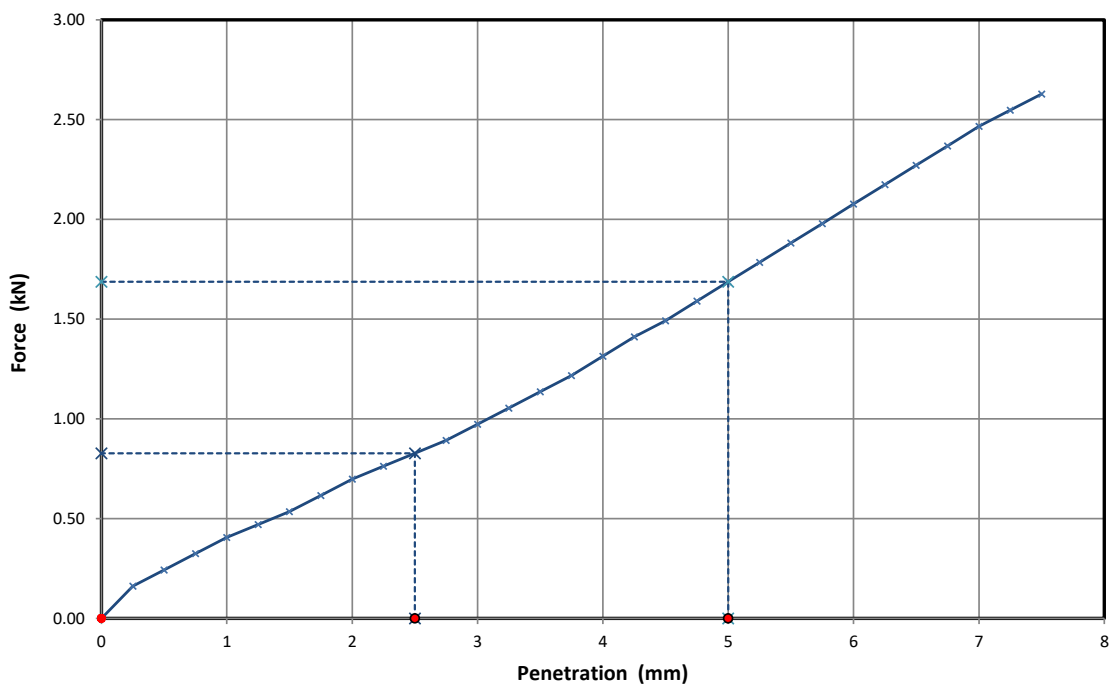


California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7

Contract Number 55407

Borehole/Pit No. TP709

Site Name	Dunsbury Park	Sample No.	
Soil Description	Brown fine to medium sandy silty CLAY	Depth Top	0.80
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	06/09/2021		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.94
Dry Density (Mg/m3)	1.69

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	6.3	2.5mm Bottom	
5mm Top	8.4	5mm Bottom	
CBR Value %	8.4	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	





**California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7**

Contract Number 55407

Borehole/Pit No. TP710

Site Name Dunsbury Park

Sample No.

Soil Description Brown fine to medium sandy silty CLAY

Depth Top 0.90

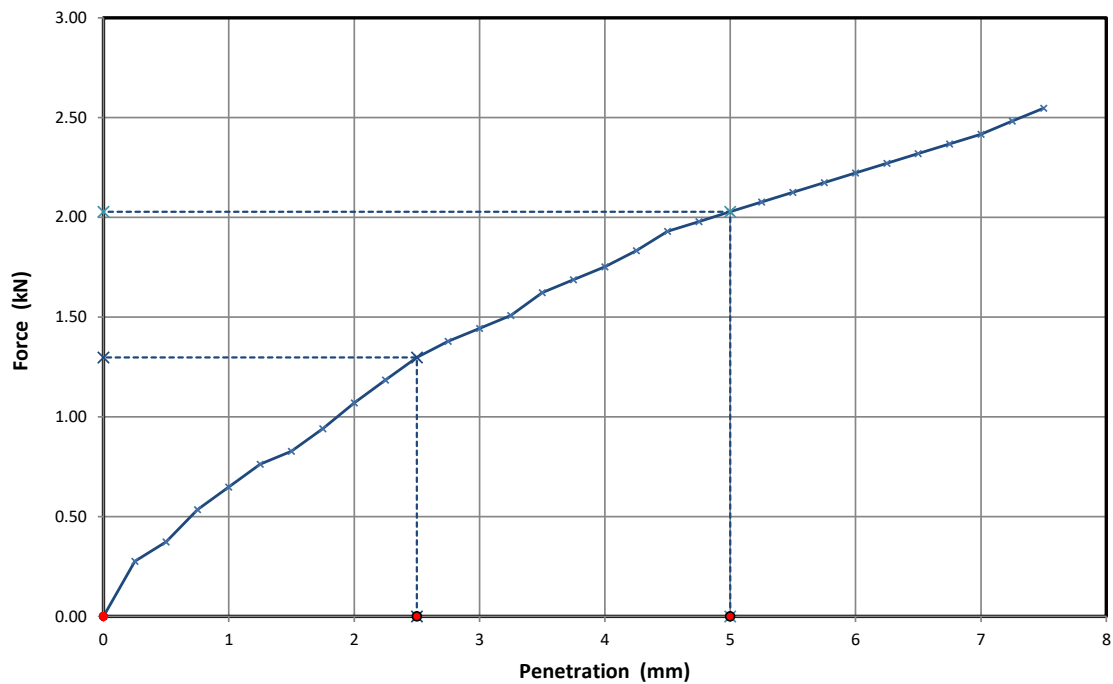
Compaction Method 2.5 Kg Rammer

Depth Base

Retained 20mm (%) 0

Sample Type B

Date Tested 06/09/2021



Initial Sample Conditions	
Moisture Content (%)	18
Moisture Top (%)	
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.95
Dry Density (Mg/m3)	1.65

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.17
Remarks	

CBR Test Values			
2.5mm Top	9.8	2.5mm Bottom	
5mm Top	10	5mm Bottom	
CBR Value %	10	CBR Value %	

Operators	Checked	09/09/2021	Richard John	
Conal	Approved	10/09/2021	Paul Evans	





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

Contract Number 55407

Borehole / Pit No TP607

Project Location Dunsbury Park

Sample No

Date Tested 08/09/2021

Depth Top 2.00

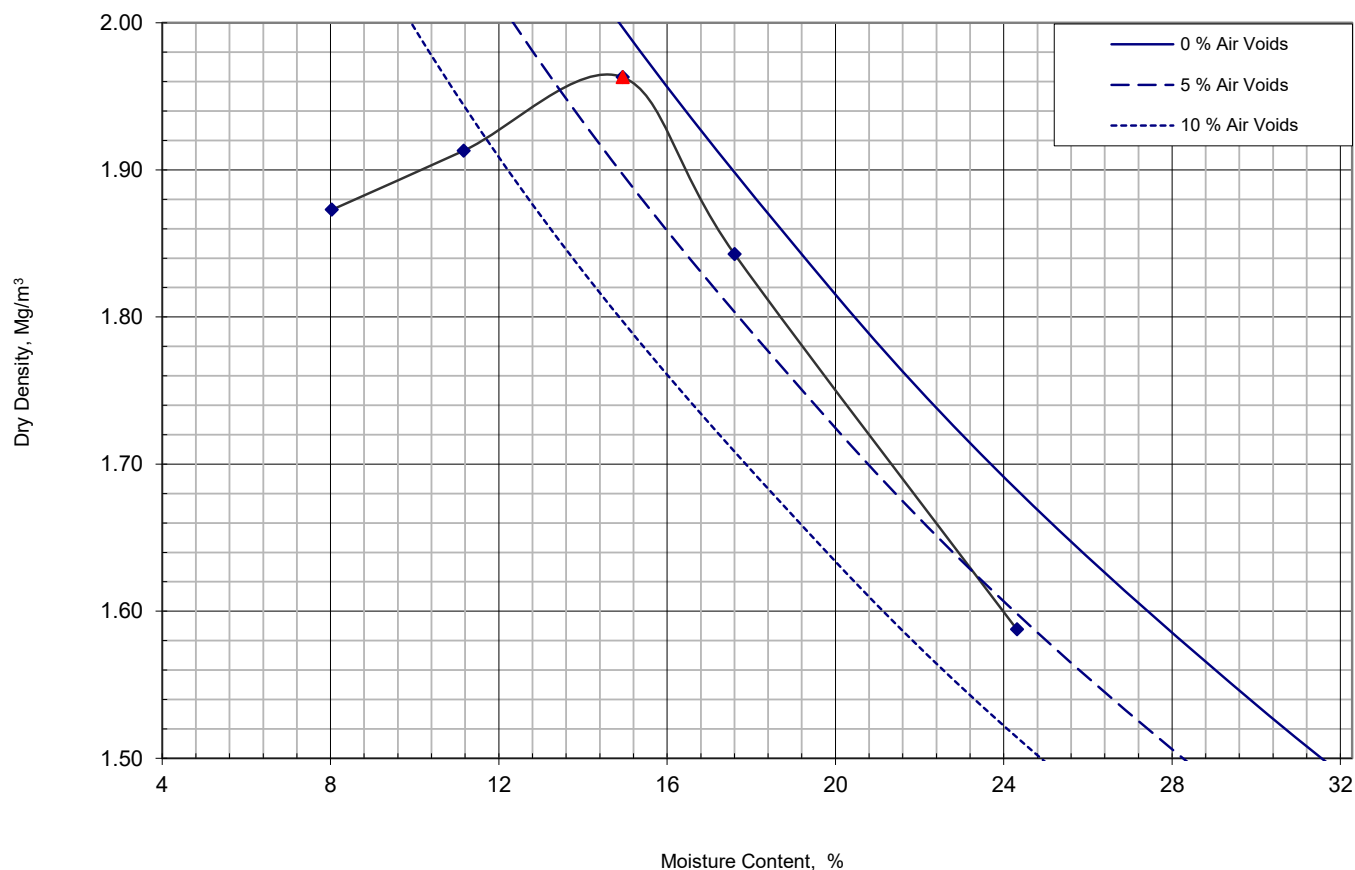
Compaction Method 4.5 Kg Rammer

Depth Base

Compaction Clause BS1377:Part 4:1990, Clause 3.5

Sample Type B

Sample Description Brown silty CLAY



Compaction Point	1	2	3	4	5						
Moisture Content	8.0	11	15	18	24						
Bulk Density	2.02	2.13	2.26	2.17	1.97						
Dry Density	1.87	1.91	1.96	1.84	1.59						

Initial Moisture Content	24	%
Maximum Dry Density	1.96	Mg/m3
Optimum Moisture Content	15.0	%
Particle Density	2.85 Assumed	Mg/m3
Material Retained 37.5mm	0	%
Material Retained 20mm	0	%

Operator Checked 09/09/2021 Richard John

Conal Approved 10/09/2021 Paul Evans





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

Contract Number

55407

BH / TP No

WS102

Site Name

Dunsbury Park

Sample No

Sample Description

Brown fine gravelly sandy silty CLAY

Depth Top

0.5

Compaction Method

Vibrating Rammer

Depth Bottom

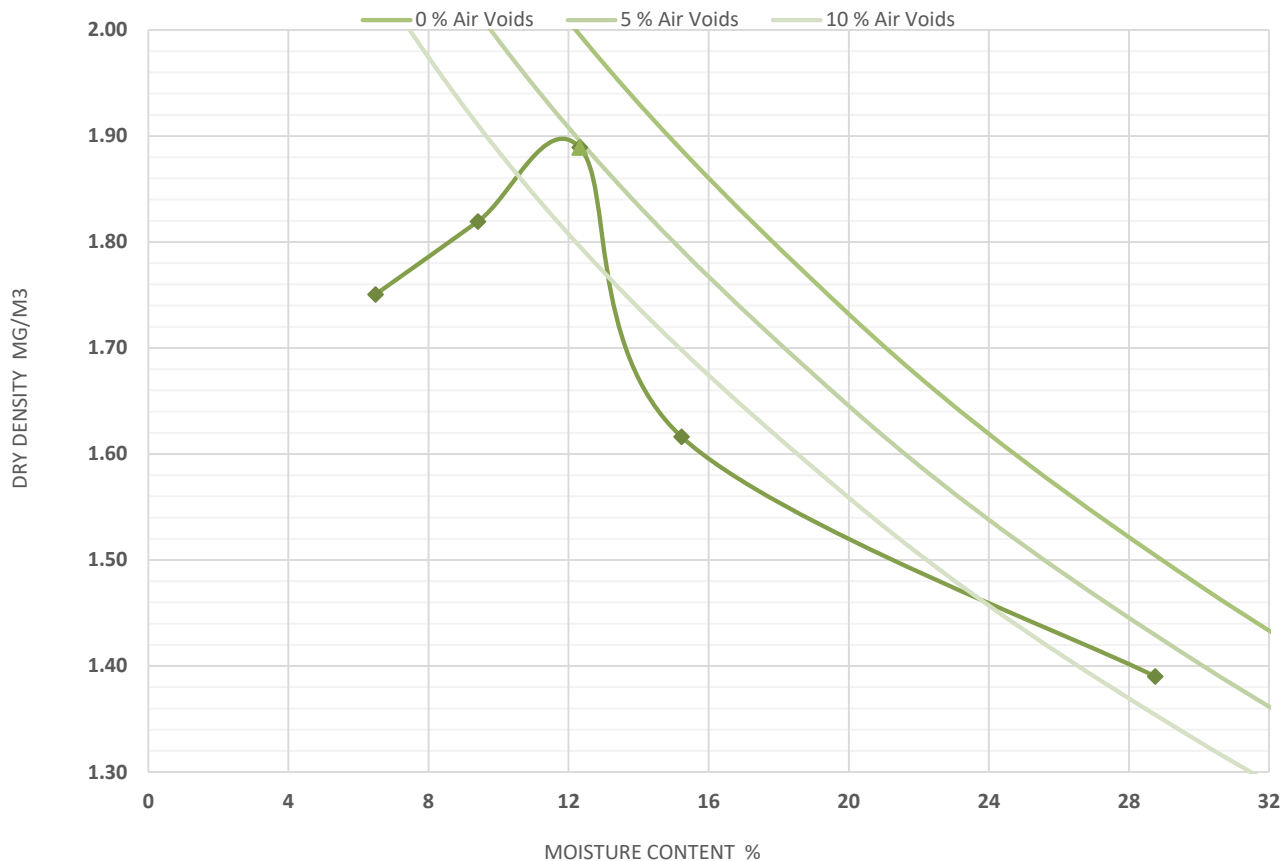
1

Date Tested

09/09/2021

Sample Type

B



Compaction Point	1	2	3	4	5						
Moisture Content	6.5	9.4	12	15	29						
Bulk Density	1.86	1.99	2.12	1.86	1.79						
Dry Density	1.75	1.82	1.89	1.62	1.39						

Initial Moisture Content	29
Maximum Dry Density	1.89
Optimum Moisture Content	12
Particle Density	2.65
Material Retained 37.5mm	0
Material Retained 20mm	0

Operators	Checked	10/09/2021	Richard John	
Conor	Approved	11/09/2021	Paul Evans	





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

Contract Number

55407

BH / TP No

TP606

Site Name

Dunsbury Park

Sample No

Sample Description

Brown fine sandy silty CLAY

Depth Top

0.6

Compaction Method

Vibrating Rammer

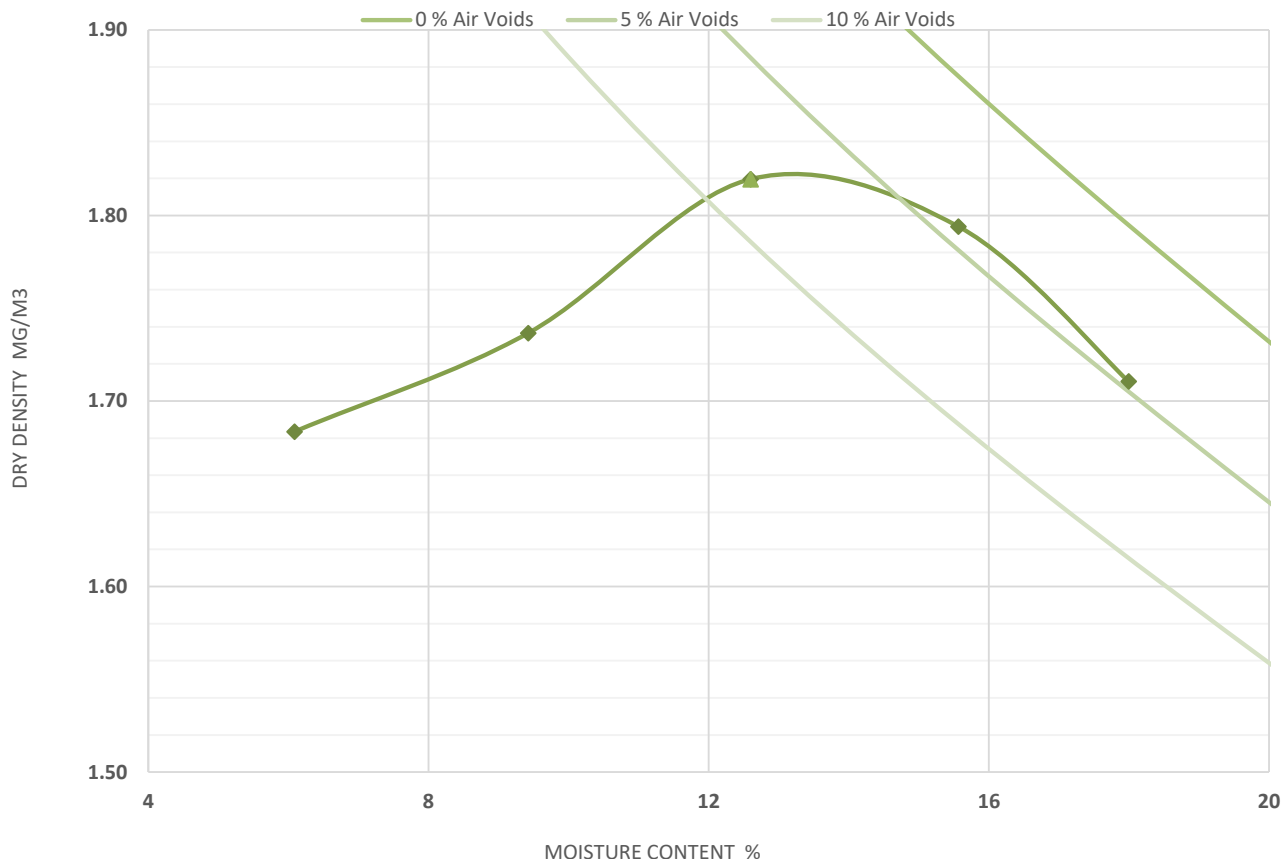
Depth Bottom

Date Tested

09/09/2021

Sample Type

B



Compaction Point	1	2	3	4	5							
Moisture Content	6.1	9.4	13	16	18							
Bulk Density	1.79	1.90	2.05	2.07	2.02							
Dry Density	1.68	1.74	1.82	1.79	1.71							

Initial Moisture Content	16
Maximum Dry Density	1.82
Optimum Moisture Content	13
Particle Density	2.65
Material Retained 37.5mm	0
Material Retained 20mm	0

Operators	Checked	10/09/2021	Richard John	
Conor	Approved	11/09/2021	Paul Evans	





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

Contract Number

55407

BH / TP No

TP701

Site Name

Dunsbury Park

Sample No

Sample Description

Brown fine sandy silty CLAY

Depth Top

0.6

Compaction Method

Vibrating Rammer

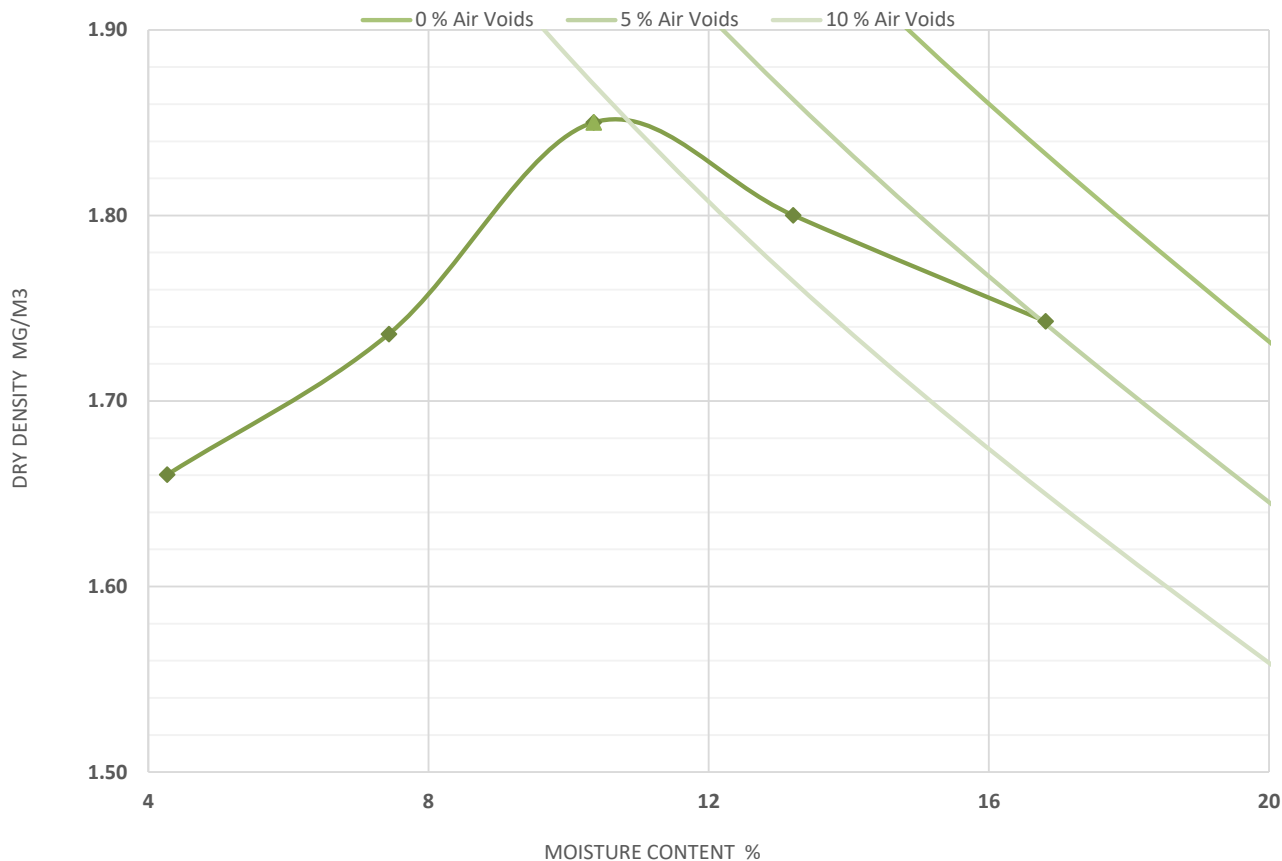
Depth Bottom

Date Tested

09/09/2021

Sample Type

B



Compaction Point	1	2	3	4	5						
Moisture Content	4.3	7.4	10	13	17						
Bulk Density	1.73	1.87	2.04	2.04	2.04						
Dry Density	1.66	1.74	1.85	1.80	1.74						

Initial Moisture Content	17
Maximum Dry Density	1.85
Optimum Moisture Content	10
Particle Density	2.65
Material Retained 37.5mm	0
Material Retained 20mm	0

Operators	Checked	10/09/2021	Richard John	
Conor	Approved	11/09/2021	Paul Evans	





Laboratory Report



GEO Site & Testing Services Ltd

Contract Number: 55427

Client Ref: **19453-GELO**

Report Date:

Client PO: **P009601**

Client **Hydrock Limited**
Hydrock
First Floor
5 Castlebridge
5-19 Cowbridge Road East
Cardiff
CF11 9AB
Tel: 02920 023665 Mob: 07392 081090

Contract Title: **Dunsbury Park Units 100, 400, 600, 700**
For the attention of: **Yacklin Panza**

Date Received: **06-09-2021**

Date Completed:

Test Description	Qty
Moisture Content BS 1377:1990 - Part 2 : 3.2 - * UKAS	18
4 Point Liquid & Plastic Limit BS 1377:1990 - Part 2 : 4.3 & 5.3 - * UKAS	16
PSD Wet Sieve method BS 1377:1990 - Part 2 : 9.2 - * UKAS	6
Dry Den/MC (4.5kg Rammer Method 1 litre mould/CBR Mould) BS 1377:1990 - Part 4 : 3.6 - * UKAS	3
BRE Reduced Suite includes pH, water & acid soluble sulphate and total sulphur Sub-contracted Test - @ Non Accredited Test	8

Notes: **Observations and Interpretations are outside the UKAS Accreditation**
* - denotes test included in laboratory scope of accreditation
- denotes test carried out by approved contractor
@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories:

Emma Sharp (Business Support Manager) - Paul Evans (Director) - Richard John (Quality/Technical Manager)

Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (Quality Assistant / Administrator / Health and Safety Coordinator)

GEO Site & Testing Services Ltd

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

Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk



Laboratory Report



GEO Site & Testing Services Ltd

Contract Number: 55427

Test Description	Qty
Quick Undrained Triaxial Compression test - single specimen at one confining pressure (100mm or 38mm diameter) BS 1377:1990 - Part 7 : 8 - * UKAS	30
Quick Undrained Triaxial Compression test - set of 3 - 38mm diameter specimens BS 1377:1990 - Part 7 : 8 - * UKAS	2
Immediate Shear Strength - set of 3 60 x 60 mm Shear Box Specimens by Direct Shearing (note suitable for free draining material only) BS 1377:1990 - Part 7 : 4 - * UKAS	3
Samples Received - @ Non Accredited Test	152
Disposal of samples for job	1

Notes: Observations and Interpretations are outside the UKAS Accreditation
* - denotes test included in laboratory scope of accreditation
- denotes test carried out by approved contractor
@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories:

Emma Sharp (Business Support Manager) - Paul Evans (Director) - Richard John (Quality/Technical Manager)

Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (Quality Assistant / Administrator / Health and Safety Coordinator)

GEO Site & Testing Services Ltd

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

Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk



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

Contract Number

55427

Site Name

Dunsbury Park Units 100, 400, 600, 700

Date Tested

14/09/2021

DESCRIPTIONS

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
BH1.01		D	1.50	-		Brown fine sandy silty CLAY.
BH4.01		D	1.50	-		Brown fine sandy silty CLAY.
BH4.01		D	3.00	-		Brown fine sandy silty CLAY.
BH4.01		D	4.50	-	4.95	Brown fine sandy silty CLAY.
BH4.02		D	1.00	-		Brown fine sandy silty CLAY.
BH4.02		D	2.00	-		Brown fine sandy silty CLAY.
BH6.01		D	2.00	-		Brown fine sandy silty CLAY.
BH6.02		D	1.50	-	1.95	Brown fine sandy silty CLAY.
BH6.02		D	2.50	-	2.95	Brown fine sandy silty CLAY.
BH6.03		D	0.50	-	1.00	Brown fine sandy silty CLAY.
BH6.03		D	3.30	-		Brown fine sandy silty CLAY.
BH6.03		D	5.00	-		Brown fine sandy silty CLAY.
BH7.01		D	3.00	-		Brown fine sandy silty CLAY.
BH7.02		D	0.50	-		Brown fine sandy silty CLAY.
BH7.02		D	3.00	-		Brown fine sandy silty CLAY.
BH7.02		D	5.00	-		Brown fine sandy silty CLAY.
BH7.03		D	0.50	-		Brown fine sandy silty CLAY.
BH7.03		D	6.00	-		Brown fine sandy silty CLAY.
				-		
				-		
				-		
				-		
				-		
				-		

Operators

Checked

23/09/2021

Richard John (Advanced Testing Manager)

Clayton Jenkins

Approved

23/09/2021

Paul Evans (Quality/Technical Manager)

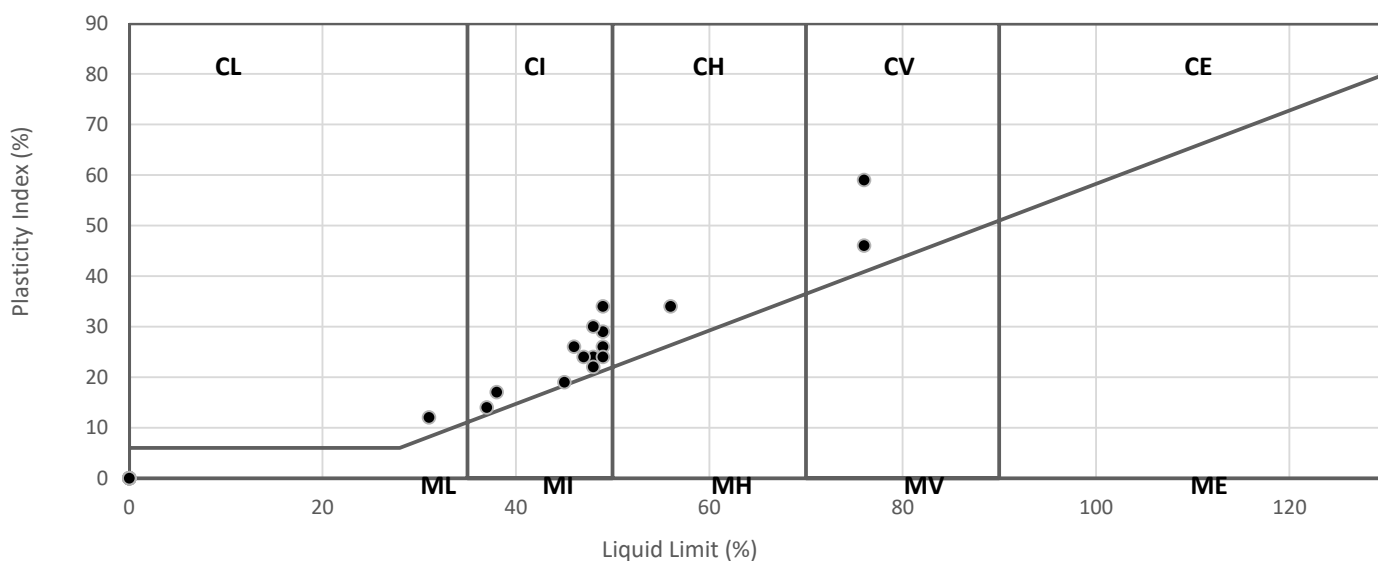


Contract Number	55427	
Project Location	Dunsbury Park Units 100, 400, 600, 700	
Date Tested	14/09/2021	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
BH1.01		D	1.50	-		30	76	30	46	100	CV Very High Plasticity
BH4.01		D	1.50	-		60					
BH4.01		D	3.00	-		18	76	17	59	100	CV Very High Plasticity
BH4.01		D	4.50	-	4.95	21	49	23	26	100	CI Intermediate Plasticity
BH4.02		D	1.00	-		22					
BH4.02		D	2.00	-		21	46	20	26	100	CI Intermediate Plasticity
BH6.01		D	2.00	-		25	38	21	17	100	CI Intermediate Plasticity
BH6.02		D	1.50	-	1.95	25	56	22	34	100	CH High Plasticity
BH6.02		D	2.50	-	2.95	24	49	15	34	100	CI Intermediate Plasticity
BH6.03		D	0.50	-	1.00	16	31	19	12	100	CL Low Plasticity
BH6.03		D	3.30	-		24	48	24	24	100	CI Intermediate Plasticity
BH6.03		D	5.00	-		23	49	20	29	100	CI Intermediate Plasticity
BH7.01		D	3.00	-		25	49	25	24	100	CI Intermediate Plasticity
BH7.02		D	0.50	-		22	37	23	14	100	CI Intermediate Plasticity
BH7.02		D	3.00	-		24	47	23	24	100	CI Intermediate Plasticity
BH7.02		D	5.00	-		26	45	26	19	100	CI Intermediate Plasticity
BH7.03		D	0.50	-		33	48	26	22	100	CI Intermediate Plasticity
BH7.03		D	6.00	-		22	48	18	30	100	CI Intermediate Plasticity
				-							
				-							
				-							
				-							
				-							
				-							

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION BS 5930:1999+A2:2010

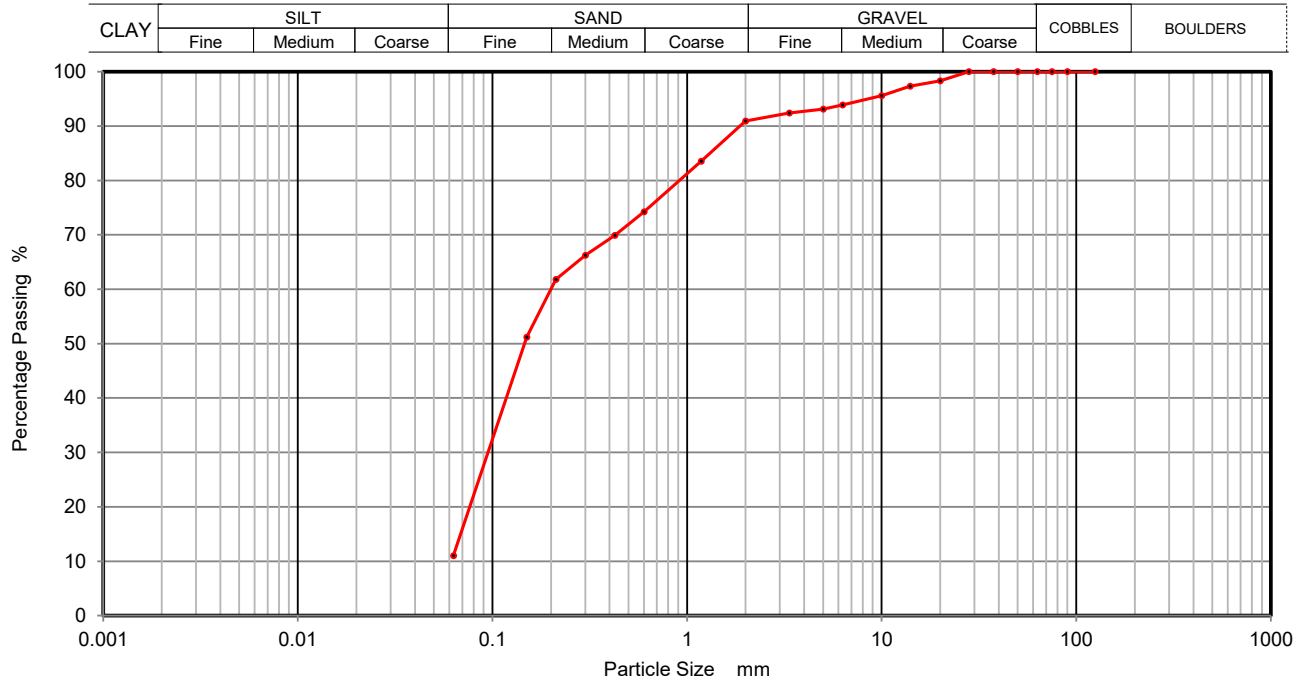


Operators	Checked	23/09/2021	Richard John (Advanced Testing Manager)
Clayton Jenkins	Approved	23/09/2021	Paul Evans (Quality/Technical Manager)



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

	PARTICLE SIZE DISTRIBUTION BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Contract Number	55427
		Borehole/Pit No.	TP4.07
Site Name	Dunsbury Park Units 100, 400, 600, 700	Sample No.	
Soil Description	Brown fine slightly gravelly silty clayey fine to coarse SAND.	Depth Top	0.00
		Depth Base	0.70
Date Tested	21/09/2021	Sample Type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	97		
10	96		
6.3	94		
5	93		
3.35	92		
2	91		
1.18	84		
0.6	74		
0.425	70		
0.3	66		
0.212	62		
0.15	51		
0.063	11		

Sample Proportions	% dry mass
Cobbles	0
Gravel	9
Sand	80
Silt and Clay	11

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	22/09/2021	Richard John	
David	Approved	23/09/2021	Paul Evans	





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

Contract Number 55427

Borehole/Pit No. BH6.01

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

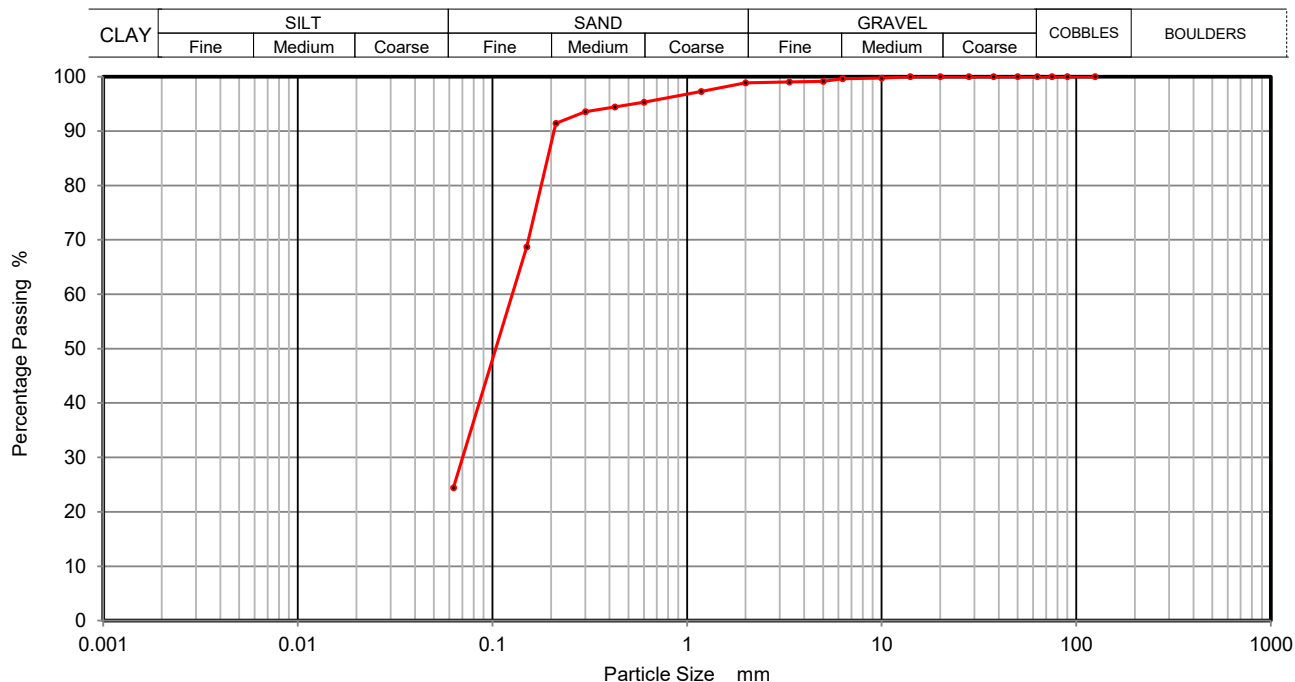
Soil Description Brown fine slightly gravelly silty clayey fine to coarse SAND.

Depth Top 0.50

Depth Base 1.00

Date Tested 21/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	99		
1.18	97		
0.6	95		
0.425	94		
0.3	94		
0.212	91		
0.15	69		
0.063	24		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	75
Silt and Clay	24

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	22/09/2021	Richard John	
David	Approved	23/09/2021	Paul Evans	

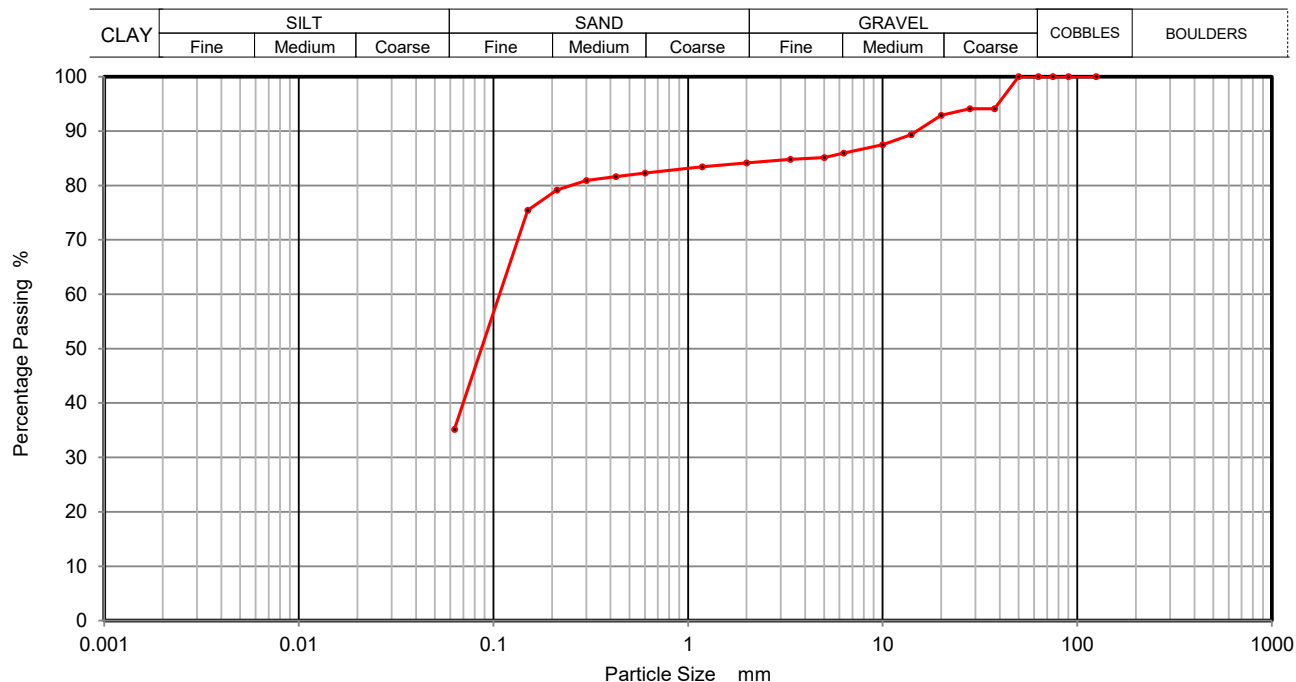


2788



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

		Contract Number	55427
		Borehole/Pit No.	BH6.02
Site Name	Dunsbury Park Units 100, 400, 600, 700	Sample No.	
Soil Description	Brown fine to coarse gravelly silty clayey fine to coarse SAND.	Depth Top	0.00
		Depth Base	0.50
Date Tested	21/09/2021	Sample Type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	94		
28	94		
20	93		
14	89		
10	87		
6.3	86		
5	85		
3.35	85		
2	84		
1.18	83		
0.6	82		
0.425	82		
0.3	81		
0.212	79		
0.15	75		
0.063	35		

Sample Proportions	% dry mass
Cobbles	0
Gravel	16
Sand	49
Silt and Clay	35

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	22/09/2021	Richard John	
David	Approved	23/09/2021	Paul Evans	





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

Contract Number 55427

Borehole/Pit No. BH7.01

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

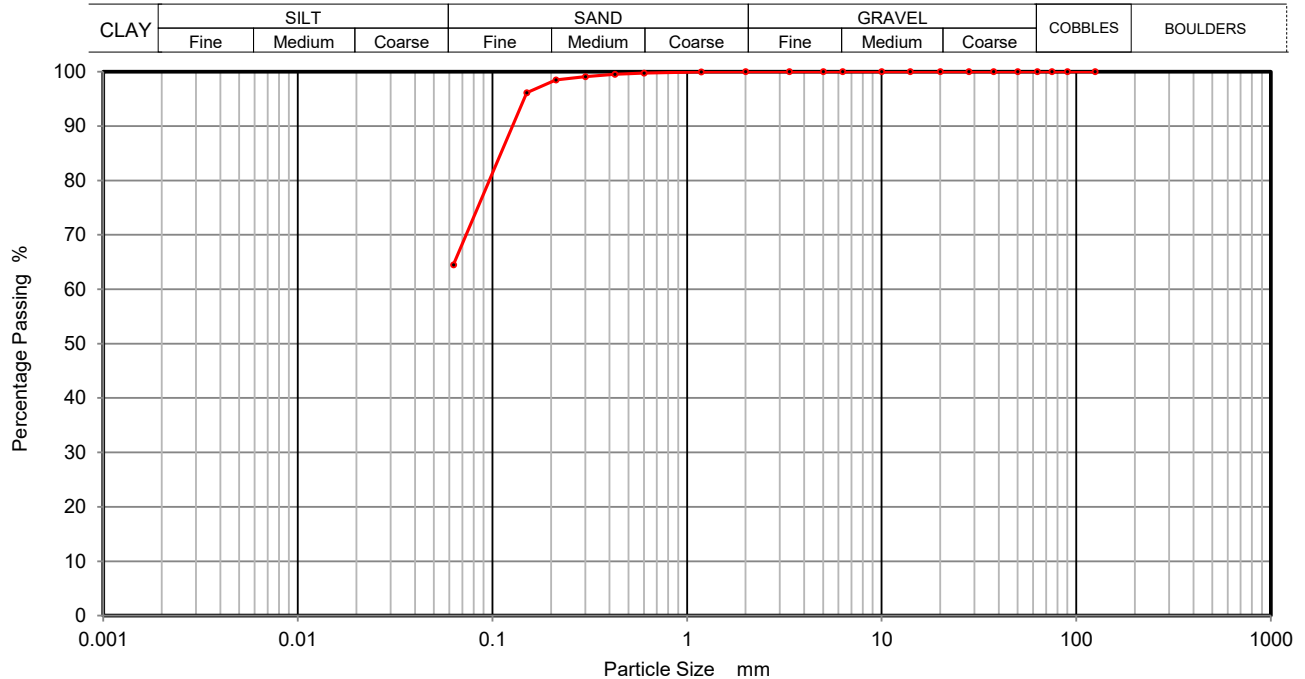
Soil Description Brown fine to coarse sandy silty CLAY.

Depth Top 0.50

Depth Base

Date Tested 21/09/2021

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	100		
0.3	99		
0.212	98		
0.15	96		
0.063	65		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	35
Silt and Clay	65

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	22/09/2021	Richard John	
David	Approved	23/09/2021	Paul Evans	





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

Contract Number 55427

Borehole/Pit No. BH7.02

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description

Brown silty clayey fine to coarse SAND.

Depth Top

1.00

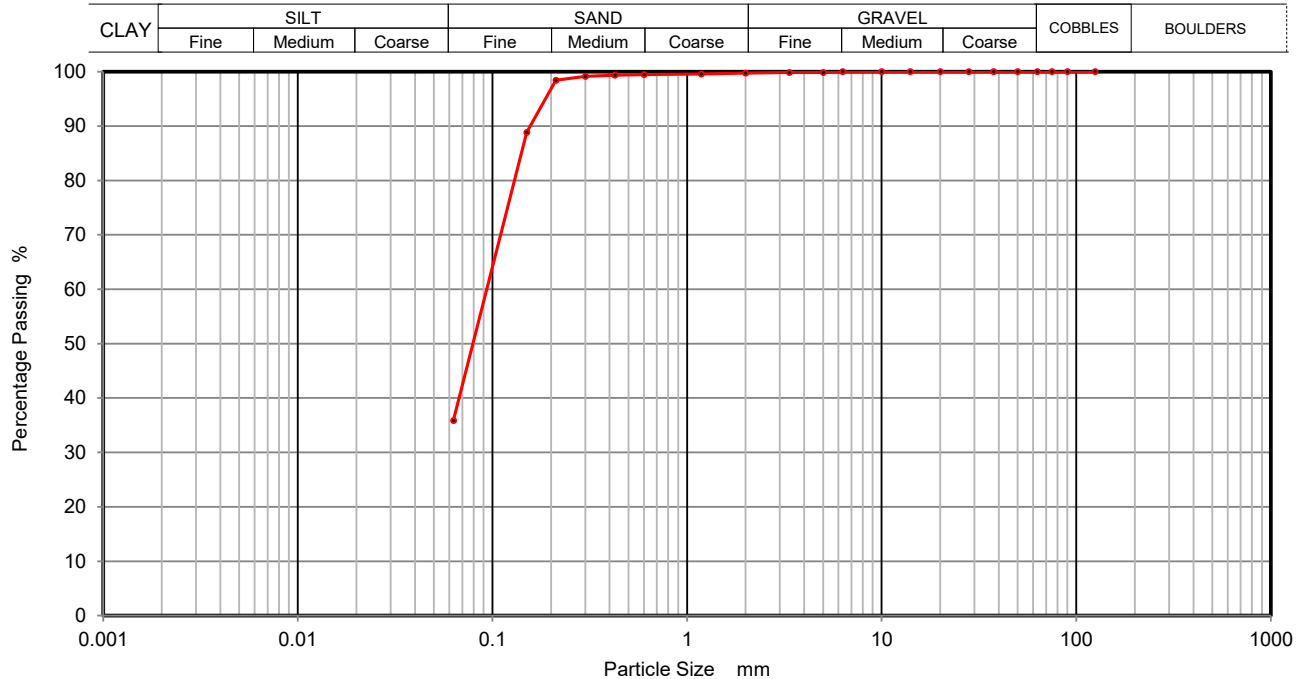
Depth Base

Date Tested

21/09/2021

Sample Type

B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	99		
0.3	99		
0.212	98		
0.15	89		
0.063	36		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	64
Silt and Clay	36

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	22/09/2021	Richard John	
David	Approved	23/09/2021	Paul Evans	



2788



Certificate of Analysis

Certificate Number 21-19233

Issued: 16-Sep-21

Client GEO Site and Testing Services Ltd
Unit 4
Heol Aur
Dafen Ind Est
Dafen
Carmarthenshire
SA14 8QN

Our Reference 21-19233

Client Reference 19453-GELO

Order No (not supplied)

Contract Title Dunsbury Park Units 100, 400, 600, 700

Description 8 Soil samples.

Date Received 09-Sep-21

Date Started 09-Sep-21

Date Completed 16-Sep-21

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

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

Approved By

A handwritten signature in black ink, appearing to read "A Fenwick", is written over a light blue circular stamp.

Adam Fenwick
Contracts Manager



Summary of Chemical Analysis Soil Samples

Our Ref 21-19233

Client Ref 19453-GELO

Contract Title Dunsbury Park Units 100, 400, 600, 700

Lab No	1902357	1902358	1902359	1902360	1902361	1902362	1902363	1902364
Sample ID	BH4.02	BH4.02	BH4.04	BH6.02	BH6.03	BH6.01	BH7.02	BH7.03
Depth	1.50	4.50-4.95	6.00	2.00	6.00	2.50-2.95	4.00	5.50
Other ID								
Sample Type	D	D	D	D	D	D	D	D
Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units								
Inorganics											
pH	DETSC 2008#		pH	5.7	8.3	7.4	6.7	7.6	6.8	6.9	7.7
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	440	520	540	48	450	400	83	240
Sulphur as S, Total	DETSC 2320	0.01	%	0.57	0.53	1.1	0.03	0.55	0.47	0.07	0.31
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.16	0.17	0.19	0.04	0.02	0.16	0.04	0.12

Information in Support of the Analytical Results

Our Ref 21-19233
 Client Ref 19453-GELO
 Contract Dunsbury Park Units 100, 400, 600, 700

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1902357	BH4.02 1.50 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1902358	BH4.02 4.50-4.95 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1902359	BH4.04 6.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1902360	BH6.02 2.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1902361	BH6.03 6.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1902362	BH6.01 2.50-2.95 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1902363	BH7.02 4.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
1902364	BH7.03 5.50 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

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

Information in Support of the Analytical Results

Our Ref 21-19233
Client Ref 19453-GELO
Contract Dunsbury Park Units 100, 400, 600, 700

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report



Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH101

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Mottled brown gravelly silty CLAY.

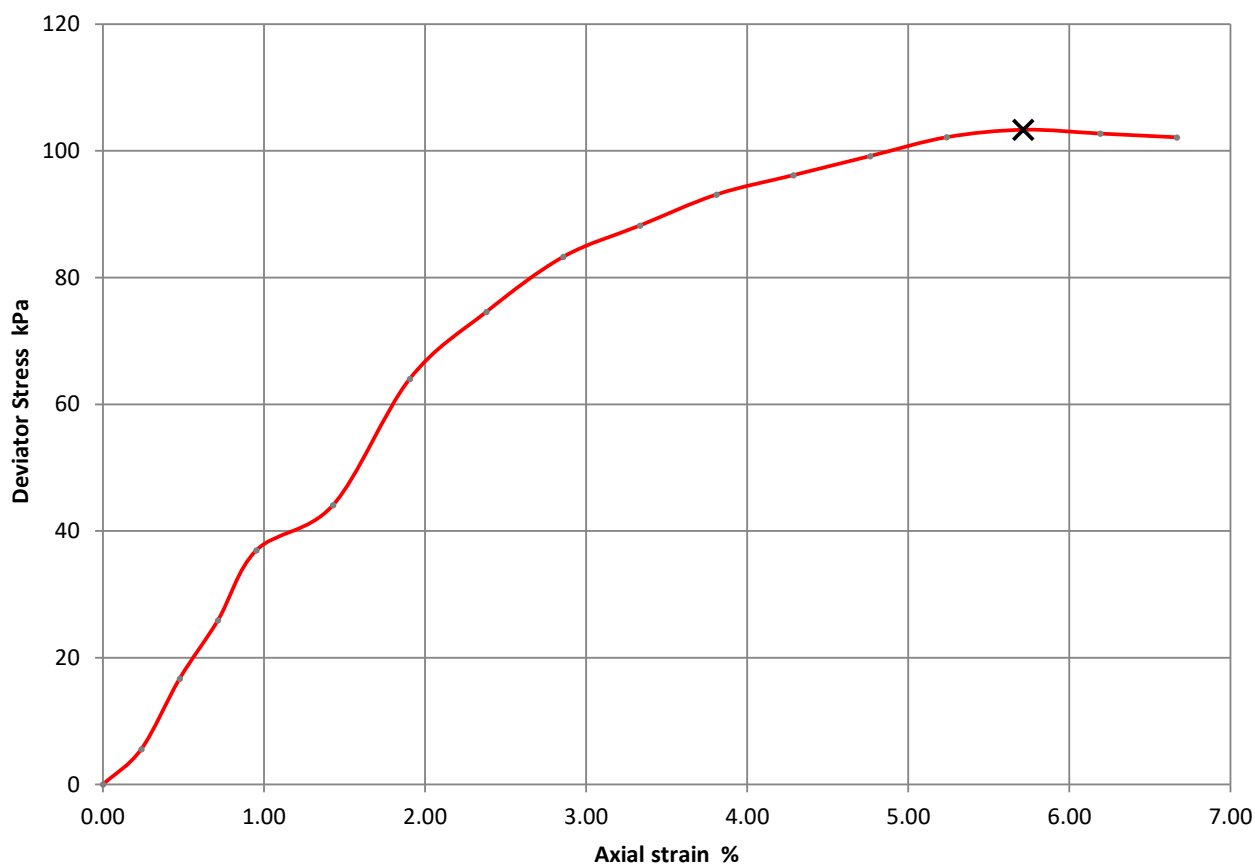
Depth Top (m) 2.50

Depth Base (m) 2.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	10
Bulk Density (Mg/m ³)	1.87
Dry Density (Mg/m ³)	1.70
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	50
Deviator Stress (kPa)	103
Undrained Shear Strength (kPa)	52
Failure Strain (%)	6
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH101

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Mottled brown gravelly silty CLAY.

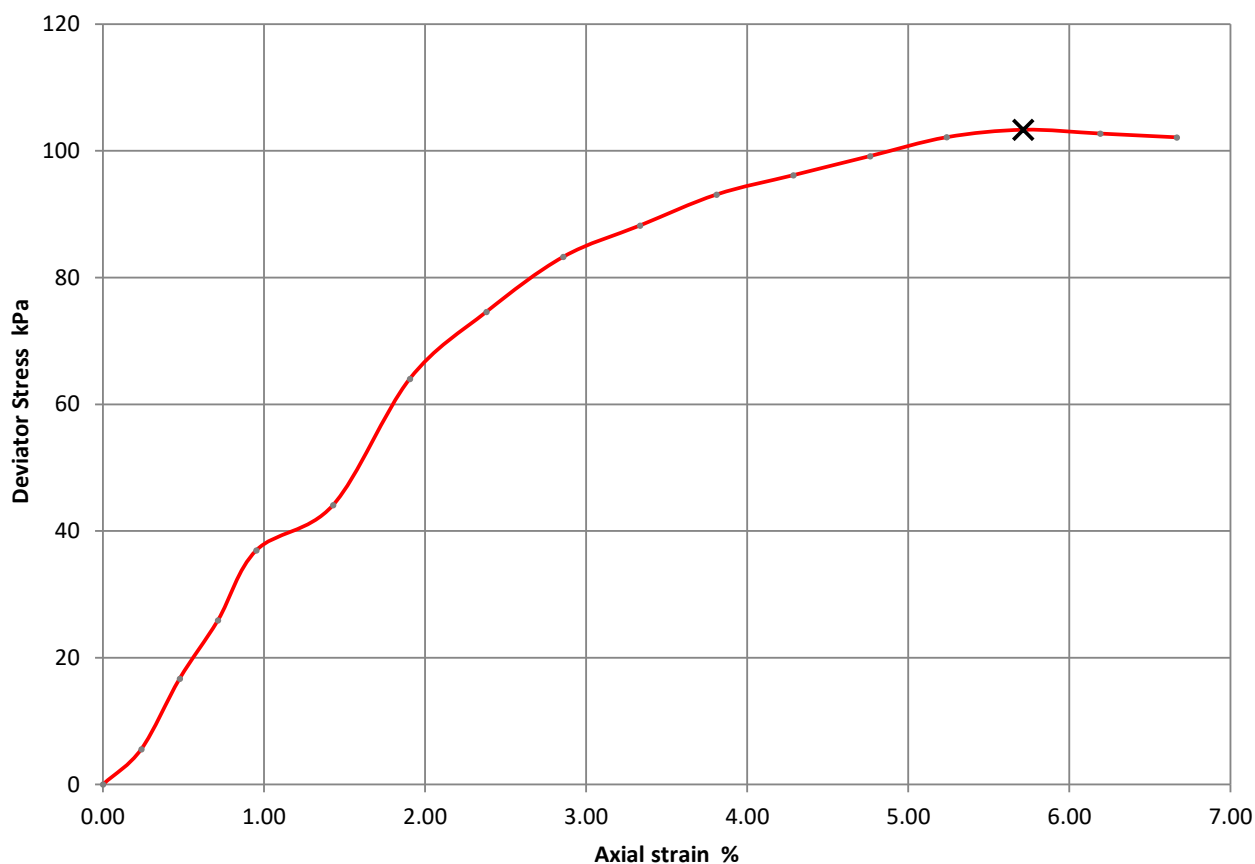
Depth Top (m) 10.50

Depth Base (m) 10.80

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	10
Bulk Density (Mg/m ³)	1.87
Dry Density (Mg/m ³)	1.70
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	50
Deviator Stress (kPa)	103
Undrained Shear Strength (kPa)	52
Failure Strain (%)	6
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH101

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

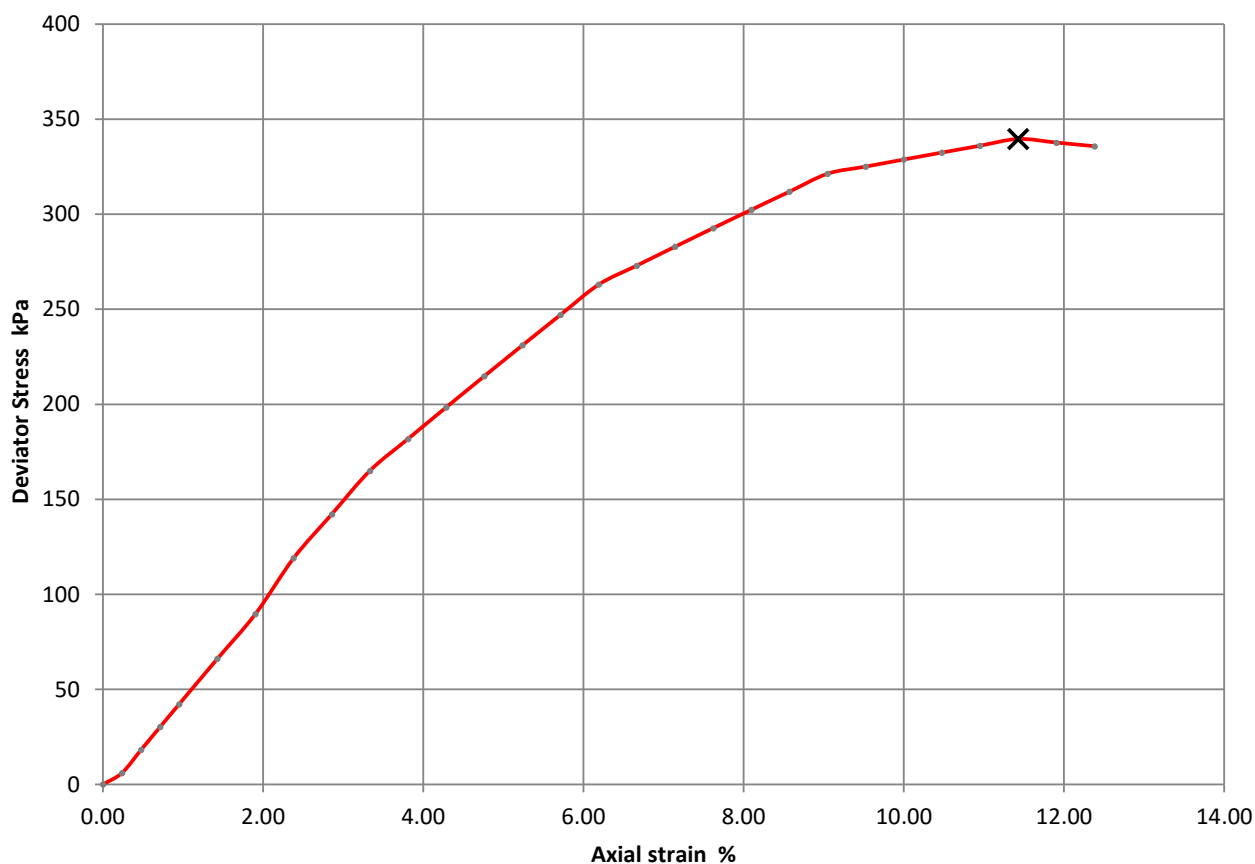
Depth Top (m) 13.50

Depth Base (m) 13.75

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	9.6
Bulk Density (Mg/m ³)	1.80
Dry Density (Mg/m ³)	1.65
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	270
Deviator Stress (kPa)	340
Undrained Shear Strength (kPa)	170
Failure Strain (%)	11
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test

Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH101

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

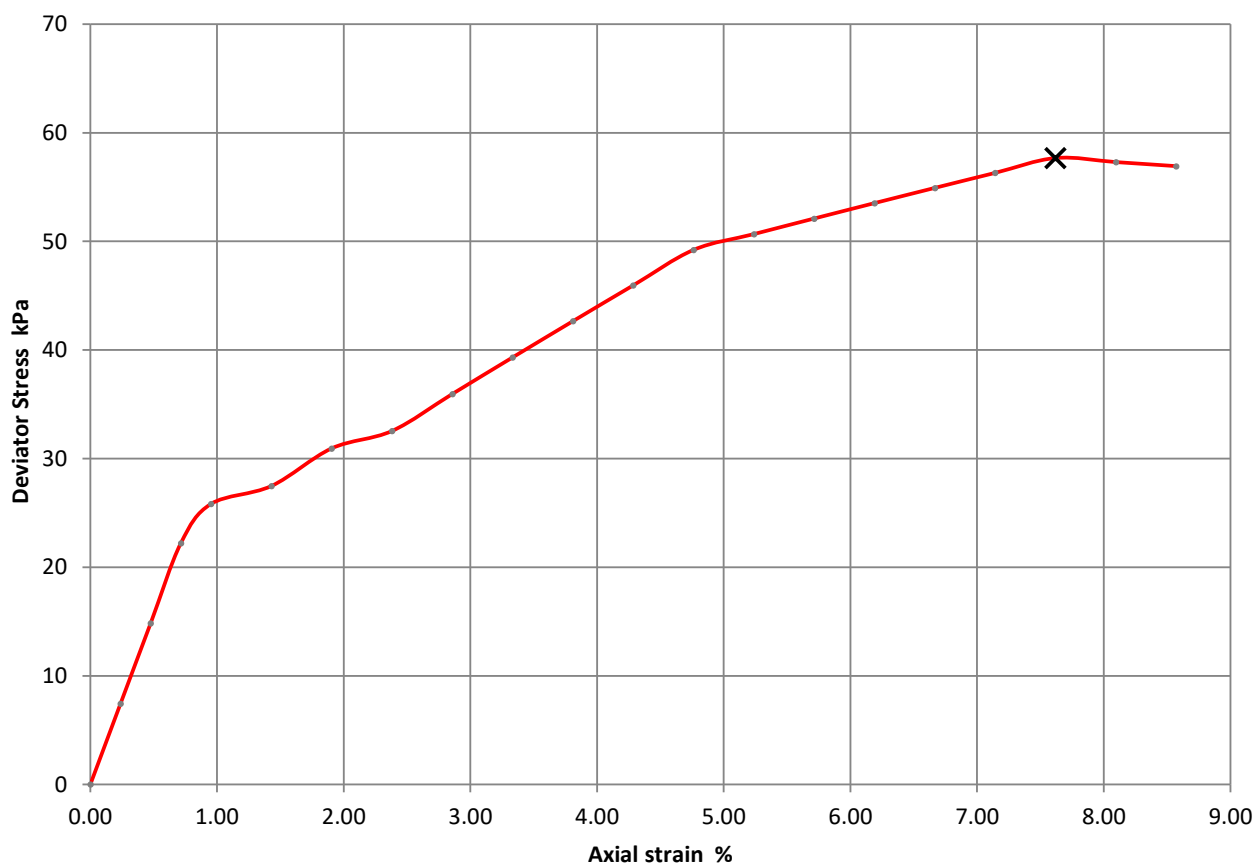
Depth Top (m) 16.50

Depth Base (m) 16.80

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	30
Bulk Density (Mg/m ³)	1.99
Dry Density (Mg/m ³)	1.53
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	330
Deviator Stress (kPa)	58
Undrained Shear Strength (kPa)	29
Failure Strain (%)	8
Mode Of Failure	Compound
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH101

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

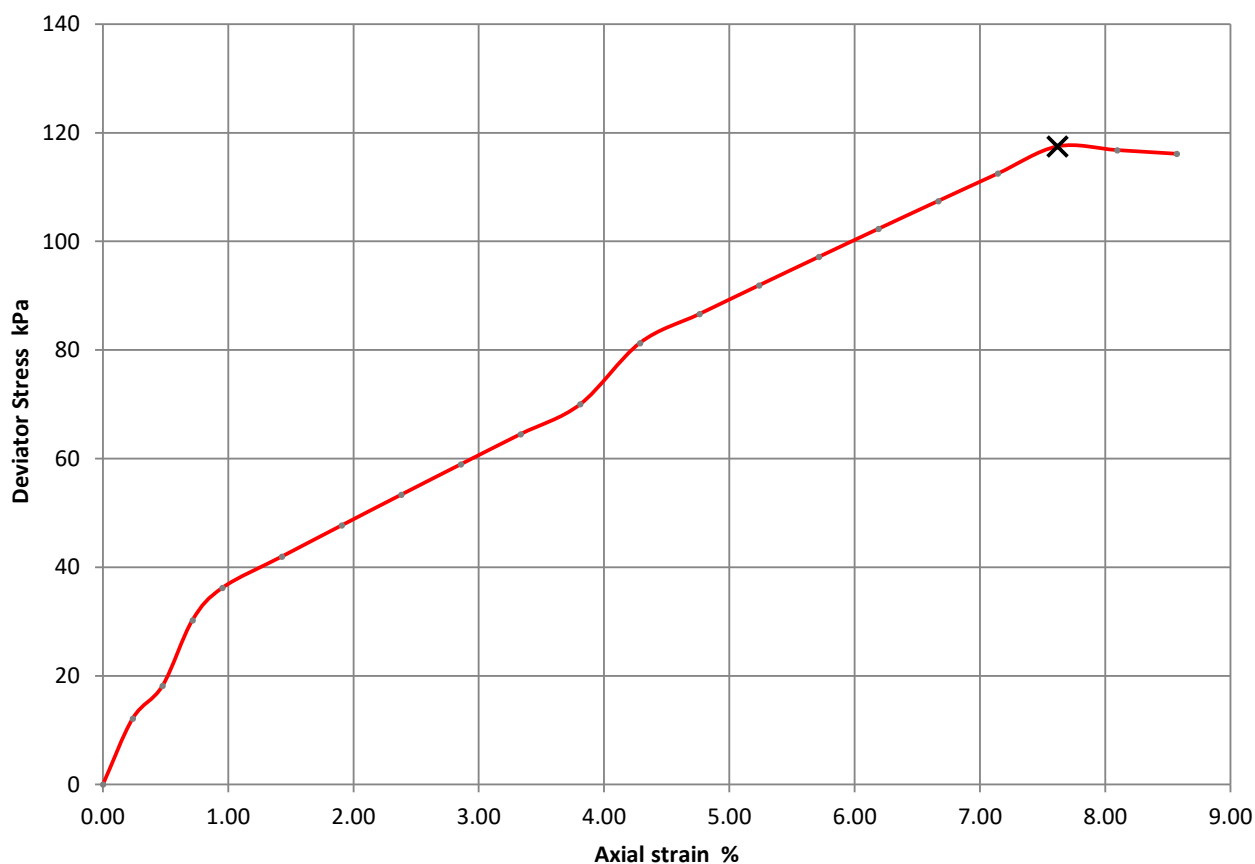
Depth Top (m) 19.50

Depth Base (m) 19.80

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	9.7
Bulk Density (Mg/m ³)	1.96
Dry Density (Mg/m ³)	1.79
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	390
Deviator Stress (kPa)	117
Undrained Shear Strength (kPa)	59
Failure Strain (%)	8
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test

Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH401

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

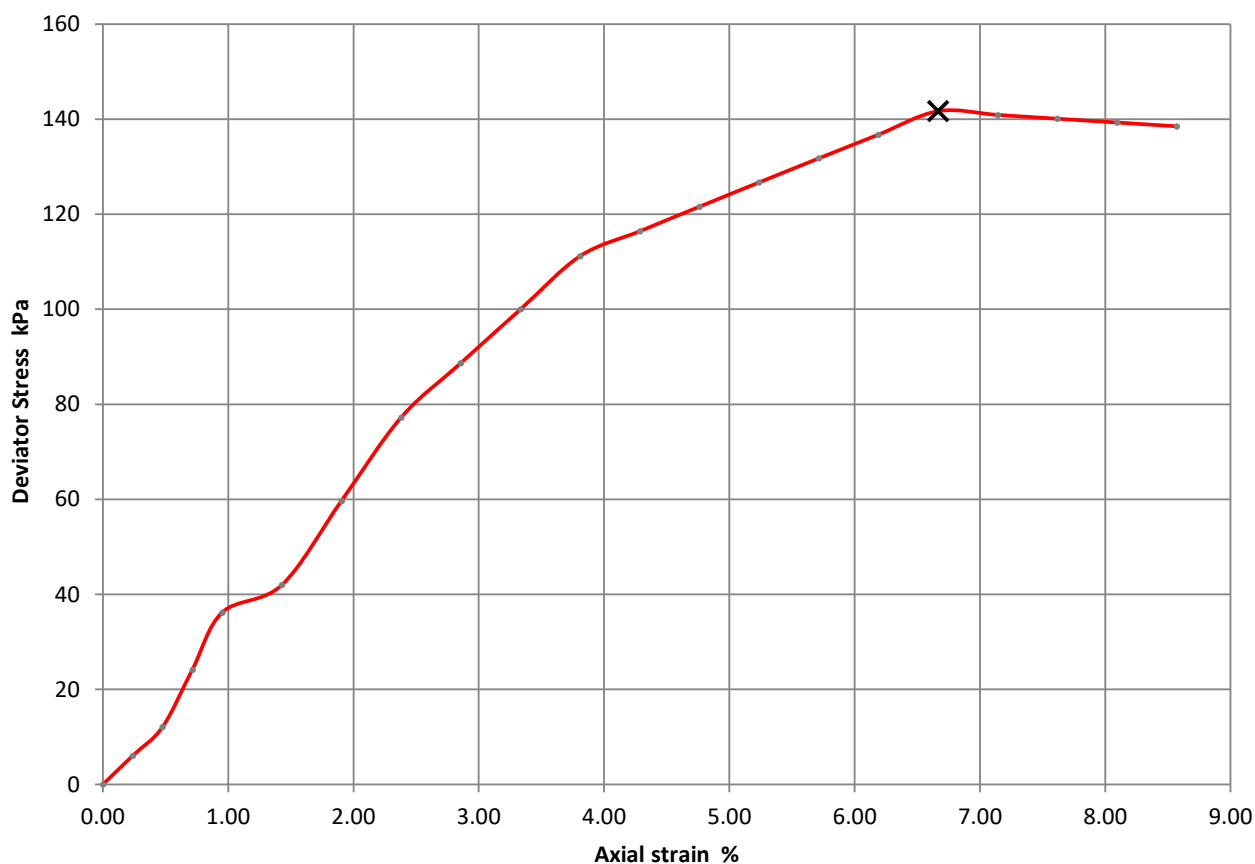
Depth Top (m) 3.50

Depth Base (m) 3.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	11
Bulk Density (Mg/m ³)	1.99
Dry Density (Mg/m ³)	1.79
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	70
Deviator Stress (kPa)	142
Undrained Shear Strength (kPa)	71
Failure Strain (%)	7
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH401

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

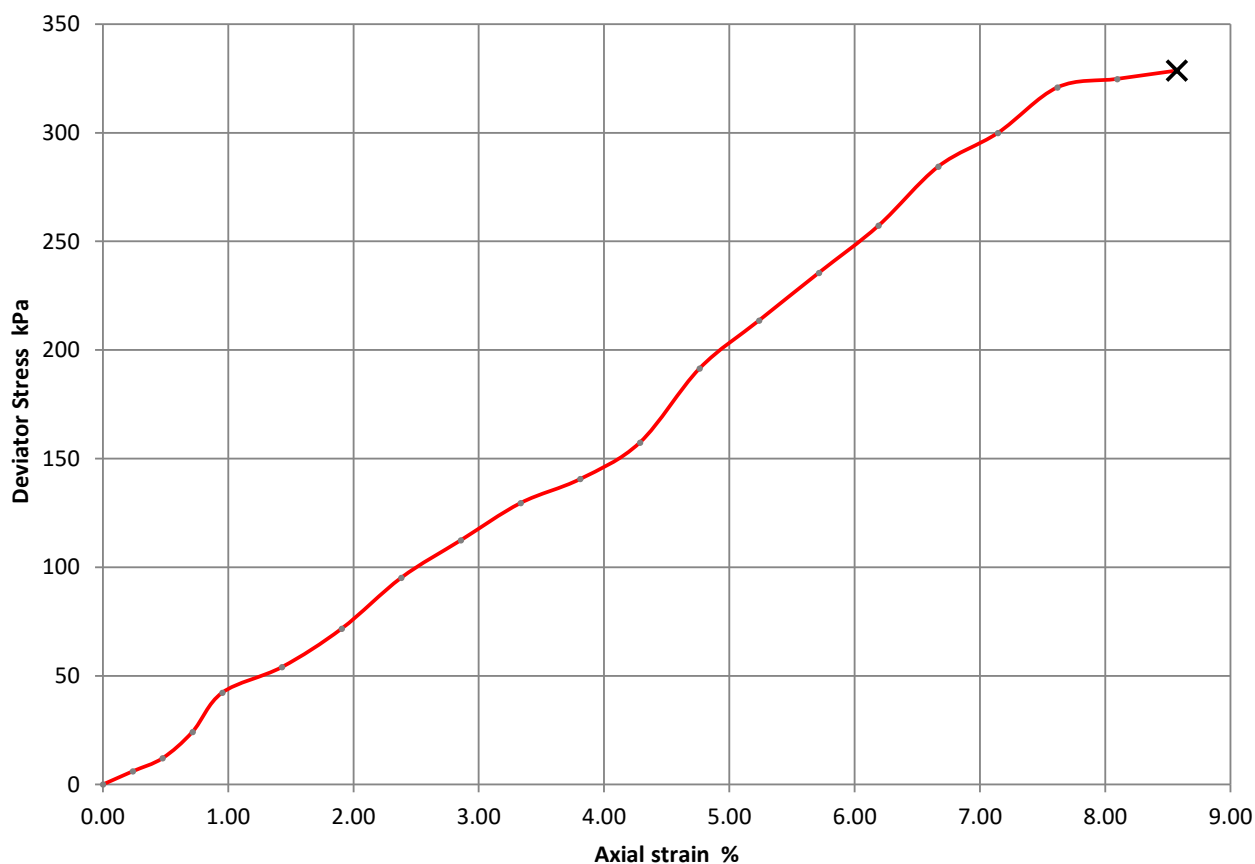
Depth Top (m) 5.50

Depth Base (m) 5.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	25
Bulk Density (Mg/m ³)	1.98
Dry Density (Mg/m ³)	1.58
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	110
Deviator Stress (kPa)	329
Undrained Shear Strength (kPa)	164
Failure Strain (%)	9
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





**Single Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 8**

Contract Number 55427

Borehole/Pit No. BH401

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

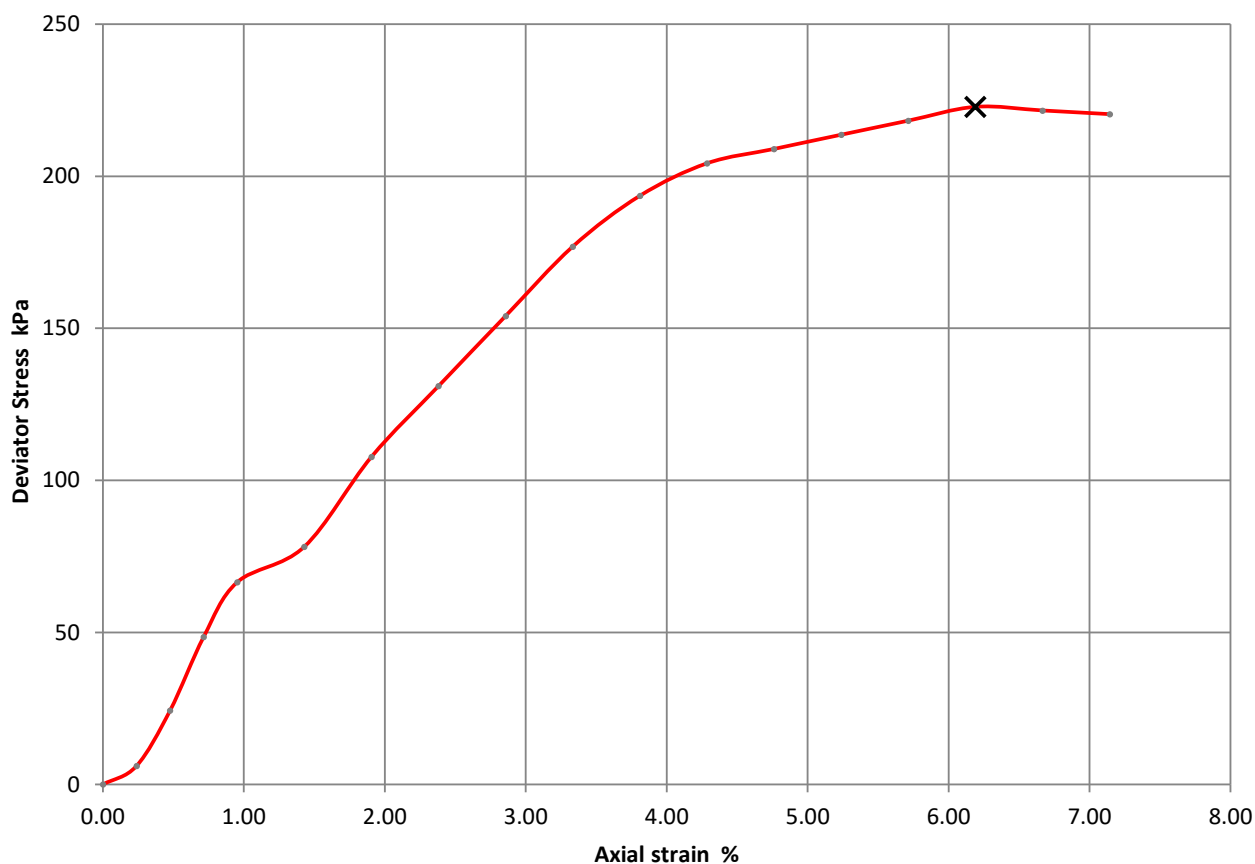
Depth Top (m) 11.50

Depth Base (m) 11.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	21
Bulk Density (Mg/m ³)	1.66
Dry Density (Mg/m ³)	1.38
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	230
Deviator Stress (kPa)	223
Undrained Shear Strength (kPa)	111
Failure Strain (%)	6
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH401

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

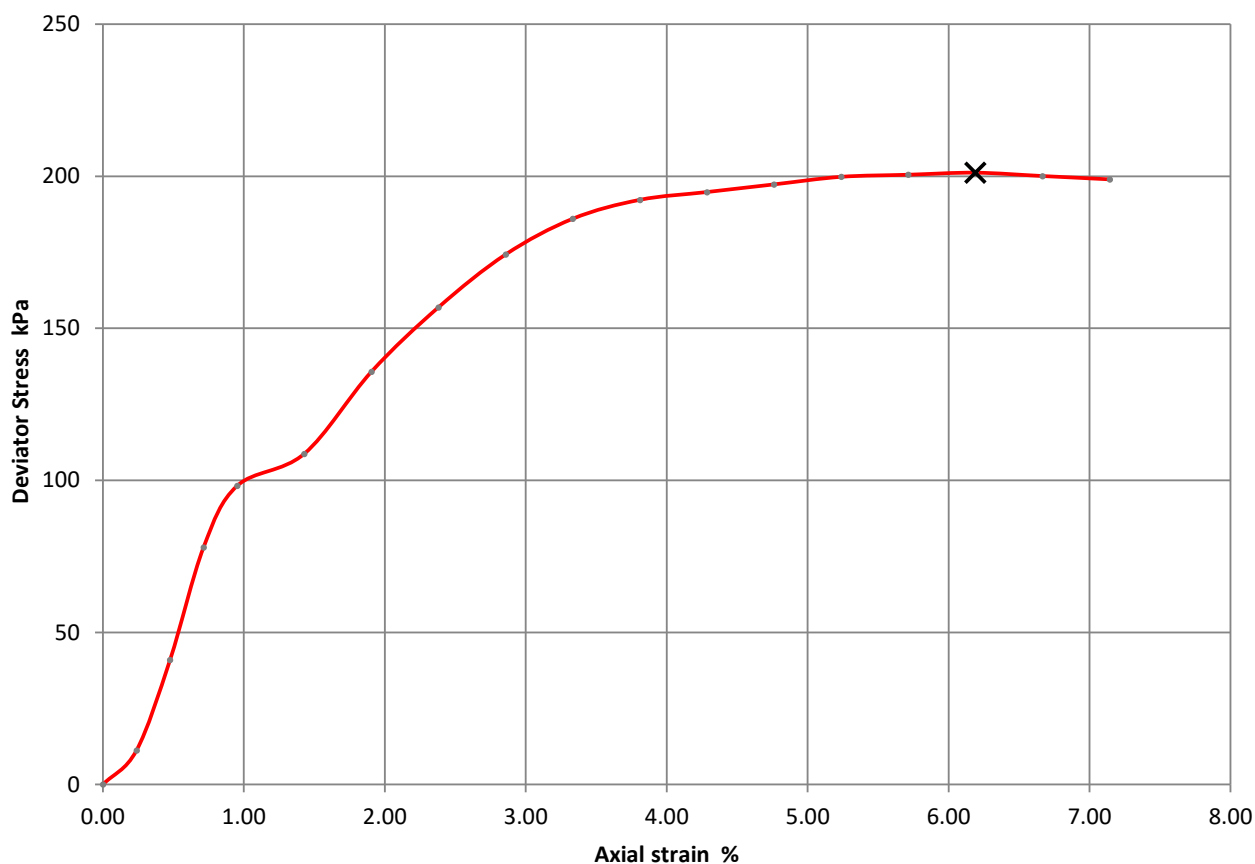
Depth Top (m) 17.50

Depth Base (m) 17.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	24
Bulk Density (Mg/m ³)	1.89
Dry Density (Mg/m ³)	1.53
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	350
Deviator Stress (kPa)	201
Undrained Shear Strength (kPa)	101
Failure Strain (%)	6
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test

Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH402

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

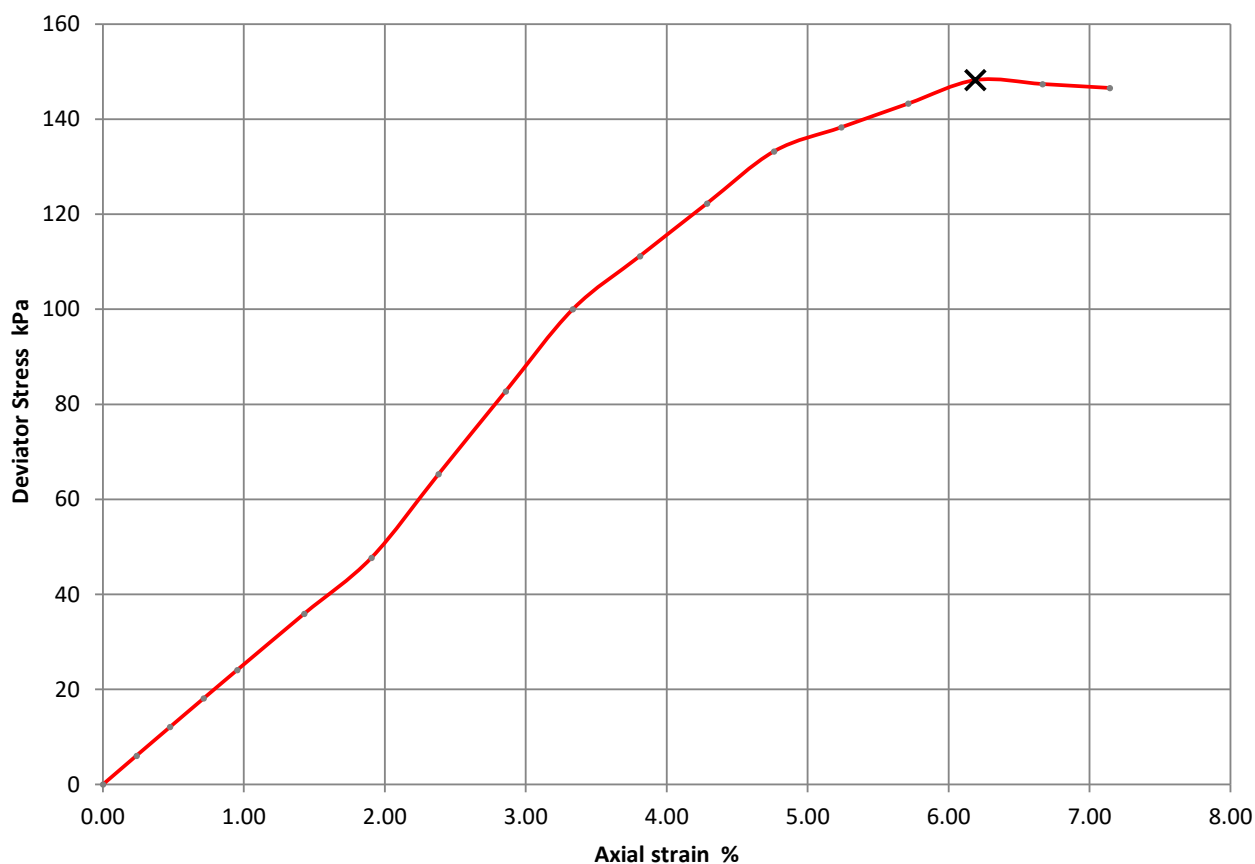
Depth Top (m) 3.50

Depth Base (m) 3.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	22
Bulk Density (Mg/m ³)	1.99
Dry Density (Mg/m ³)	1.63
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	70
Deviator Stress (kPa)	148
Undrained Shear Strength (kPa)	74
Failure Strain (%)	6
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH402

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

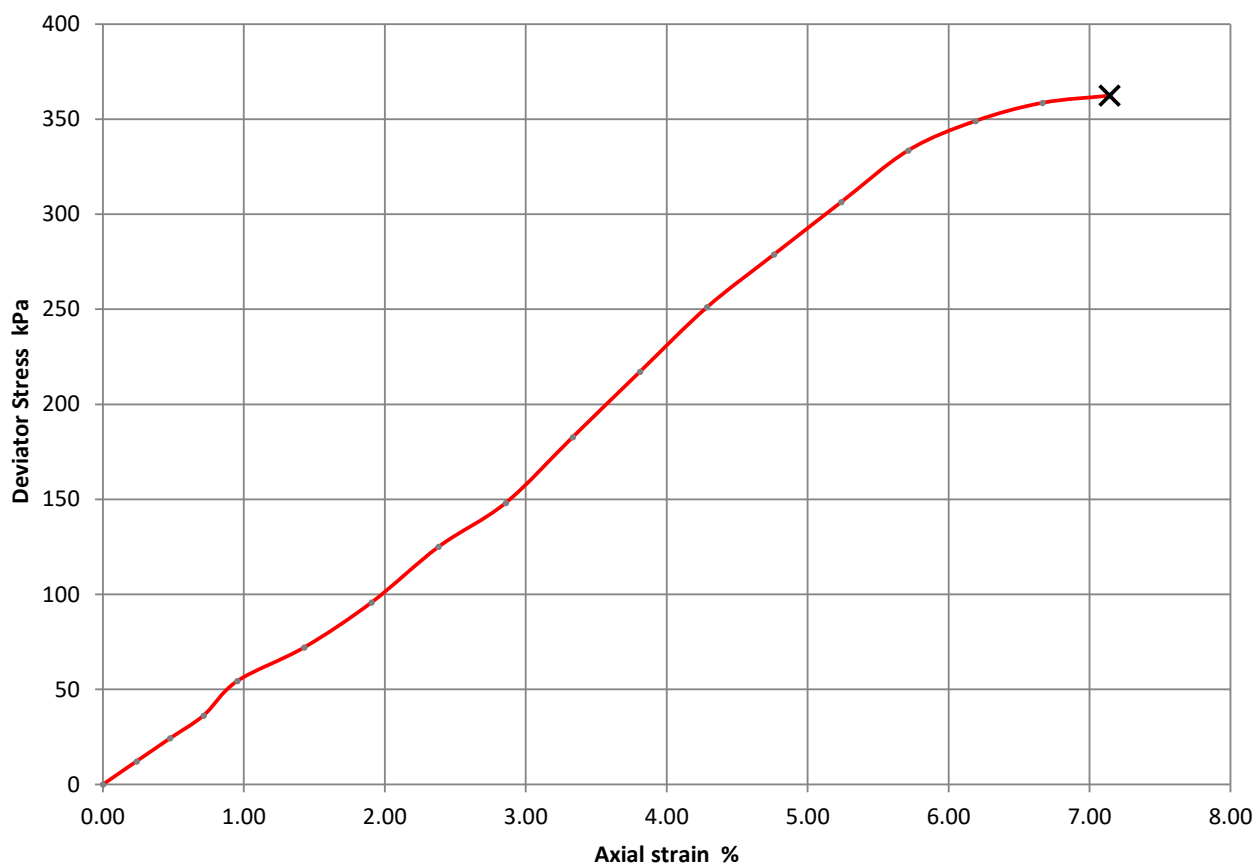
Depth Top (m) 5.50

Depth Base (m) 5.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	20
Bulk Density (Mg/m ³)	2.00
Dry Density (Mg/m ³)	1.66
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	110
Deviator Stress (kPa)	362
Undrained Shear Strength (kPa)	181
Failure Strain (%)	7
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH402

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

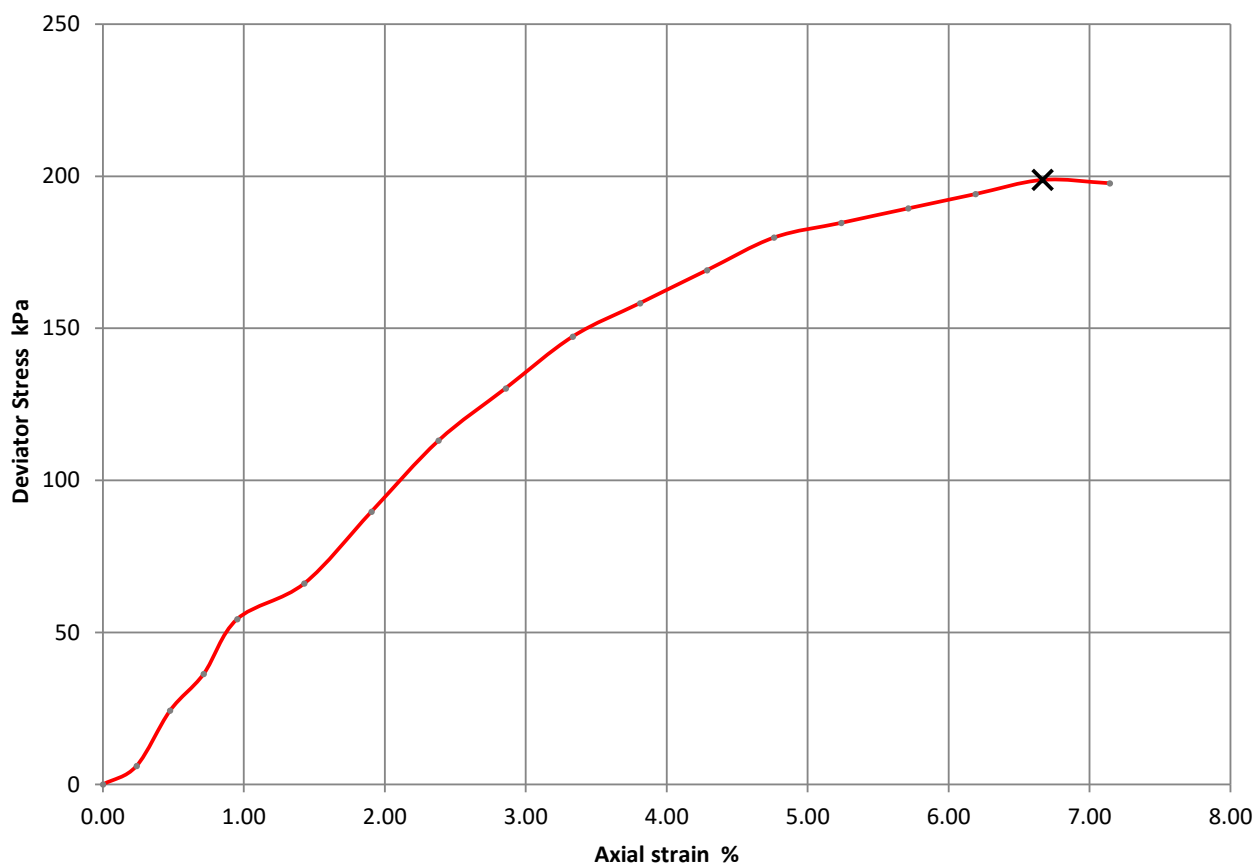
Depth Top (m) 11.50

Depth Base (m) 11.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	22
Bulk Density (Mg/m ³)	1.86
Dry Density (Mg/m ³)	1.53
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	230
Deviator Stress (kPa)	199
Undrained Shear Strength (kPa)	99
Failure Strain (%)	7
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH402

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

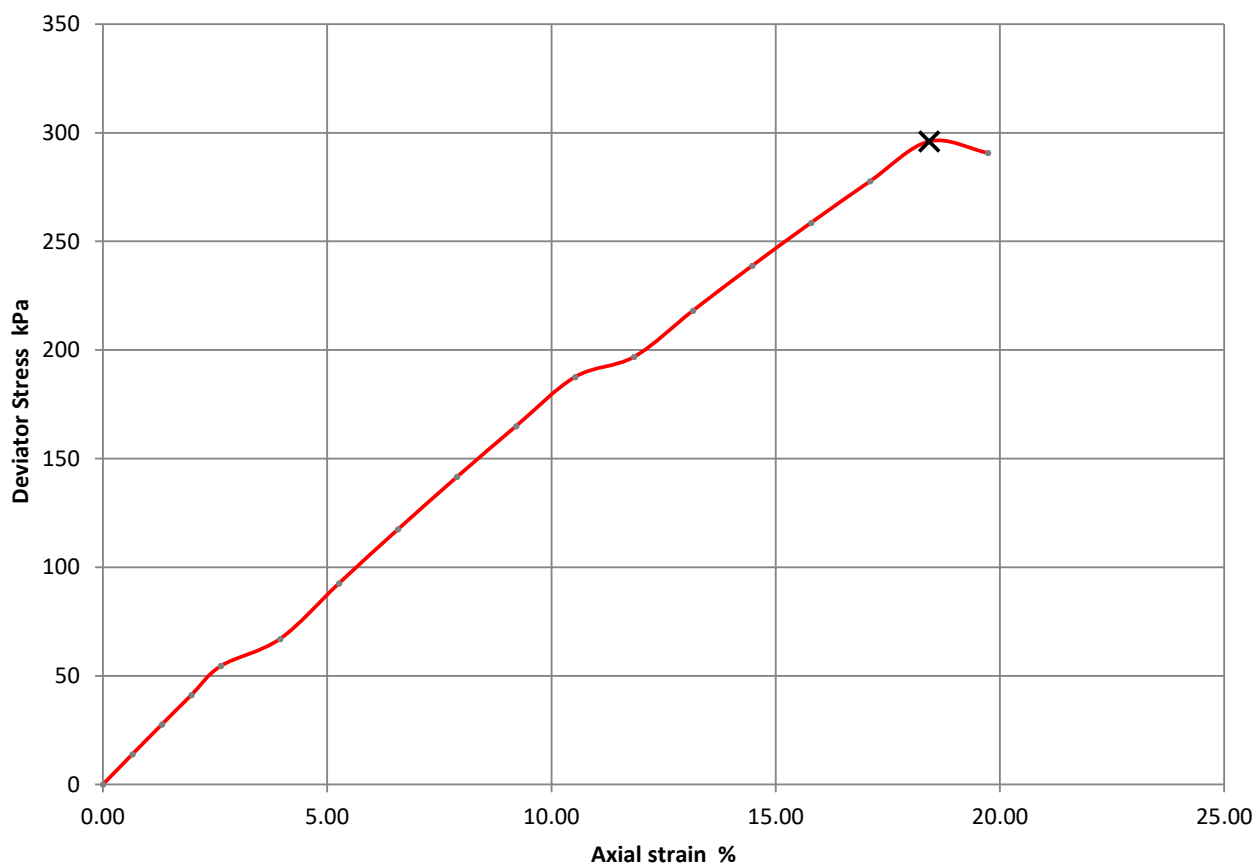
Depth Top (m) 14.50

Depth Base (m) 14.95

Date Tested 17/09/2021

Sample Type U

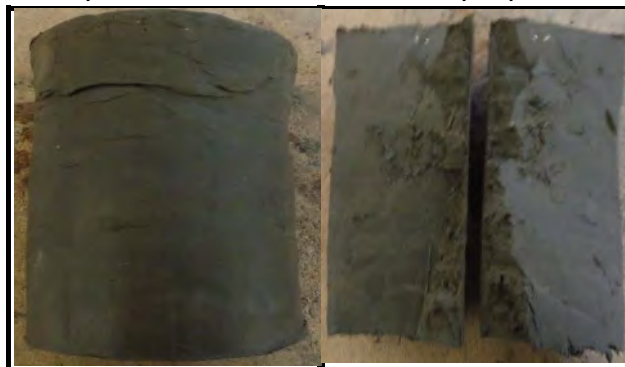
Technician Daniel B



Moisture Content (%)	24
Bulk Density (Mg/m ³)	1.87
Dry Density (Mg/m ³)	1.52
Specimen Length (mm)	76
Specimen Diameter (mm)	38
Cell Pressure (kPa)	290
Deviator Stress (kPa)	296
Undrained Shear Strength (kPa)	148
Failure Strain (%)	18
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	3.95

Specimen Post Test

Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH402

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

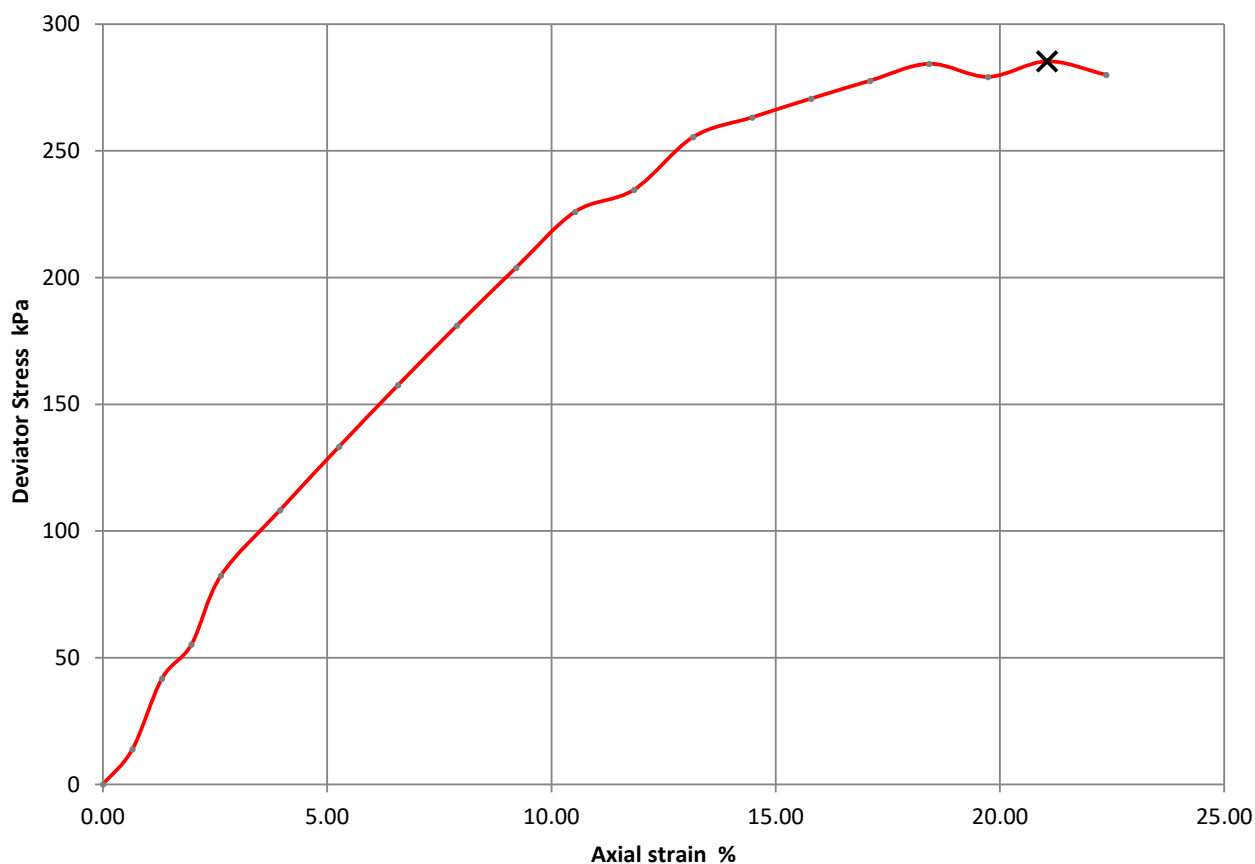
Depth Top (m) 17.50

Depth Base (m) 17.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	24
Bulk Density (Mg/m ³)	1.75
Dry Density (Mg/m ³)	1.42
Specimen Length (mm)	76
Specimen Diameter (mm)	38
Cell Pressure (kPa)	350
Deviator Stress (kPa)	285
Undrained Shear Strength (kPa)	143
Failure Strain (%)	21
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	3.95

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH601

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown fine sandy silty CLAY.

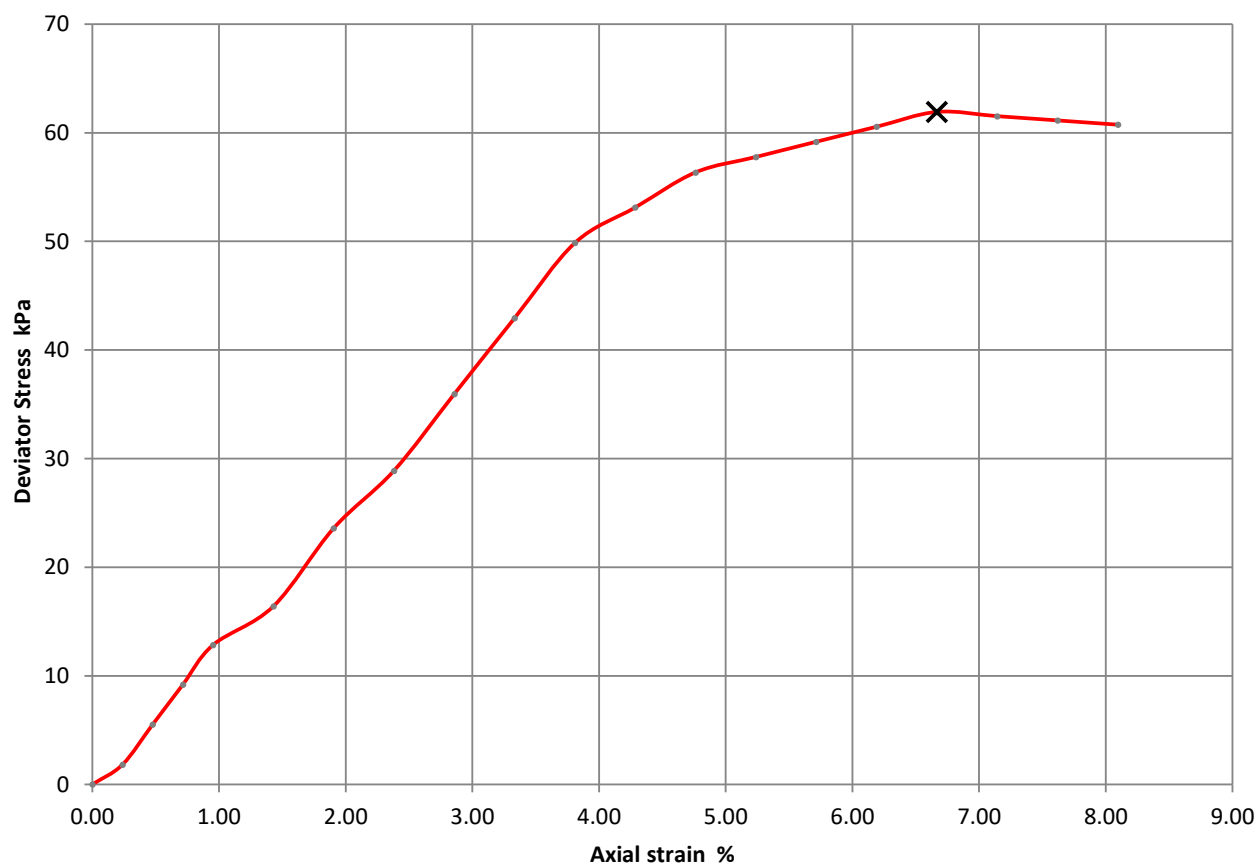
Depth Top (m) 5.50

Depth Base (m)

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	17
Bulk Density (Mg/m ³)	1.97
Dry Density (Mg/m ³)	1.68
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	70
Deviator Stress (kPa)	62
Undrained Shear Strength (kPa)	31
Failure Strain (%)	7
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH601

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown fine sandy silty CLAY.

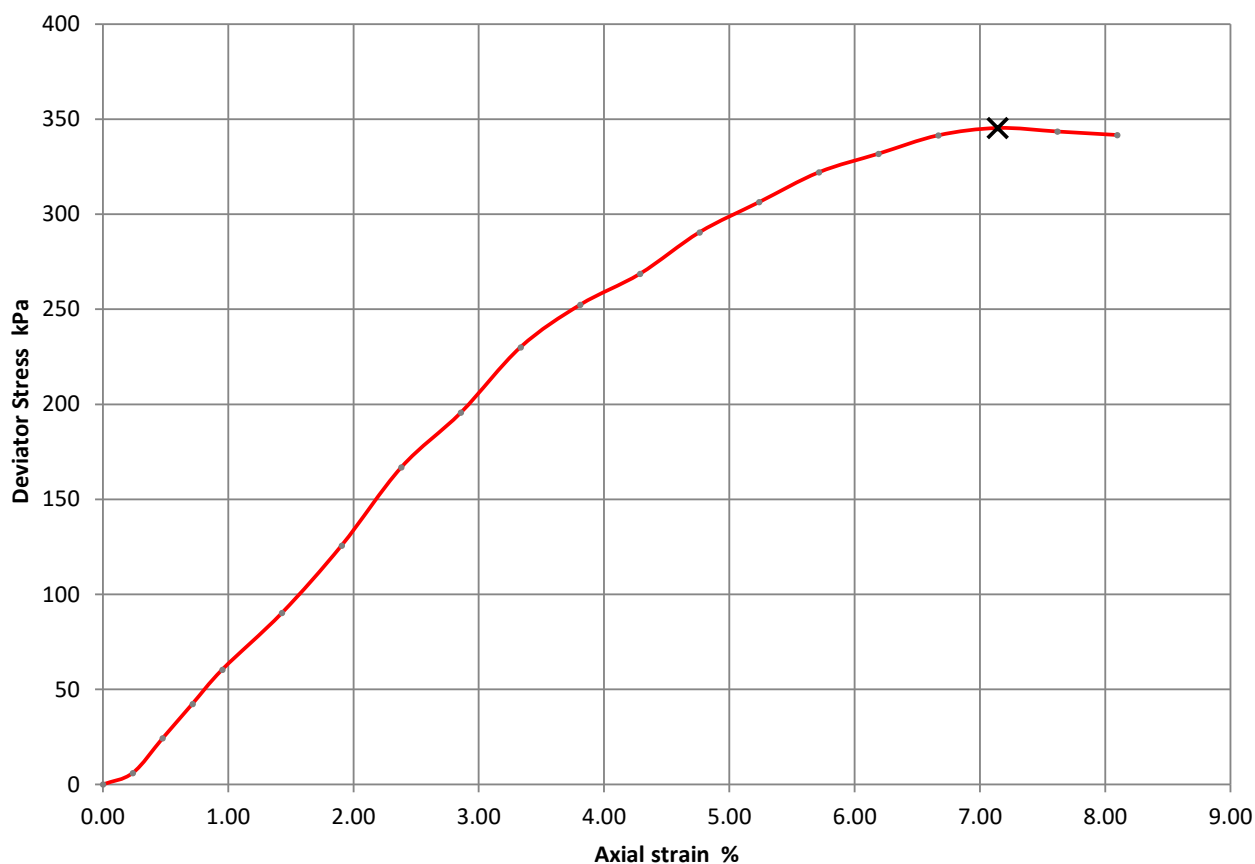
Depth Top (m) 11.50

Depth Base (m) 11.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	20
Bulk Density (Mg/m ³)	1.98
Dry Density (Mg/m ³)	1.65
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	170
Deviator Stress (kPa)	345
Undrained Shear Strength (kPa)	173
Failure Strain (%)	7
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH601

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

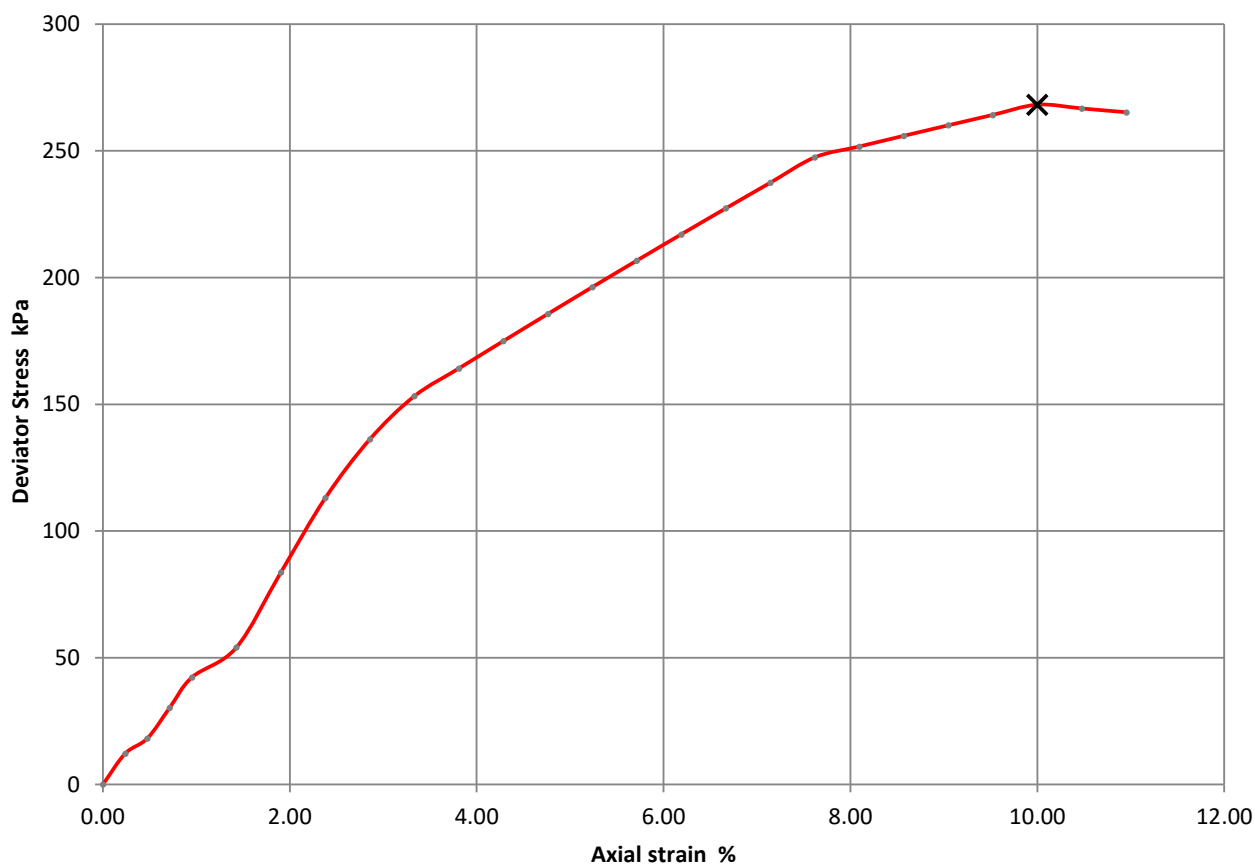
Depth Top (m) 14.50

Depth Base (m) 14.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	27
Bulk Density (Mg/m ³)	1.96
Dry Density (Mg/m ³)	1.54
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	290
Deviator Stress (kPa)	268
Undrained Shear Strength (kPa)	134
Failure Strain (%)	10
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH602

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Mottled Greyish brown silty CLAY.

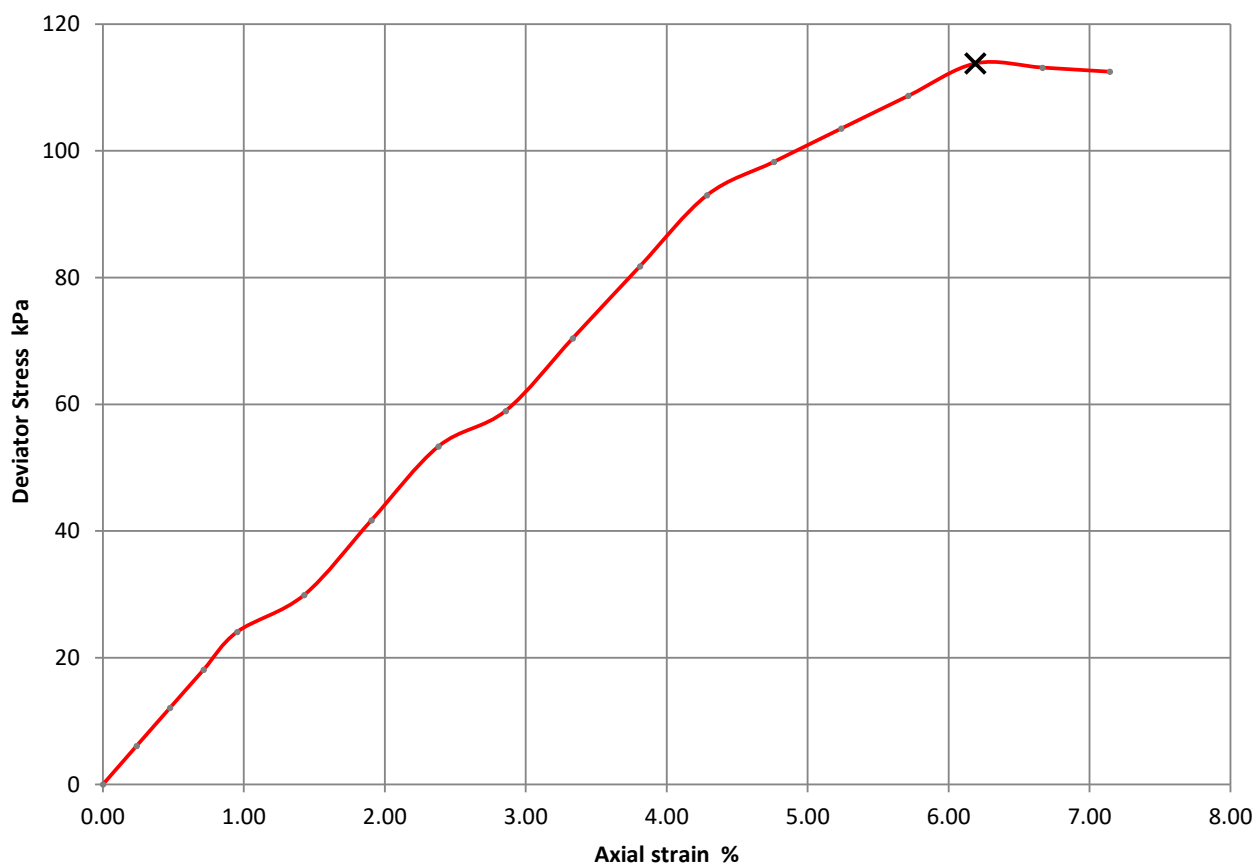
Depth Top (m) 3.50

Depth Base (m) 3.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	23
Bulk Density (Mg/m ³)	1.90
Dry Density (Mg/m ³)	1.55
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	70
Deviator Stress (kPa)	114
Undrained Shear Strength (kPa)	57
Failure Strain (%)	6
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH602

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

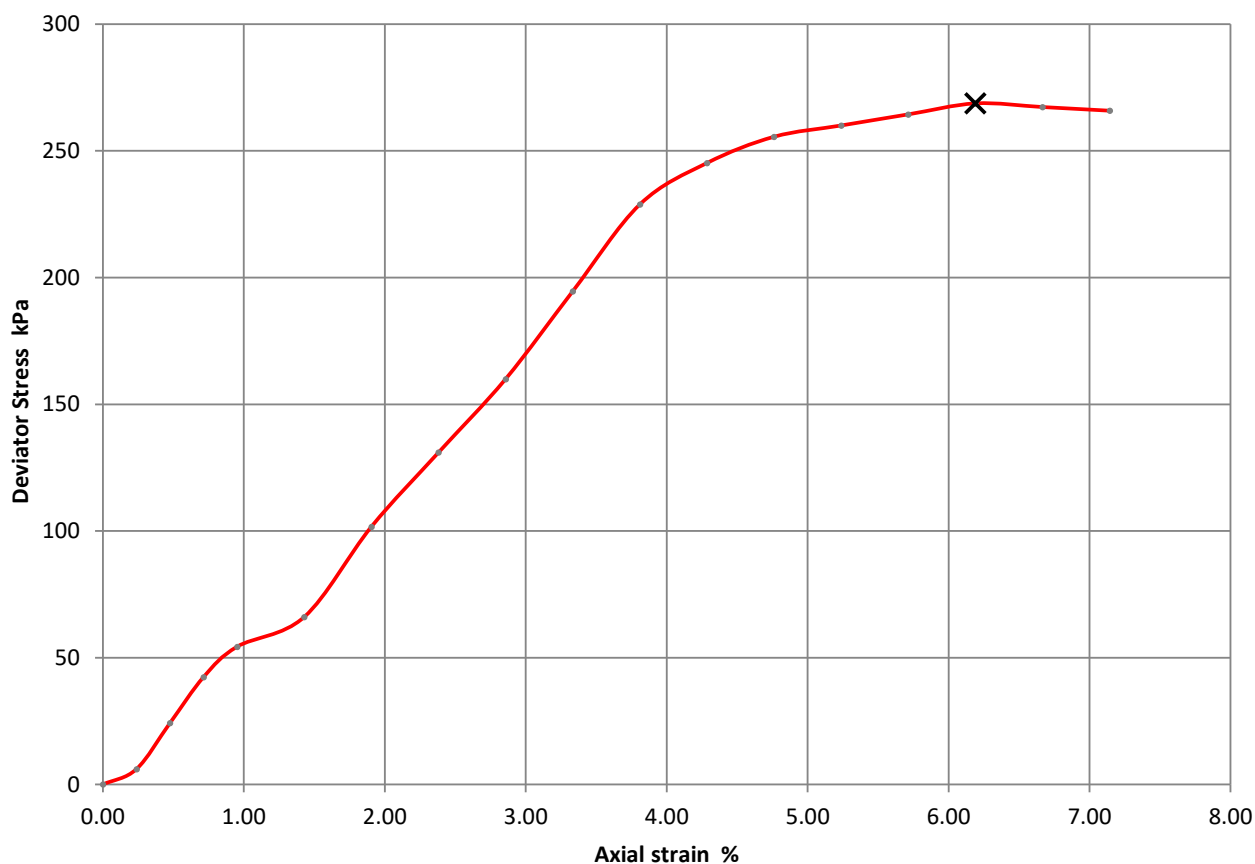
Depth Top (m) 11.50

Depth Base (m) 11.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	21
Bulk Density (Mg/m ³)	1.93
Dry Density (Mg/m ³)	1.60
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	230
Deviator Stress (kPa)	269
Undrained Shear Strength (kPa)	134
Failure Strain (%)	6
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH602

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

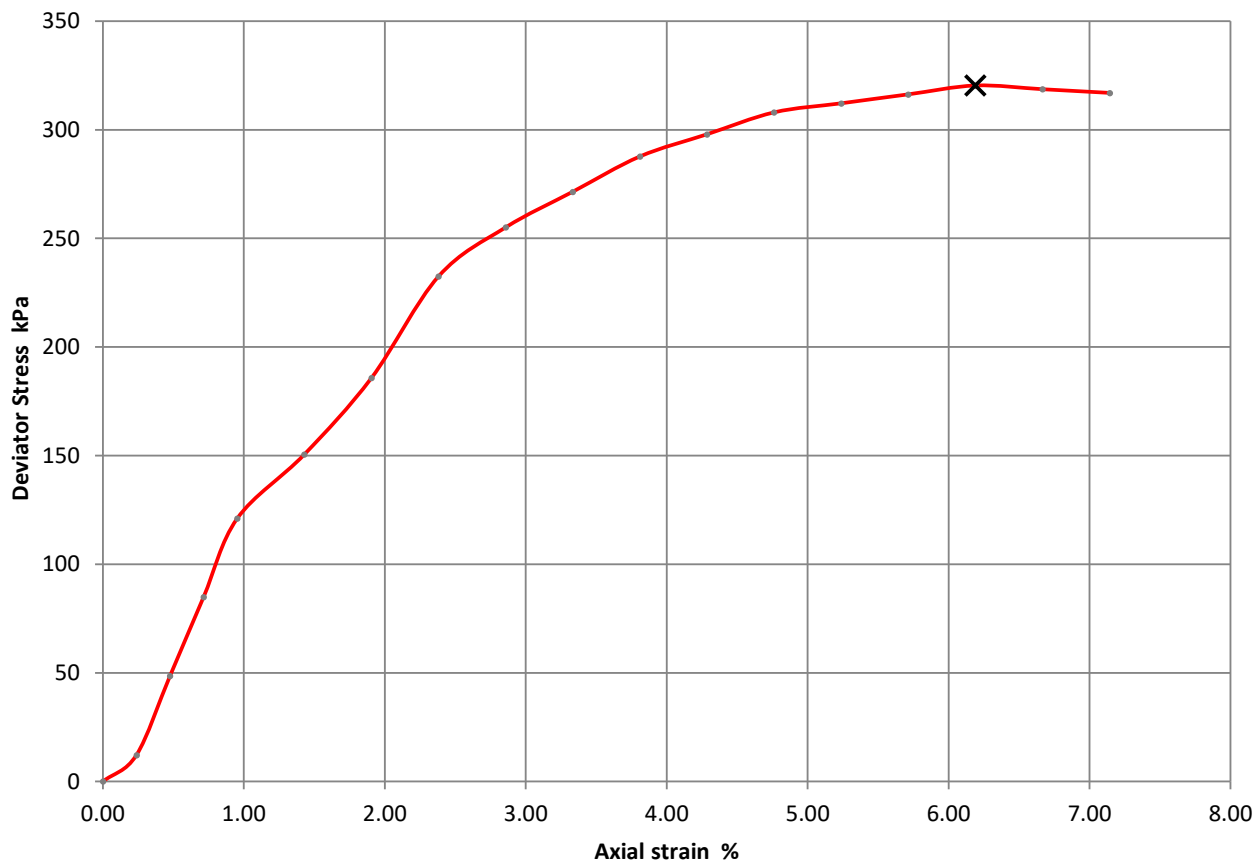
Depth Top (m) 17.50

Depth Base (m) 17.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	17
Bulk Density (Mg/m ³)	1.95
Dry Density (Mg/m ³)	1.67
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	350
Deviator Stress (kPa)	320
Undrained Shear Strength (kPa)	160
Failure Strain (%)	6
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH603

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

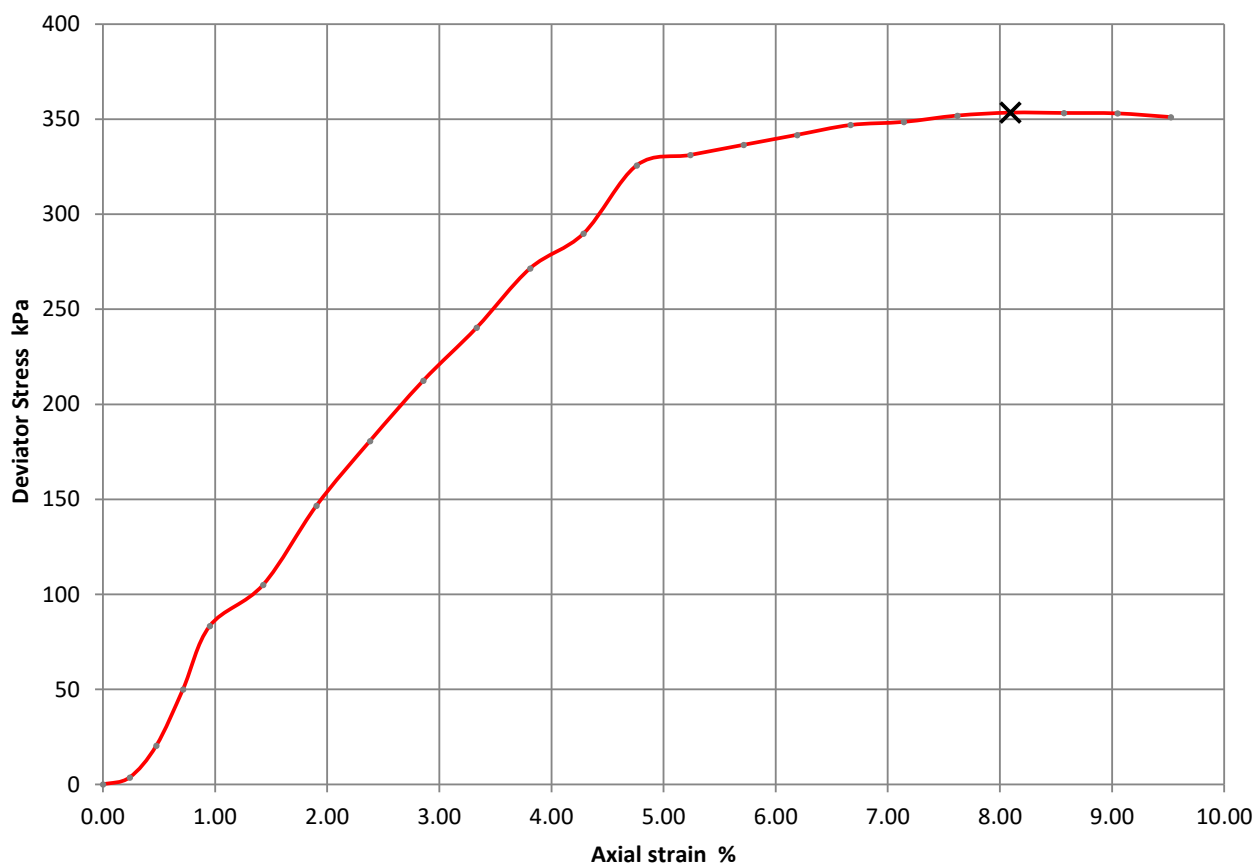
Depth Top (m) 5.50

Depth Base (m) 5.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	15
Bulk Density (Mg/m ³)	1.92
Dry Density (Mg/m ³)	1.67
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	110
Deviator Stress (kPa)	353
Undrained Shear Strength (kPa)	177
Failure Strain (%)	8
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH603

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

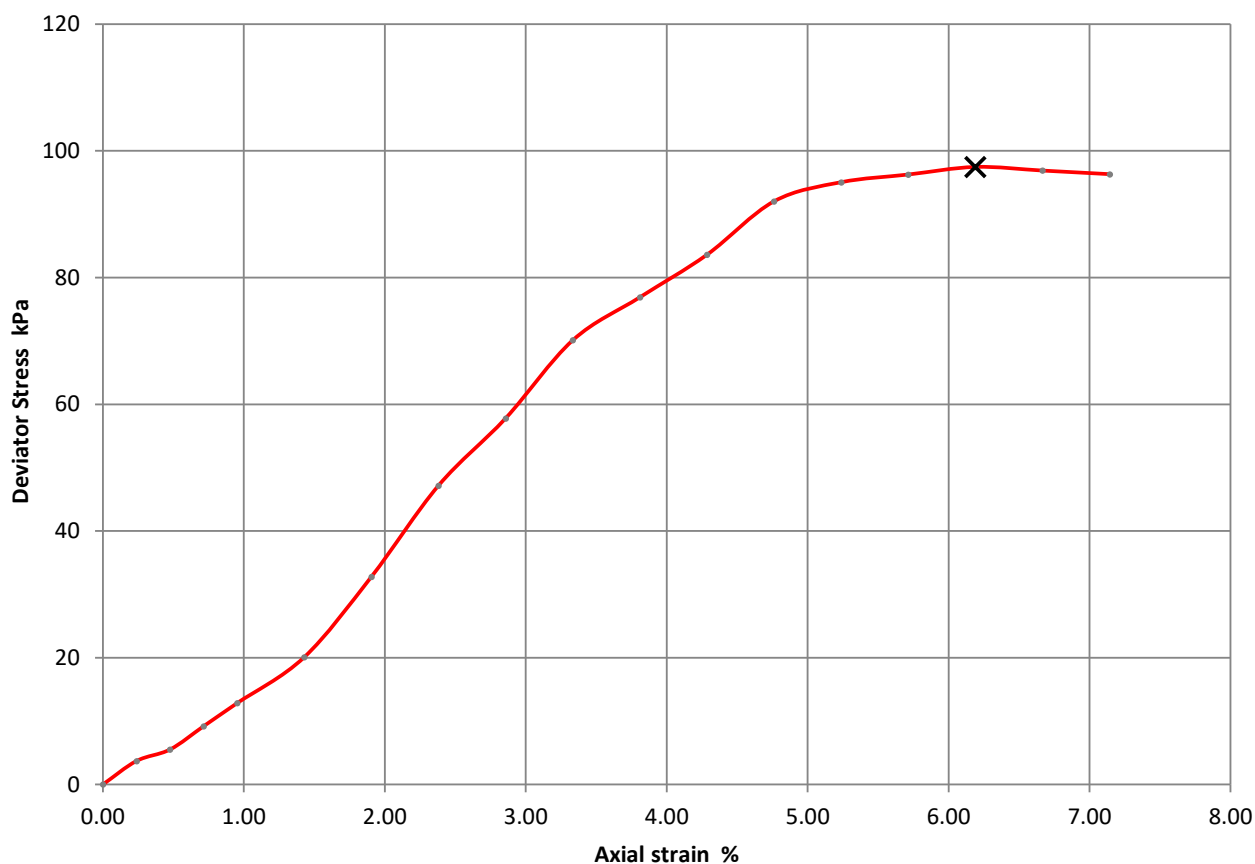
Depth Top (m) 14.50

Depth Base (m) 14.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	21
Bulk Density (Mg/m ³)	1.95
Dry Density (Mg/m ³)	1.61
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	110
Deviator Stress (kPa)	97
Undrained Shear Strength (kPa)	49
Failure Strain (%)	6
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH701

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

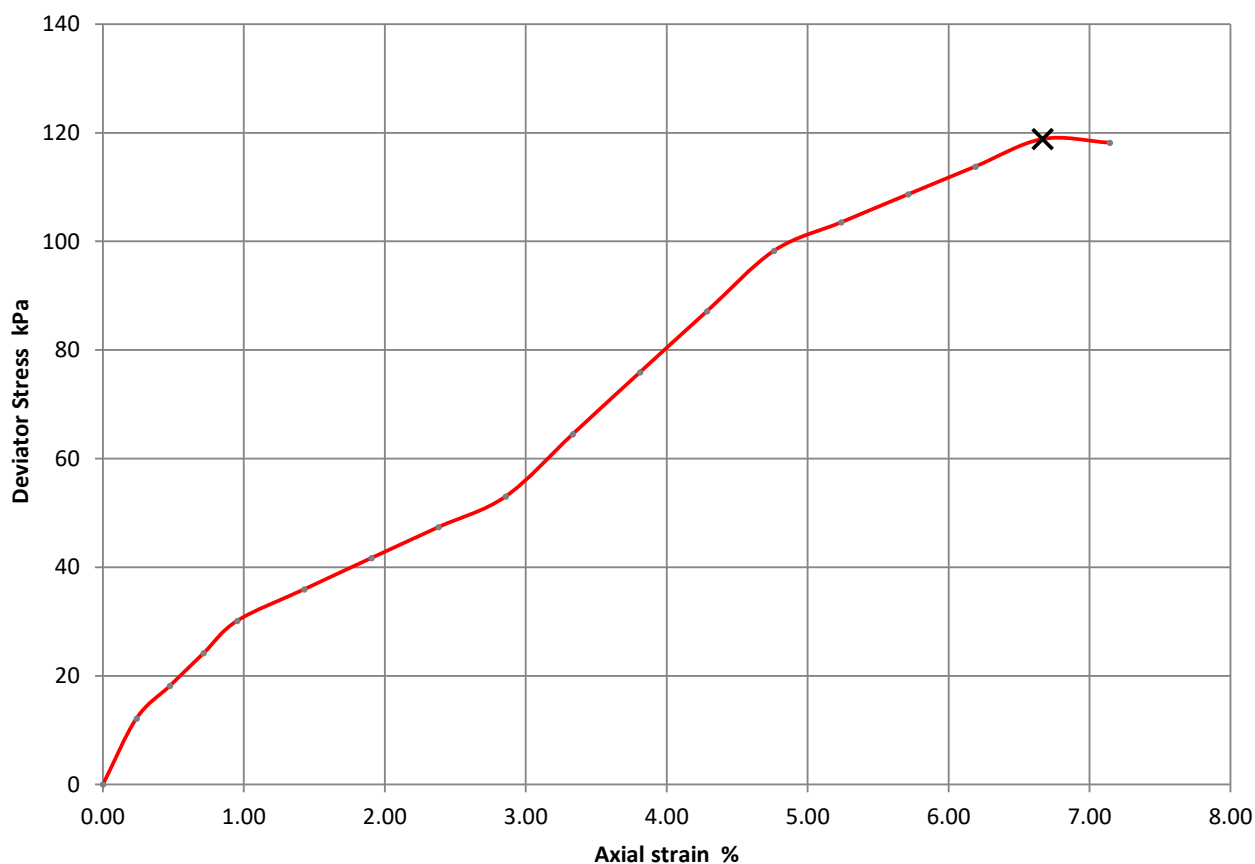
Depth Top (m) 2.50

Depth Base (m) 2.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	22
Bulk Density (Mg/m ³)	1.90
Dry Density (Mg/m ³)	1.56
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	50
Deviator Stress (kPa)	119
Undrained Shear Strength (kPa)	59
Failure Strain (%)	7
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH701

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

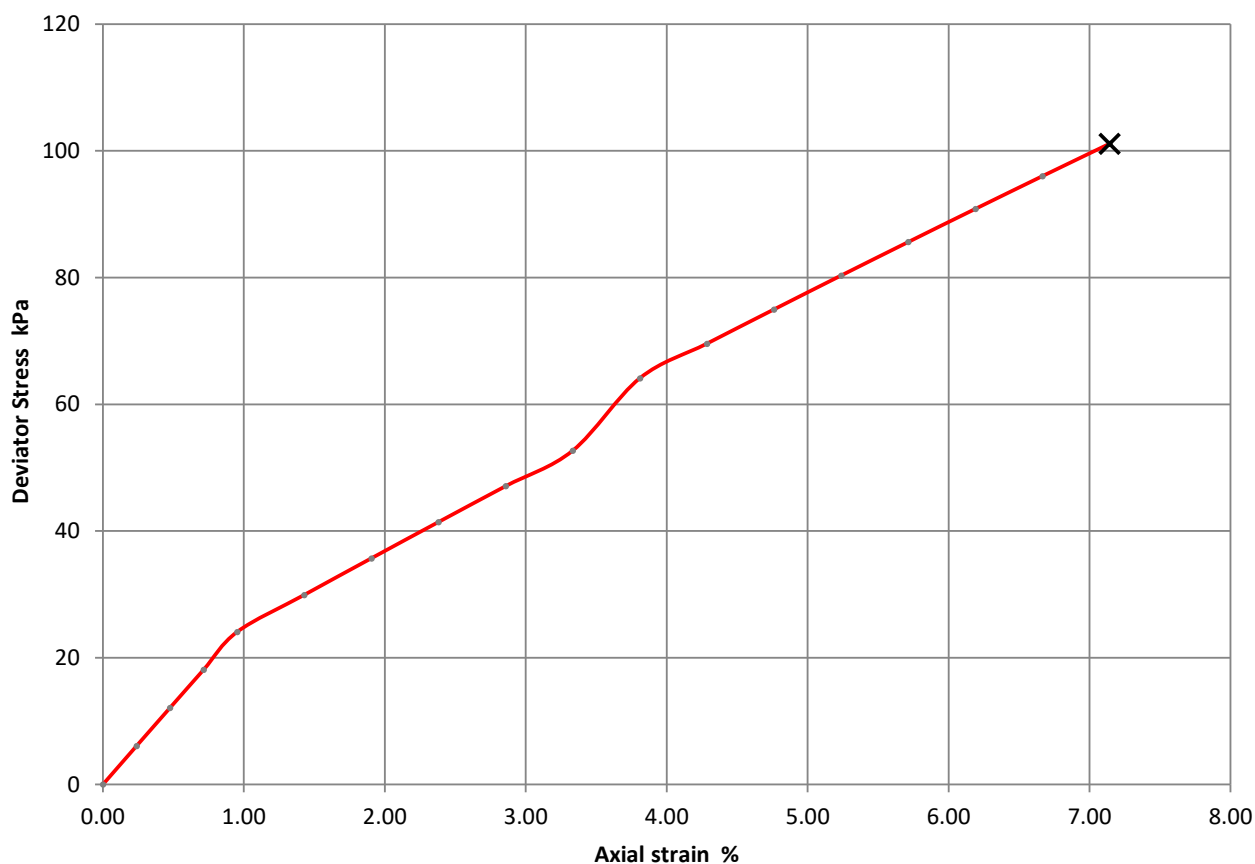
Depth Top (m) 7.50

Depth Base (m) 7.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	11
Bulk Density (Mg/m ³)	1.91
Dry Density (Mg/m ³)	1.72
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	150
Deviator Stress (kPa)	101
Undrained Shear Strength (kPa)	51
Failure Strain (%)	7
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH701

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

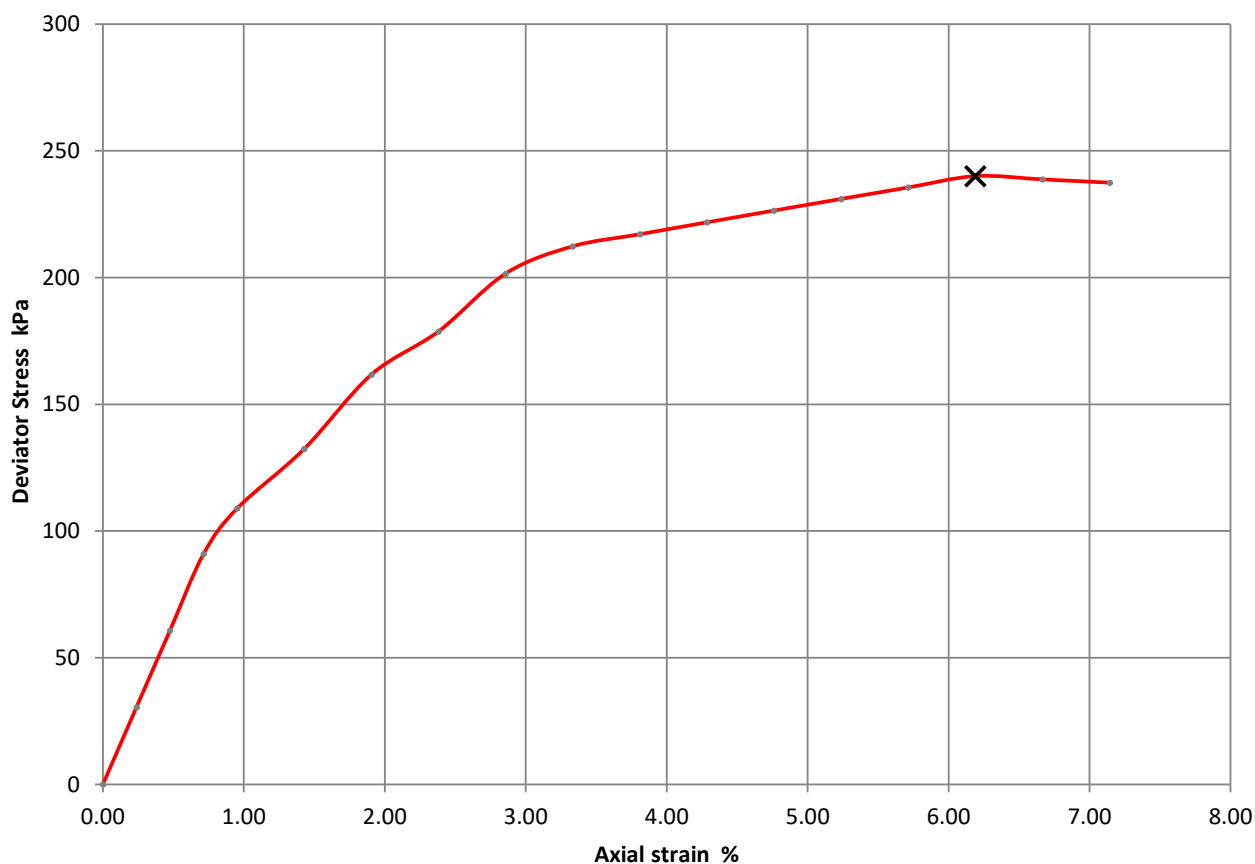
Depth Top (m) 16.50

Depth Base (m) 16.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	23
Bulk Density (Mg/m ³)	1.94
Dry Density (Mg/m ³)	1.58
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	330
Deviator Stress (kPa)	240
Undrained Shear Strength (kPa)	120
Failure Strain (%)	6
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH702

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

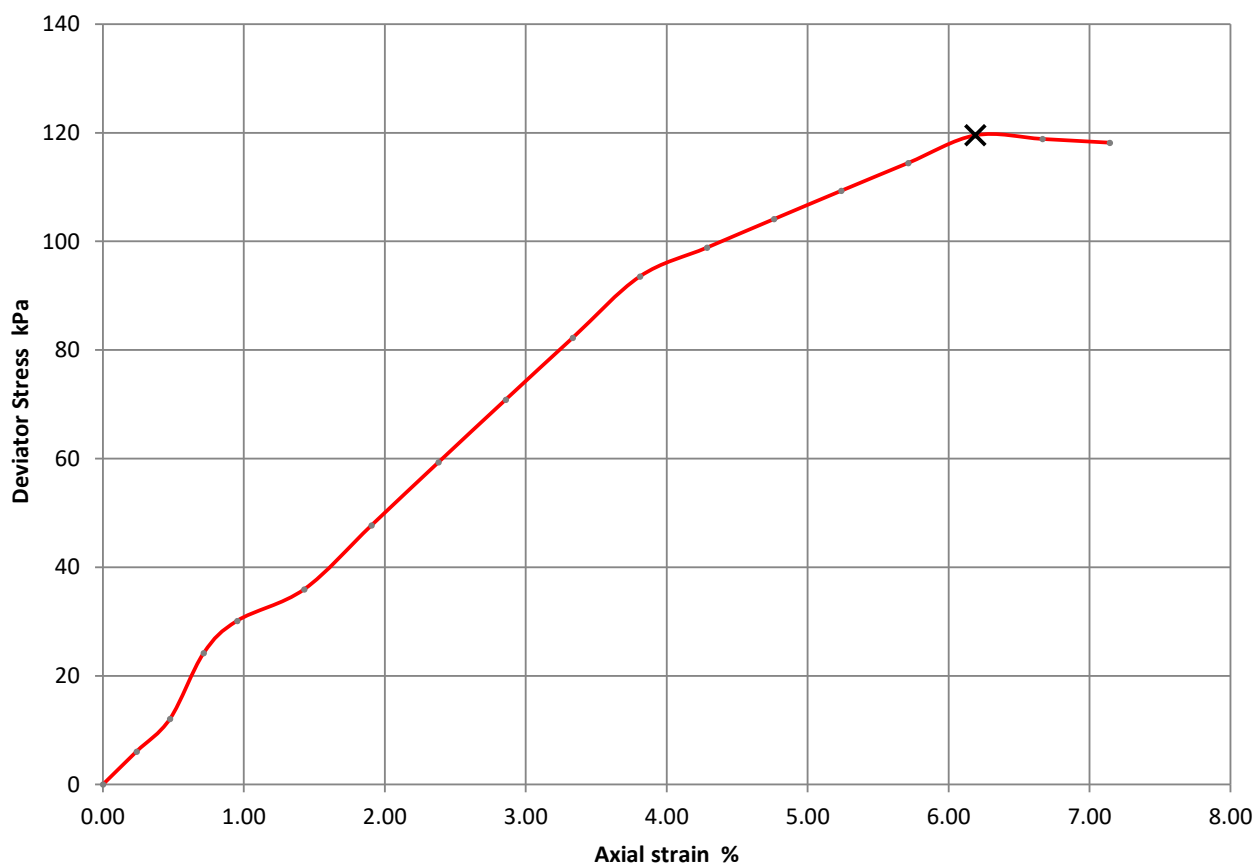
Depth Top (m) 2.50

Depth Base (m) 2.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	25
Bulk Density (Mg/m ³)	1.93
Dry Density (Mg/m ³)	1.54
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	50
Deviator Stress (kPa)	120
Undrained Shear Strength (kPa)	60
Failure Strain (%)	6
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH702

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

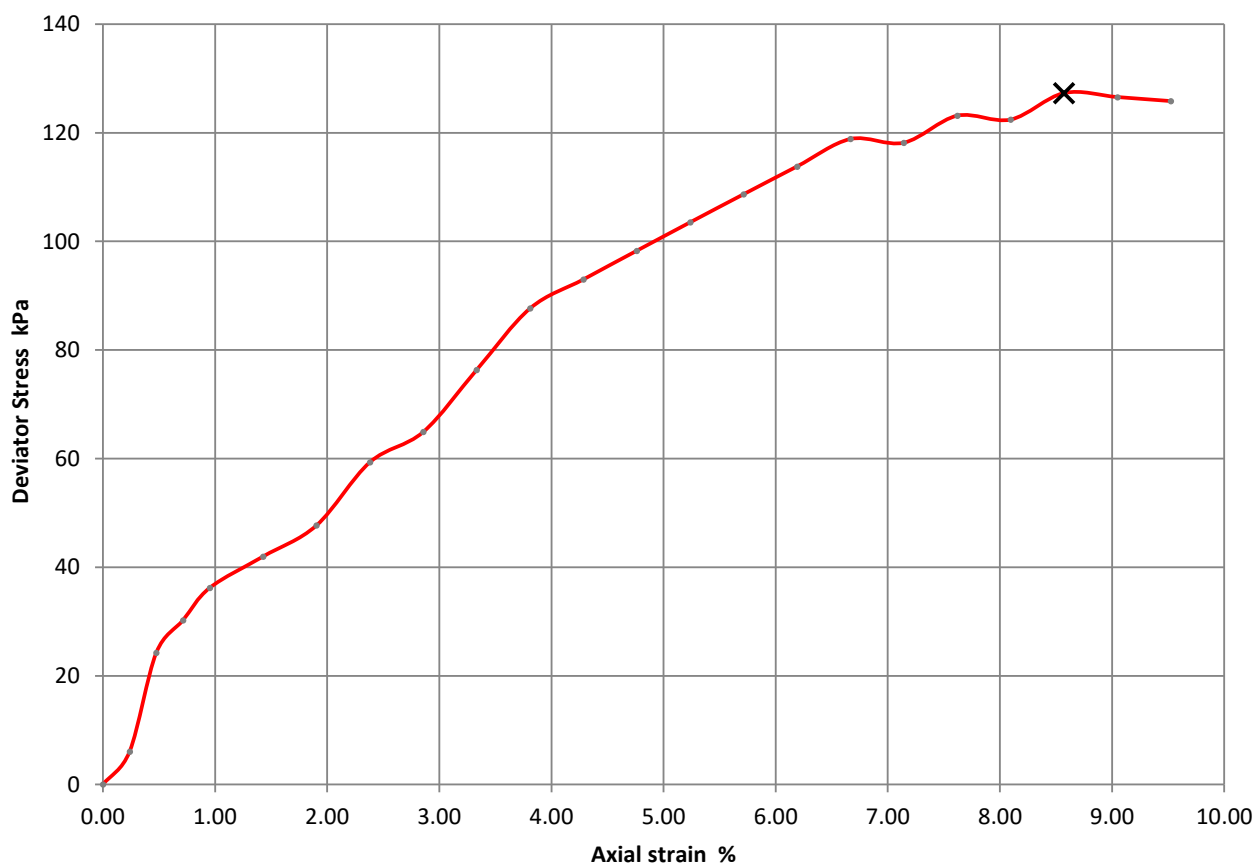
Depth Top (m) 7.50

Depth Base (m) 7.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	22
Bulk Density (Mg/m ³)	1.93
Dry Density (Mg/m ³)	1.58
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	150
Deviator Stress (kPa)	127
Undrained Shear Strength (kPa)	64
Failure Strain (%)	9
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number

55427

Borehole/Pit No.

BH702

Site Name

Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description

Greyish brown silty CLAY.

Depth Top (m)

10.50

Depth Base (m)

10.95

Date Tested

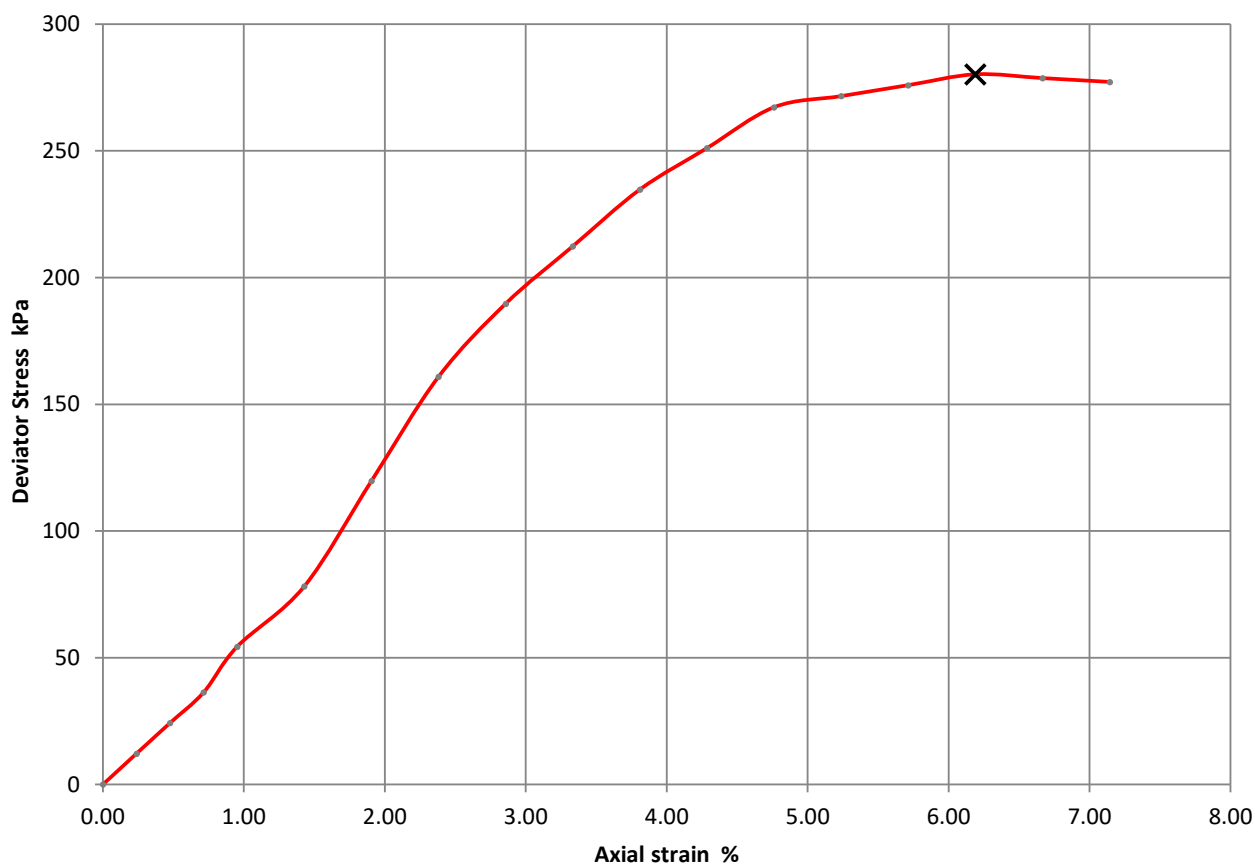
17/09/2021

Sample Type

U

Technician

Daniel B



Moisture Content (%)	22
Bulk Density (Mg/m ³)	1.97
Dry Density (Mg/m ³)	1.62
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	270
Deviator Stress (kPa)	280
Undrained Shear Strength (kPa)	140
Failure Strain (%)	6
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH702

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

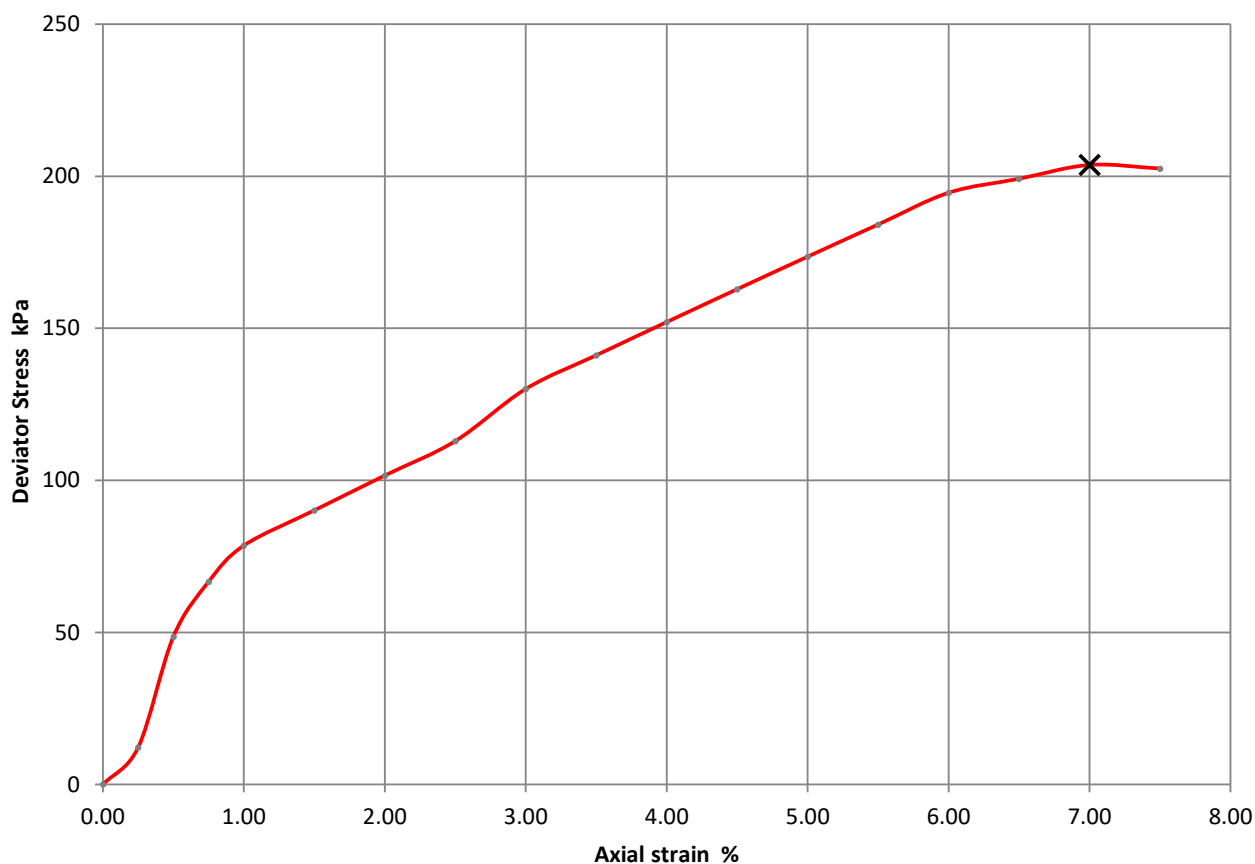
Depth Top (m) 19.50

Depth Base (m) 19.70

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	31
Bulk Density (Mg/m ³)	1.91
Dry Density (Mg/m ³)	1.46
Specimen Length (mm)	200
Specimen Diameter (mm)	105
Cell Pressure (kPa)	390
Deviator Stress (kPa)	204
Undrained Shear Strength (kPa)	102
Failure Strain (%)	7
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number 55427

Borehole/Pit No. BH703

Site Name Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description Greyish brown silty CLAY.

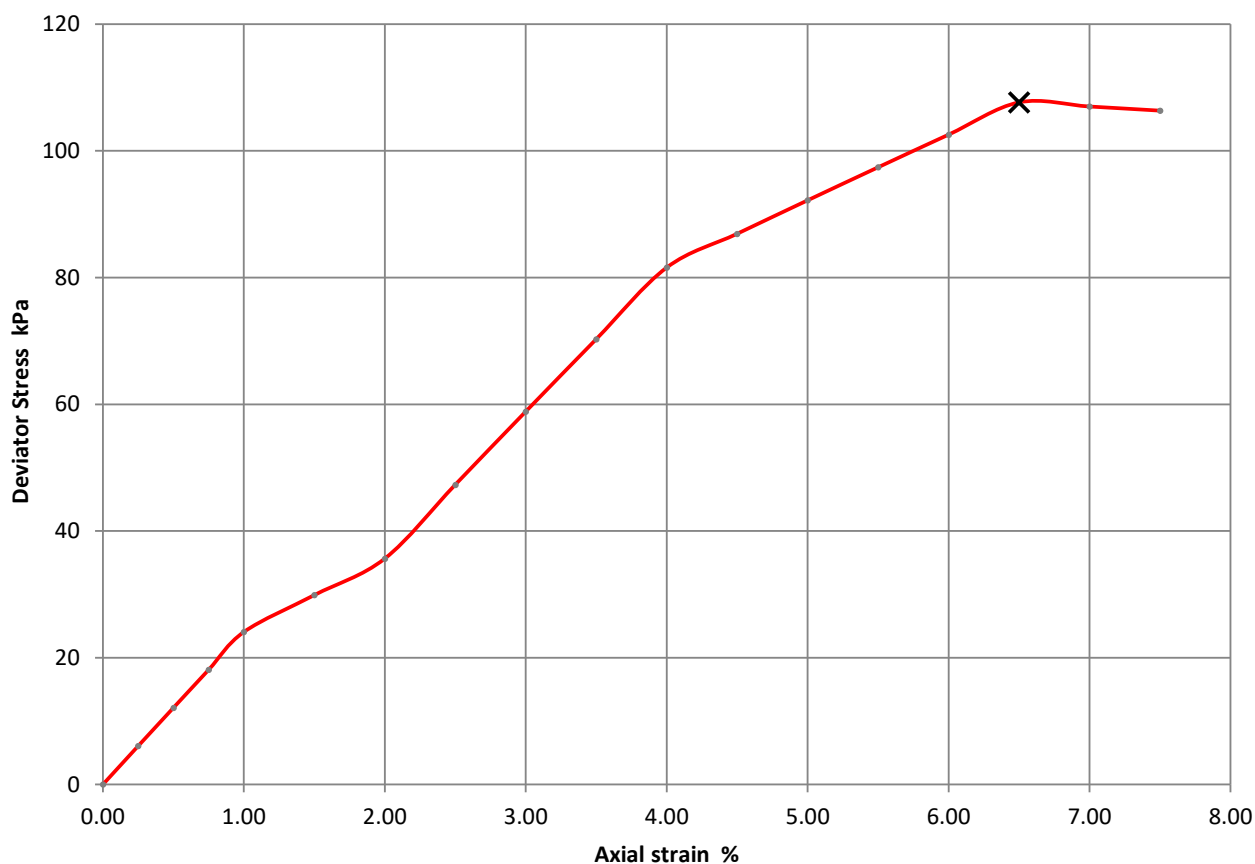
Depth Top (m) 4.50

Depth Base (m) 4.95

Date Tested 17/09/2021

Sample Type U

Technician Daniel B



Moisture Content (%)	12
Bulk Density (Mg/m ³)	2.03
Dry Density (Mg/m ³)	1.81
Specimen Length (mm)	200
Specimen Diameter (mm)	105
Cell Pressure (kPa)	90
Deviator Stress (kPa)	108
Undrained Shear Strength (kPa)	54
Failure Strain (%)	7
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number

55427

Borehole/Pit No.

BH703

Site Name

Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description

Greyish brown silty CLAY.

Depth Top (m)

10.50

Depth Base (m)

10.95

Date Tested

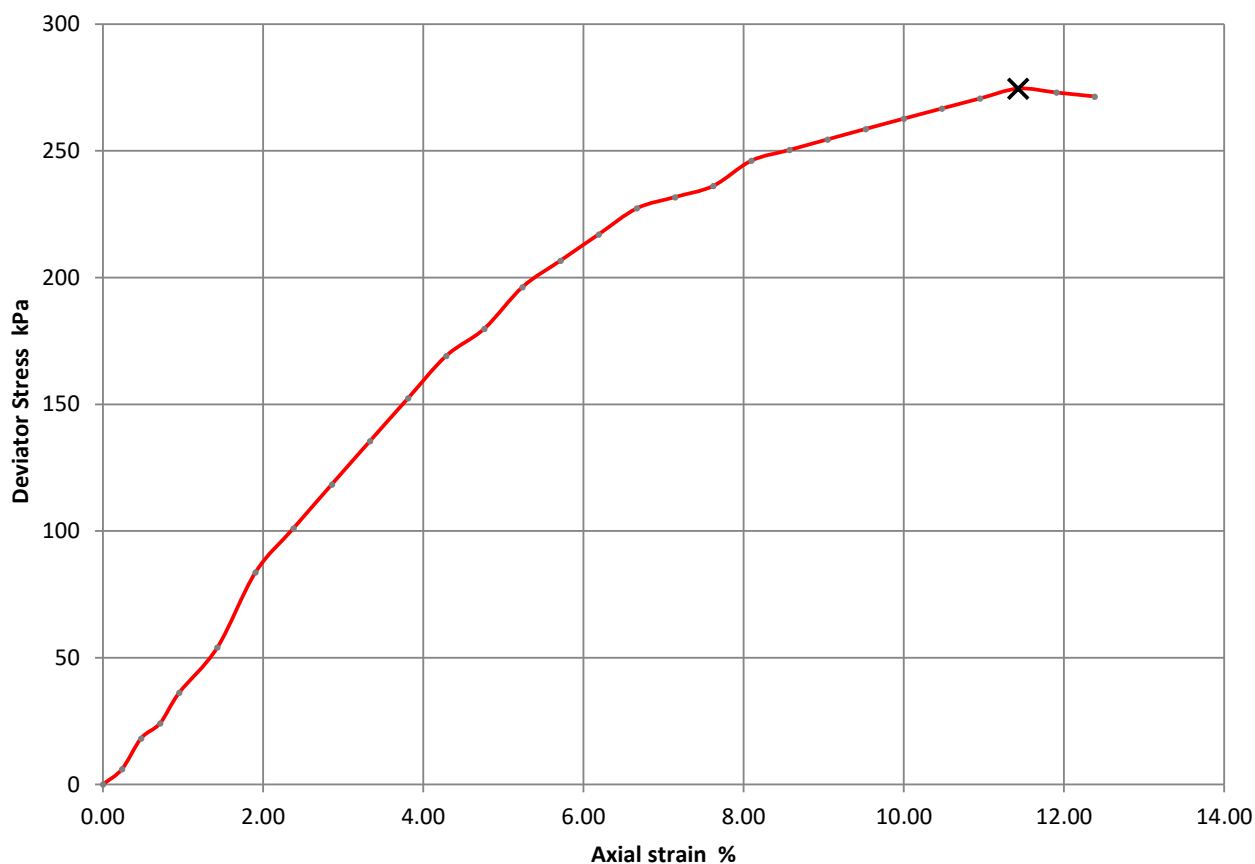
17/09/2021

Sample Type

U

Technician

Daniel B



Moisture Content (%)	20
Bulk Density (Mg/m ³)	1.95
Dry Density (Mg/m ³)	1.63
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	210
Deviator Stress (kPa)	275
Undrained Shear Strength (kPa)	137
Failure Strain (%)	11
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	





Single Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 8

Contract Number

55427

Borehole/Pit No.

BH703

Site Name

Dunsbury Park Units 100, 400, 600, 700

Sample No.

Soil Description

Greyish brown silty CLAY.

Depth Top (m)

16.50

Depth Base (m)

16.95

Date Tested

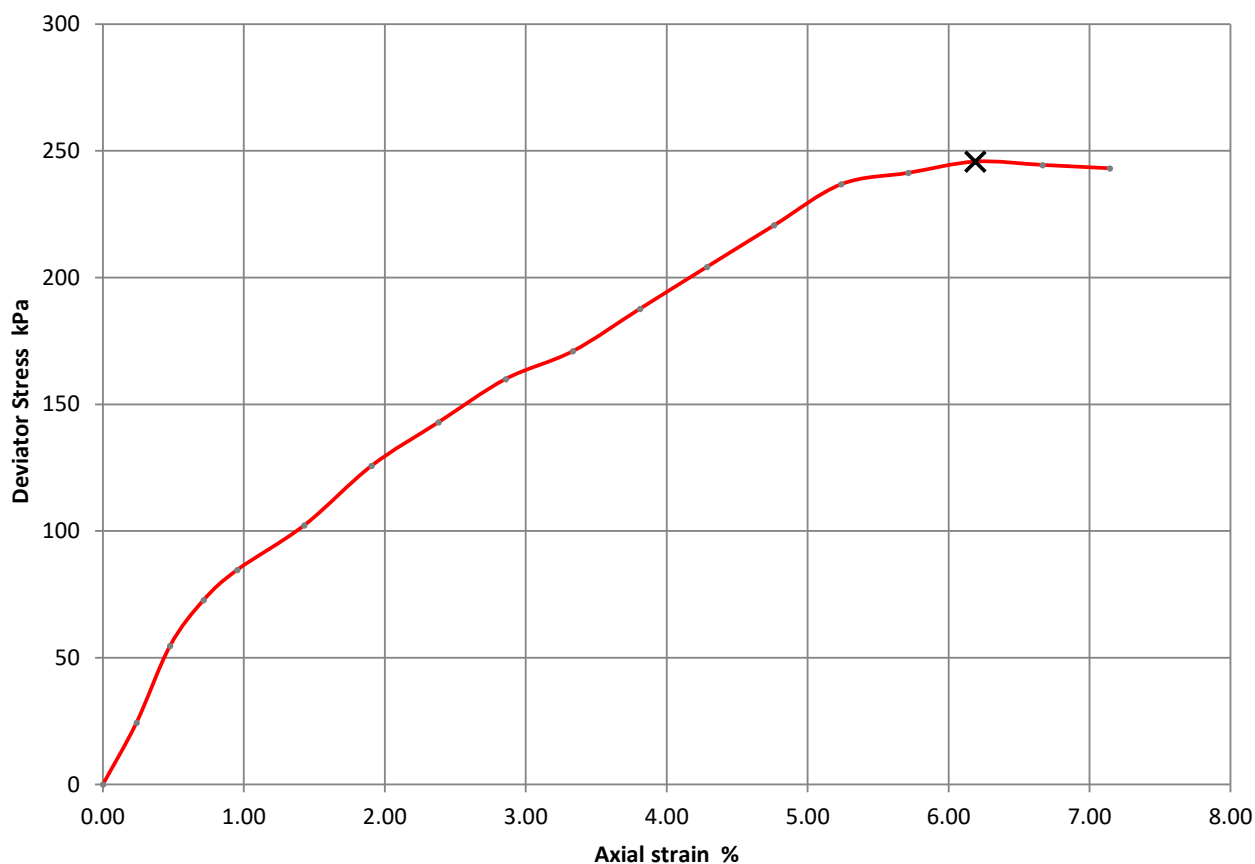
17/09/2021

Sample Type

U

Technician

Daniel B



Moisture Content (%)	9.4
Bulk Density (Mg/m ³)	1.90
Dry Density (Mg/m ³)	1.74
Specimen Length (mm)	210
Specimen Diameter (mm)	105
Cell Pressure (kPa)	330
Deviator Stress (kPa)	246
Undrained Shear Strength (kPa)	123
Failure Strain (%)	6
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.43

Specimen Post Test



Sample Split



Checked	22/09/2021	Richard John	
Approved	23/09/2021	Paul Evans	



Direct Shear Tests

Direct Shearbox Test

Summary

Sample Details  <i>Sketch showing specimen location in original sample</i>	Depth	0.4			
	Description	Brown sandy clayey SILT			
	Type				
			Spm. 1	2	3
	Initial Height	H ₀ (mm)	25.1	25.1	25.1
	Initial Width	D ₀ (mm)	60.0	60.0	60.0
	Initial Weight	W ₀ (gr)	126.5	126.3	126.2
	Initial Bulk Density	ρ ₀ (Mg/m3)	1.40	1.40	1.40
	Particle Density	ρ _s (Mg/m3)	2.65	2.65	2.65

Initial Condition			Spm. 1	2	3
Normal Stress Level	(kPa)		15	30	60
Is Specimen Submersed?			Yes	Yes	Yes
Reverse Method			Motor Drive		
Hoz. Control Machine			Shearbox 3	Shearbox 3	Shearbox 3
Initial Moisture	ω _i % (%)		19	19	19
Initial Dry Density	ρ _{di} (Mg/m3)		1.18	1.18	1.18
Initial Voids Ratio	e _i .		1.247	1.245	1.247
Initial Degree of Saturation	S _i (%)		39.7	39.6	39.6
Notes					

Max Shear Stress Results			Spm. 1	2	3
Final Moisture	ω _f % (%)		19	19	19
Final Dry Density	ρ _{df} (Mg/m3)		1.51	1.64	1.63
Final Voids Ratio	e _f .		1.079	0.915	0.926
Final Degree of Saturation	S _f (%)		45.9	53.9	53.2
Peak Shear Stress		(kPa)	20.3	41.6	82.6
Hoz Displacement	L _H	(mm)	8.997	8.998	8.999
Vertical Displacement	L _V	(mm)	1.249	1.562	1.300

*GSTL (Clisp V2.5.5.2426)

	Test Method		BS 1377-7 : 1990 clause 4		Test Name		PEAK				
					Database:		.\SQLEXPRESS \ GSTL				
	Site Reference		Dunsbury Park Units 100, 400, 600,		Test Date		14/09/2021				
	Jobfile		55427		Sample		NA				
	Client		Hydrock		Borehole		BH1.01				
	Operator		*R.Owens		Checked		*R.John		Approved		*R.John

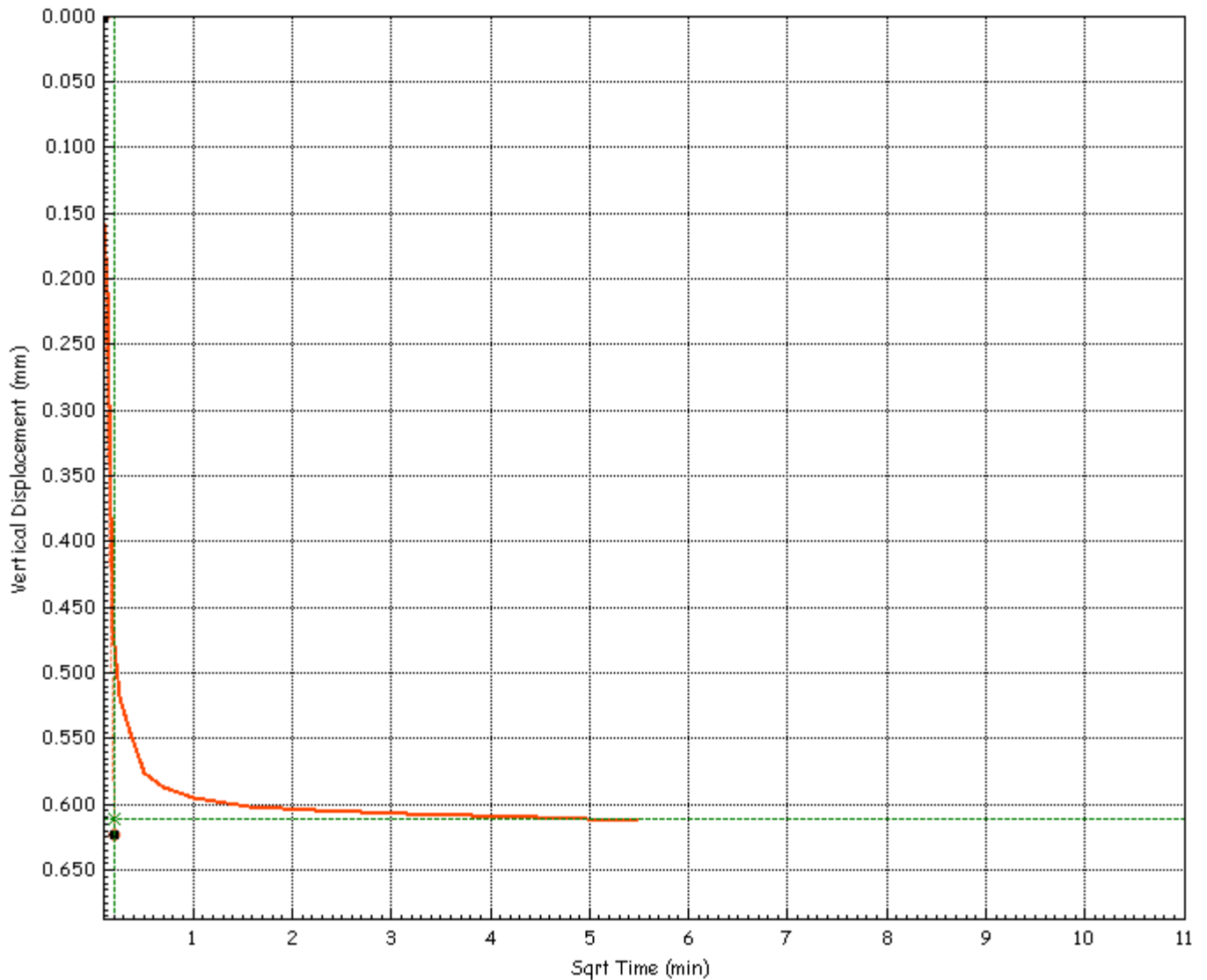
Direct Shear Tests

Direct Shearbox Test

Consolidation Stage

Max Shear Stress Results

			Spm. 1	2	3
Vertical Displacement	ΔH	(mm)	0.612	2.120	2.275
Voids Ratio	e_f	.	1.192	1.055	1.043
t100	t 100	(min)	0.0	0.4	0.2
Shear Speed		(mm/min)	0.300	0.300	0.300



Specimen Number 1

	Test Method	BS 1377-7 : 1990 clause 4		Test Name	PEAK	
				Database:	.SQLEXPRESS \ GSTL	
	Site Reference	Dunsbury Park Units 100, 400, 600,		Test Date	14/09/2021	
	Jobfile	55427		Sample	NA	
	Client	Hydrock		Borehole	BH1.01	
Operator	*R.Owens	Checked	*R.John	Approved	*R.John	

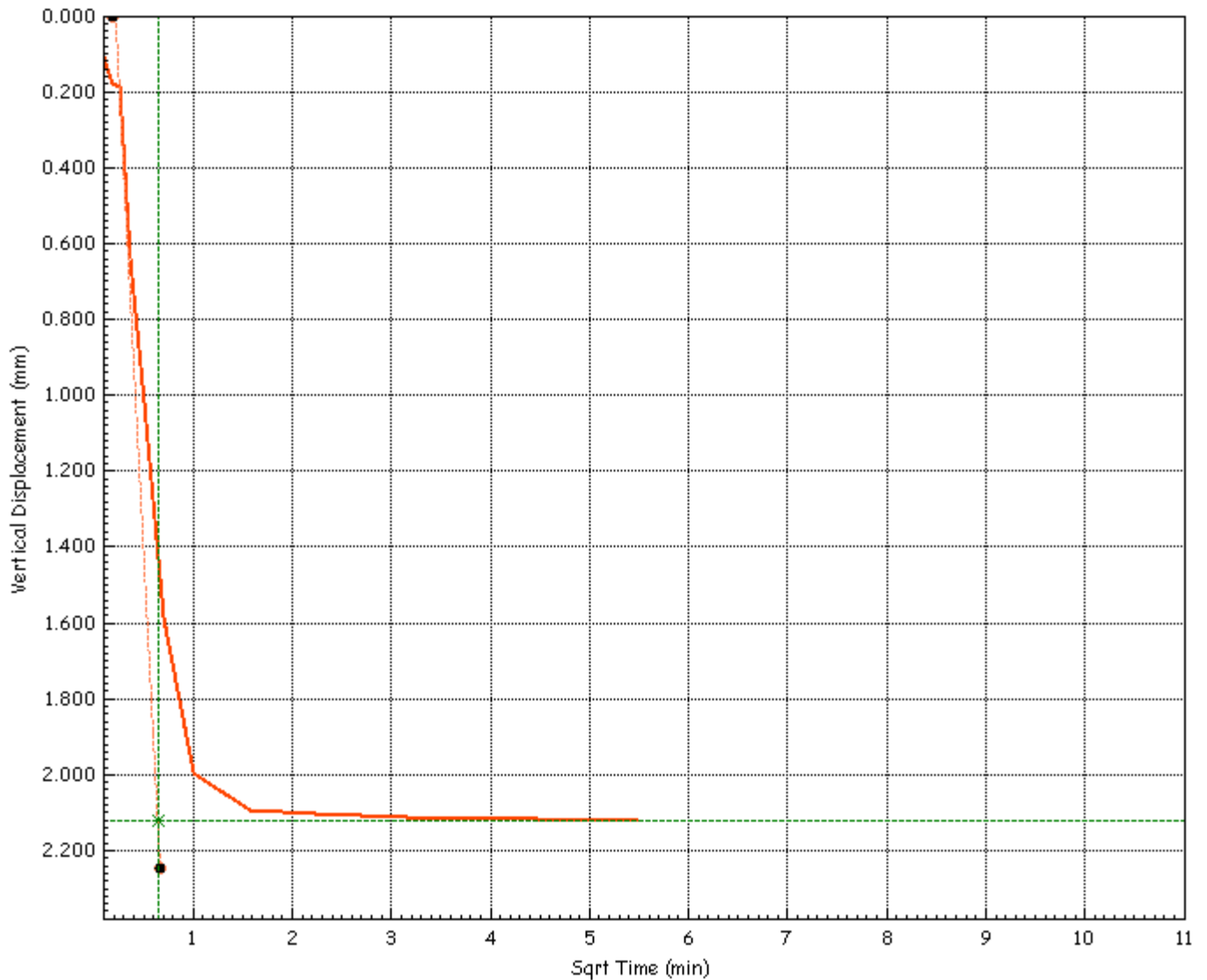
Direct Shear Tests

Direct Shearbox Test

Consolidation Stage

Max Shear Stress Results

			Spm. 1	2	3
Vertical Displacement	ΔH	(mm)	0.612	2.120	2.275
Voids Ratio	e_f	.	1.192	1.055	1.043
t100	t 100	(min)	0.0	0.4	0.2
Shear Speed		(mm/min)	0.300	0.300	0.300



Specimen Number 2

	Test Method	BS 1377-7 : 1990 clause 4		Test Name	PEAK
				Database:	.\SQLEXPRESS \ GSTL
	Site Reference	Dunsbury Park Units 100, 400, 600,		Test Date	14/09/2021
	Jobfile	55427		Sample	NA
	Client	Hydrock		Borehole	BH1.01
Operator	*R.Owens	Checked	*R.John	Approved	*R.John

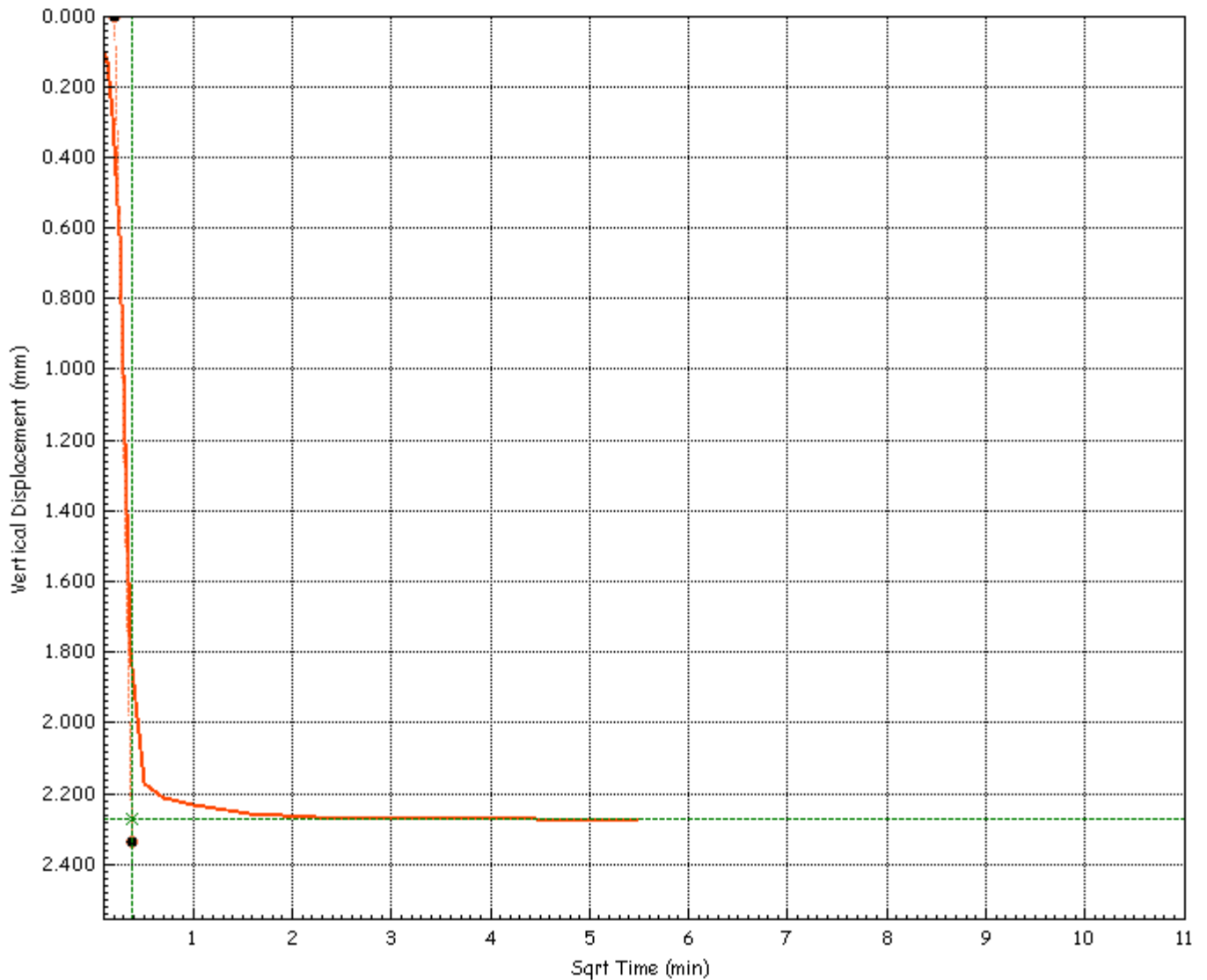
Direct Shear Tests

Direct Shearbox Test

Consolidation Stage

Max Shear Stress Results

			Spm. 1	2	3
Vertical Displacement	ΔH	(mm)	0.612	2.120	2.275
Voids Ratio	e_f	.	1.192	1.055	1.043
t100	t 100	(min)	0.0	0.4	0.2
Shear Speed		(mm/min)	0.300	0.300	0.300



Specimen Number 3

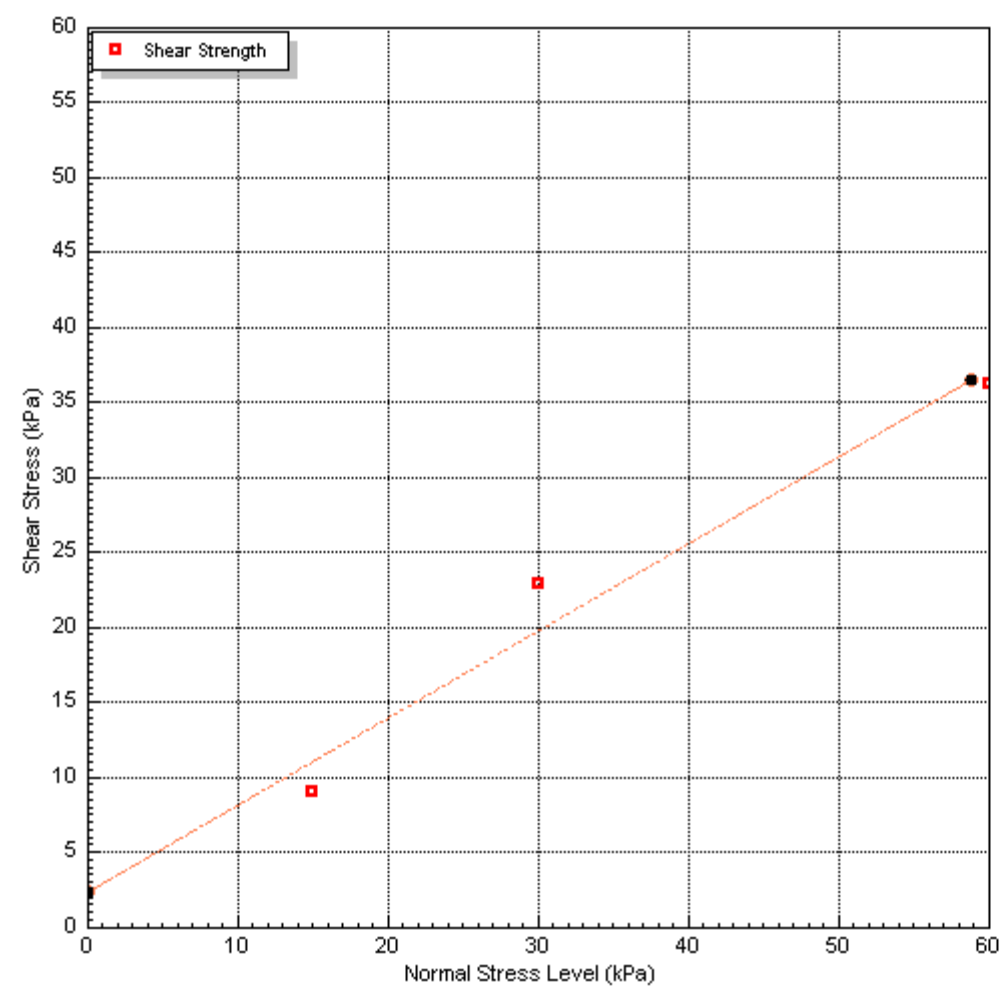
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				Database:	.\SQLEXPRESS \ GSTL
	Site Reference	Dunsbury Park Units 100, 400, 600,		Test Date	14/09/2021
	Jobfile	55427		Sample	NA
	Client	Hydrock		Borehole	BH1.01
Operator	*R.Owens	Checked	*R.John	Approved	*R.John

Direct Shear Tests

Direct Shearbox Test

Shear Stage

Envelope Failure Results		Spm. 1	2	3
Final Moisture	w_f (%)	24	24	24
Final Dry Density	ρ_{df} (Mg/m3)	1.78	1.91	2.00
Final Voids Ratio	e_f .	0.856	0.723	0.651
Final Degree of Saturation	S_f (%)	75.6	89.2	99.0
Apparent cohesion	c (kPa)	2.39		
Angle of Shearing Resistance	ϕ .	30.1		
Notes				

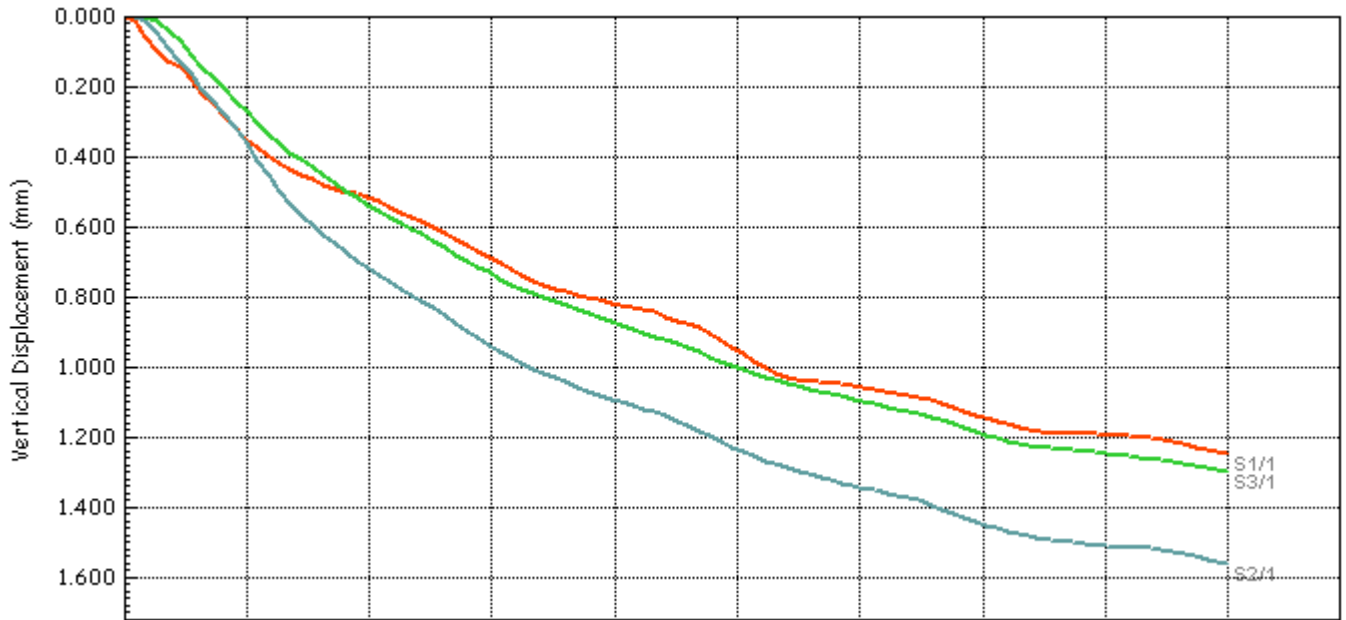
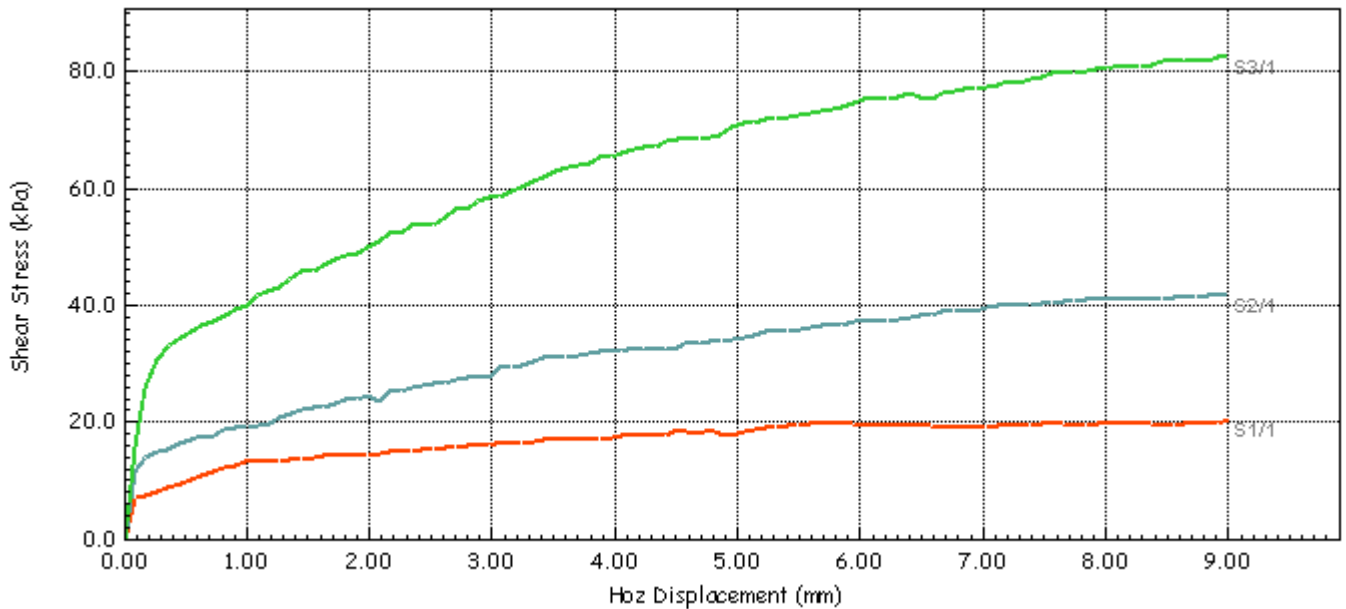


	Test Method		BS 1377-7 : 1990 clause 4		Test Name		PEAK				
					Database:		.\SQLEXPRESS \ GSTL				
	Site Reference		Dunsbury Park Units 100, 400, 600,		Test Date		14/09/2021				
	Jobfile		55427		Sample		NA				
	Client		Hydrock		Borehole		BH6.02				
	Operator		*R.Owens		Checked		*R.John		Approved		*R.John

Direct Shear Tests

Direct Shearbox Test

Shear Stage



	Test Method BS 1377-7 : 1990 clause 4		Test Name PEAK	
			Database: .\SQLEXPRESS \ GSTL	
	Site Reference	Dunsbury Park Units 100, 400, 600,	Test Date	14/09/2021
	Jobfile	55427	Sample	NA
	Client	Hydrock	Borehole	BH1.01
Operator *R.Owens		Checked *R.John	Approved *R.John	

Direct Shear Tests

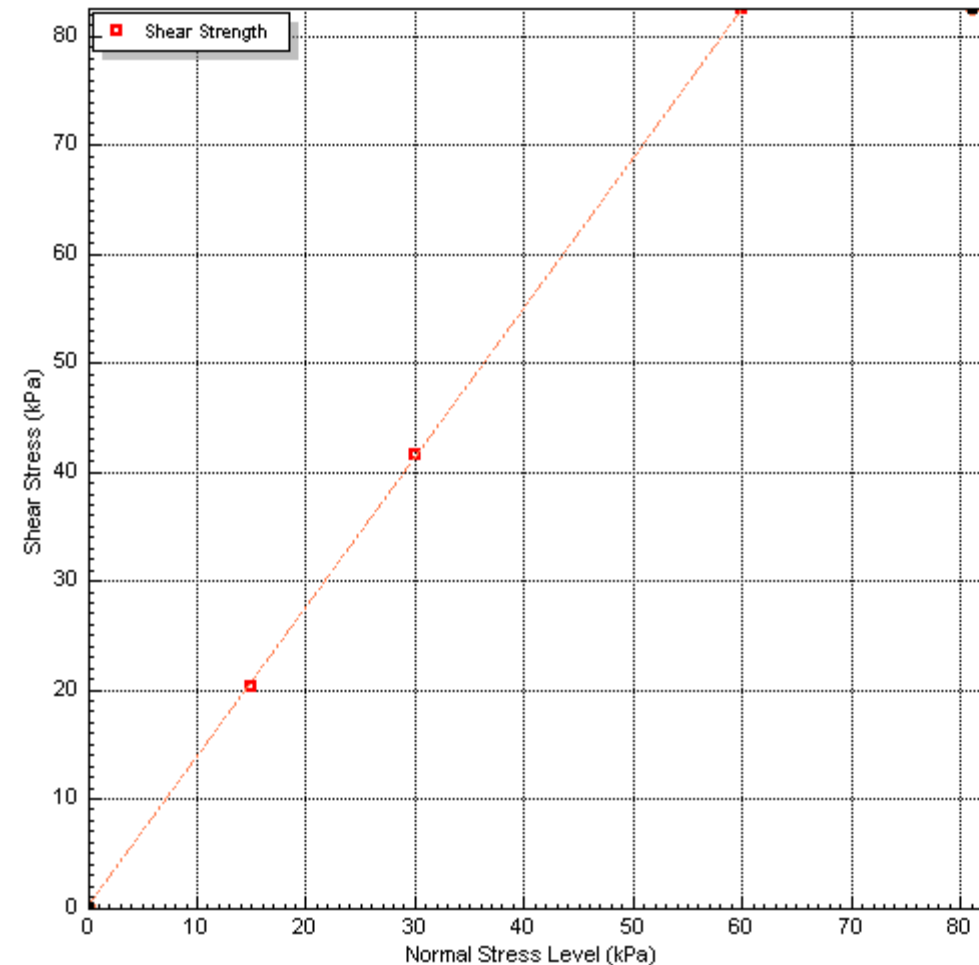
Direct Shearbox Test

Shear Stage

Envelope Failure Results

			Spm. 1	2	3
Final Moisture	w_f %	(%)	19	19	19
Final Dry Density	ρ_{df}	(Mg/m3)	1.51	1.64	1.63
Final Voids Ratio	e_f	.	1.079	0.915	0.926
Final Degree of Saturation	S_f	(%)	45.9	53.9	53.2
Apparent cohesion	c	(kPa)	0.00		
Angle of Shearing Resistance	ϕ	.	54.1		

Notes



	Test Method		BS 1377-7 : 1990 clause 4		Test Name		PEAK				
					Database:		.\SQLEXPRESS \ GSTL				
	Site Reference		Dunsbury Park Units 100, 400, 600,		Test Date		14/09/2021				
	Jobfile		55427		Sample		NA				
	Client		Hydrock		Borehole		BH1.01				
Operator		*R.Owens		Checked		*R.John		Approved		*R.John	

Direct Shear Tests

Direct Shearbox Test

Summary

Sample Details		Depth	0.5-1m			
 <p>Sketch showing specimen location in original sample</p>	Description	Type		Spm. 1	2	3
	Initial Height	H ₀	(mm)	25.1	25.1	25.1
	Initial Width	D ₀	(mm)	60.0	60.0	60.0
	Initial Weight	W ₀	(gr)	159.3	159.4	159.2
	Initial Bulk Density	ρ ₀	(Mg/m3)	1.76	1.77	1.76
	Particle Density	ρ _s	(Mg/m3)	2.65	2.65	2.65

Initial Condition			Spm. 1	2	3
Normal Stress Level		(kPa)	15	30	60
Is Specimen Submersed?			Yes	Yes	Yes
Reverse Method			Motor Drive		
Hoz. Control Machine			shearbox 2	shearbox 2	shearbox 2
Initial Moisture	ω _i %	(%)	24	24	24
Initial Dry Density	ρ _{di}	(Mg/m3)	1.42	1.42	1.42
Initial Voids Ratio	e _i	.	0.870	0.865	0.867
Initial Degree of Saturation	S _i	(%)	74.3	74.5	74.4
Notes					

Max Shear Stress Results			Spm. 1	2	3
Final Moisture	ω _f %	(%)	24	24	24
Final Dry Density	ρ _{df}	(Mg/m3)	1.78	1.91	2.00
Final Voids Ratio	e _f	.	0.856	0.723	0.651
Final Degree of Saturation	S _f	(%)	75.6	89.2	99.0
Peak Shear Stress		(kPa)	9.0	22.9	36.1
Hoz Displacement	L _H	(mm)	8.999	8.999	8.997
Vertical Displacement	L _V	(mm)	0.057	0.913	1.152

*GSTL (Clisp V2.5.5.2426)

	Test Method		BS 1377-7 : 1990 clause 4		Test Name		PEAK				
					Database:		.\SQLEXPRESS \ GSTL				
	Site Reference		Dunsbury Park Units 100, 400, 600,		Test Date		14/09/2021				
	Jobfile		55427		Sample		NA				
	Client		Hydrock		Borehole		BH6.02				
	Operator		*R.Owens		Checked		*R.John		Approved		*R.John

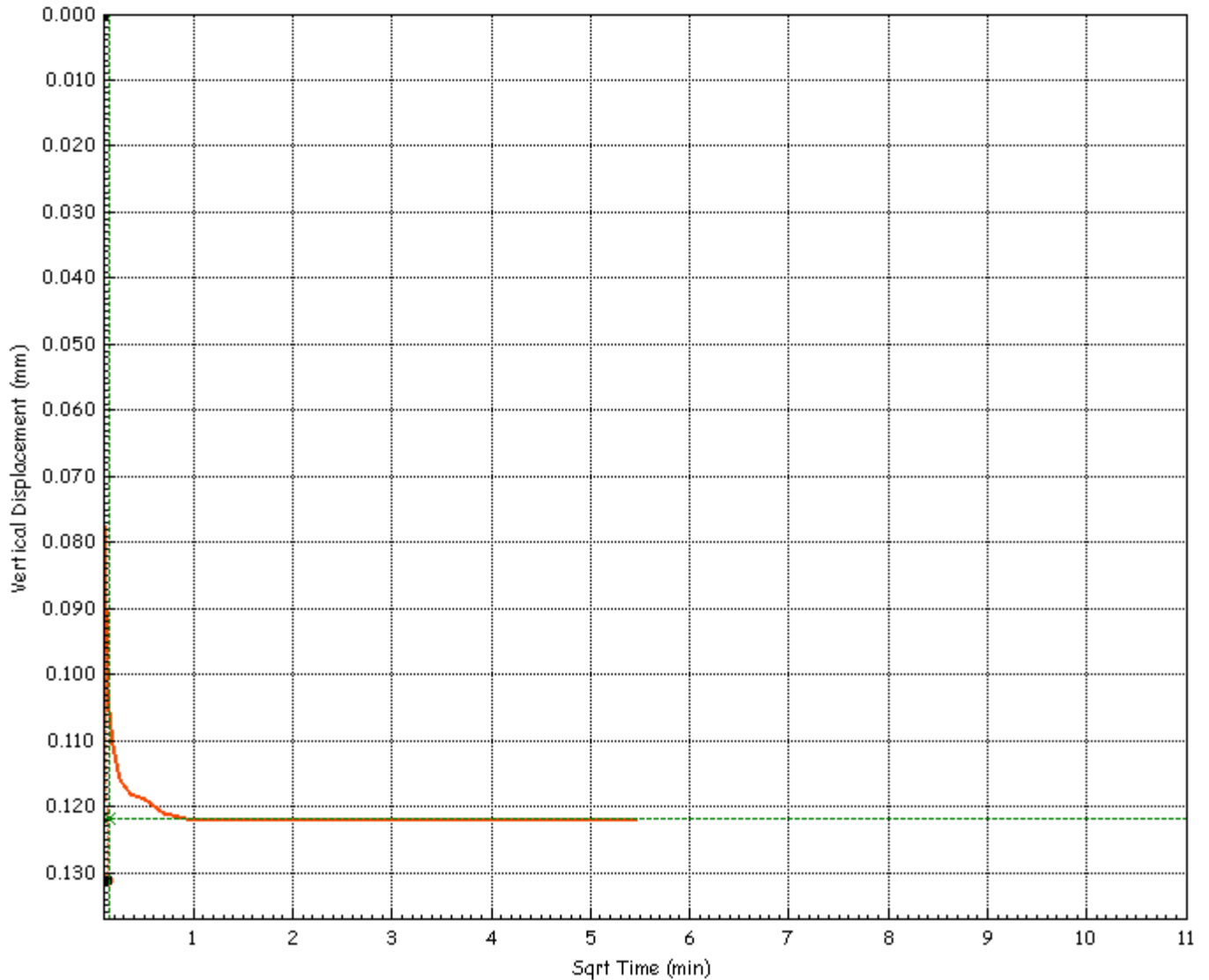
Direct Shear Tests

Direct Shearbox Test

Consolidation Stage

Max Shear Stress Results

			Spm. 1	2	3
Vertical Displacement	ΔH	(mm)	0.122	0.996	1.746
Voids Ratio	e_f	.	0.861	0.791	0.737
t100	t 100	(min)	0.0	0.1	0.1
Shear Speed		(mm/min)	0.300	0.300	0.300



Specimen Number 1

	Test Method	BS 1377-7 : 1990 clause 4		Test Name	PEAK	
				Database:	.SQLEXPRESS \ GSTL	
	Site Reference	Dunsbury Park Units 100, 400, 600,		Test Date	14/09/2021	
	Jobfile	55427		Sample	NA	
	Client	Hydrock		Borehole	BH6.02	
Operator	*R.Owens	Checked	*R.John	Approved	*R.John	

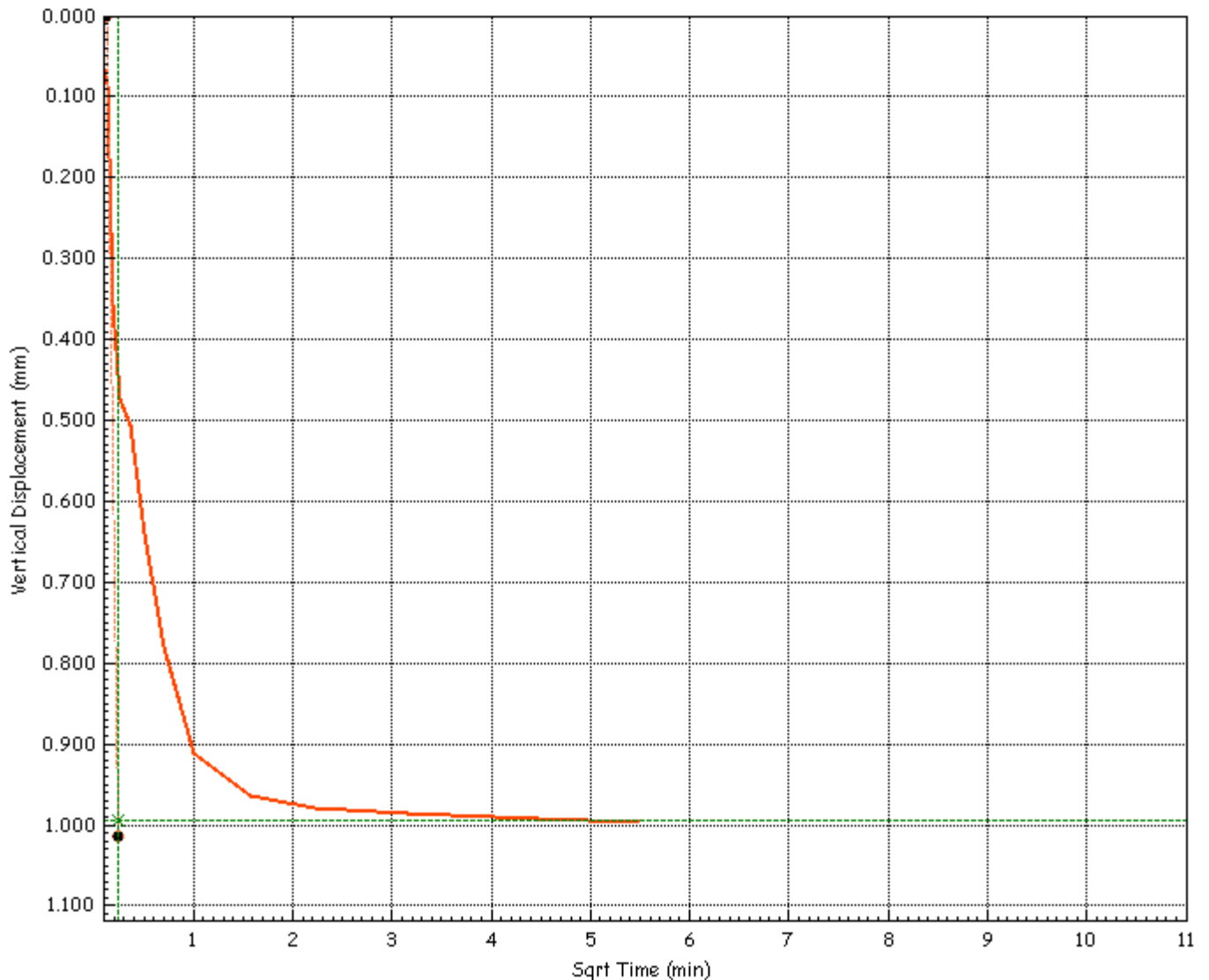
Direct Shear Tests

Direct Shearbox Test

Consolidation Stage

Max Shear Stress Results

			Spm. 1	2	3
Vertical Displacement	ΔH	(mm)	0.122	0.996	1.746
Voids Ratio	e_f	.	0.861	0.791	0.737
t100	t 100	(min)	0.0	0.1	0.1
Shear Speed		(mm/min)	0.300	0.300	0.300



Specimen Number 2

	Test Method	BS 1377-7 : 1990 clause 4		Test Name	PEAK
				Database:	.\SQLEXPRESS \ GSTL
	Site Reference	Dunsbury Park Units 100, 400, 600,		Test Date	14/09/2021
	Jobfile	55427		Sample	NA
	Client	Hydrock		Borehole	BH6.02
Operator	*R.Owens	Checked	*R.John	Approved	*R.John

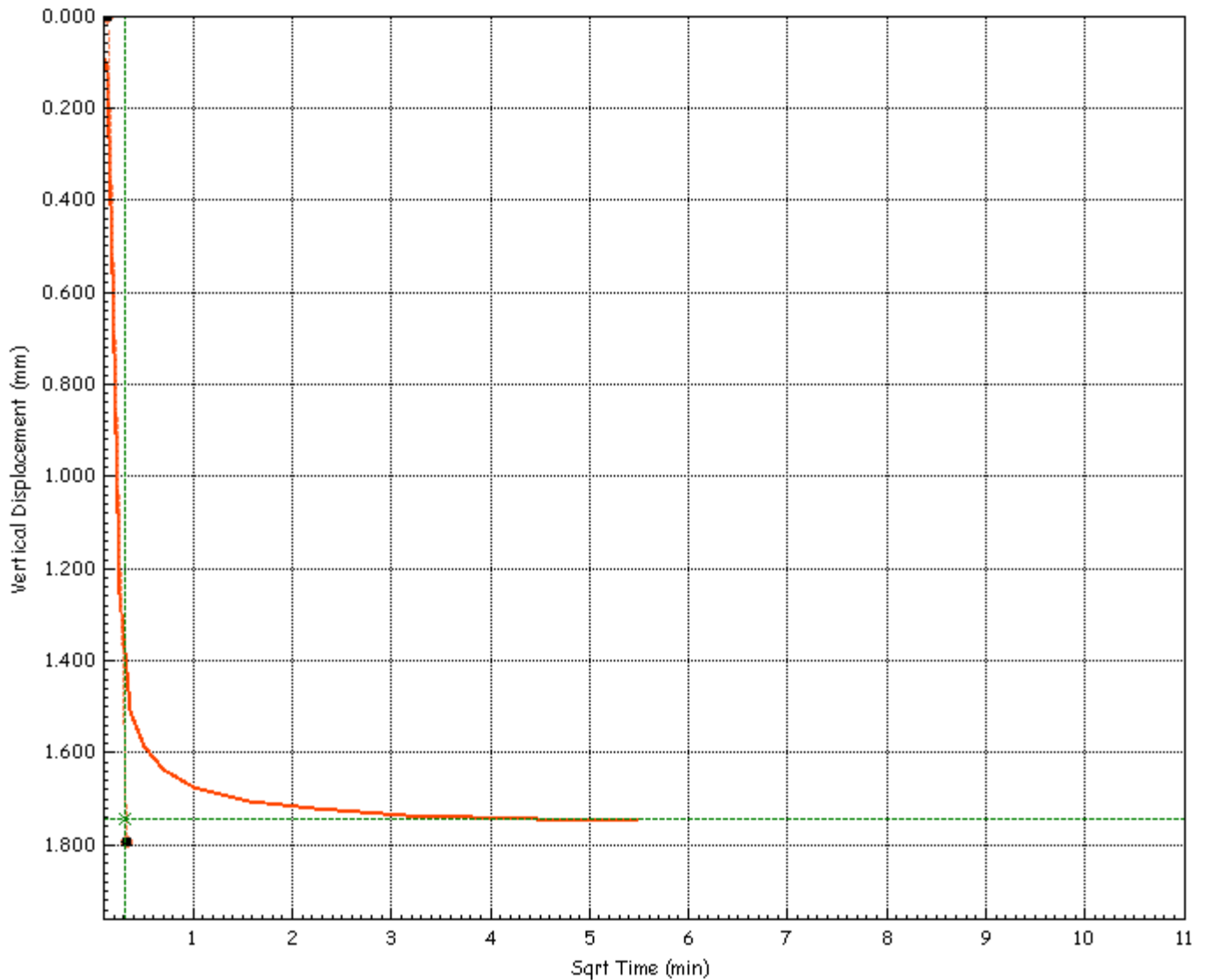
Direct Shear Tests

Direct Shearbox Test

Consolidation Stage

Max Shear Stress Results

			Spm. 1	2	3
Vertical Displacement	ΔH	(mm)	0.122	0.996	1.746
Voids Ratio	e_f	.	0.861	0.791	0.737
t100	t 100	(min)	0.0	0.1	0.1
Shear Speed		(mm/min)	0.300	0.300	0.300



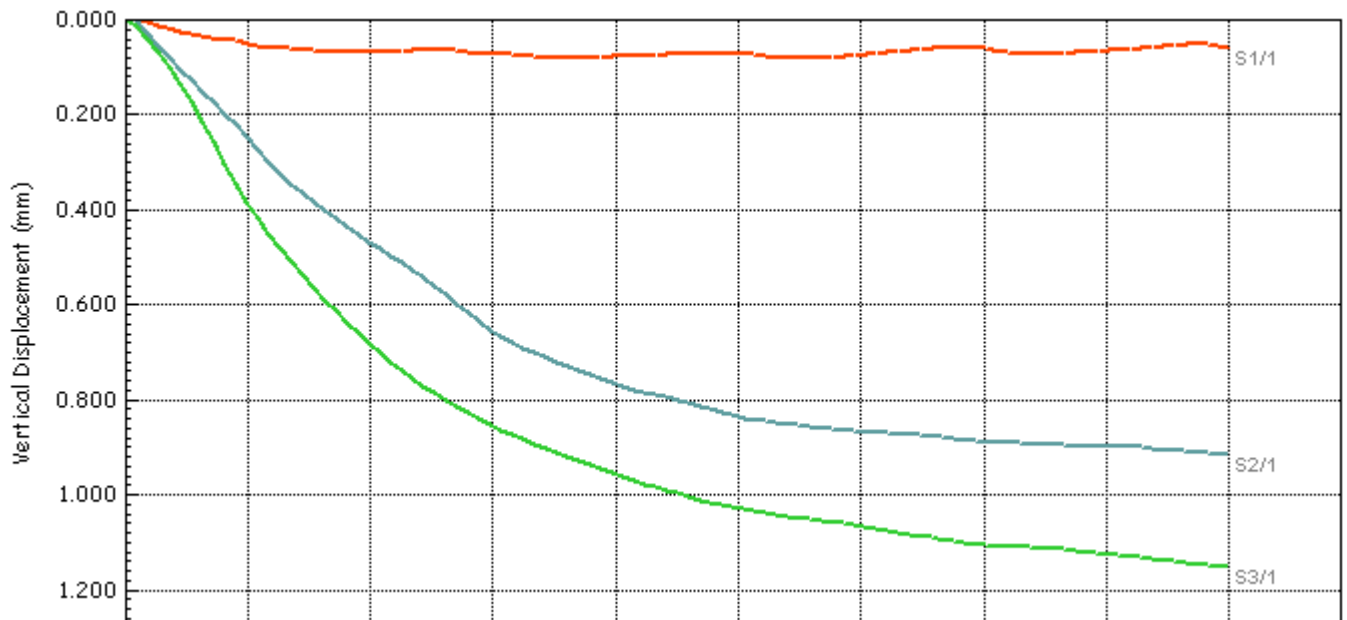
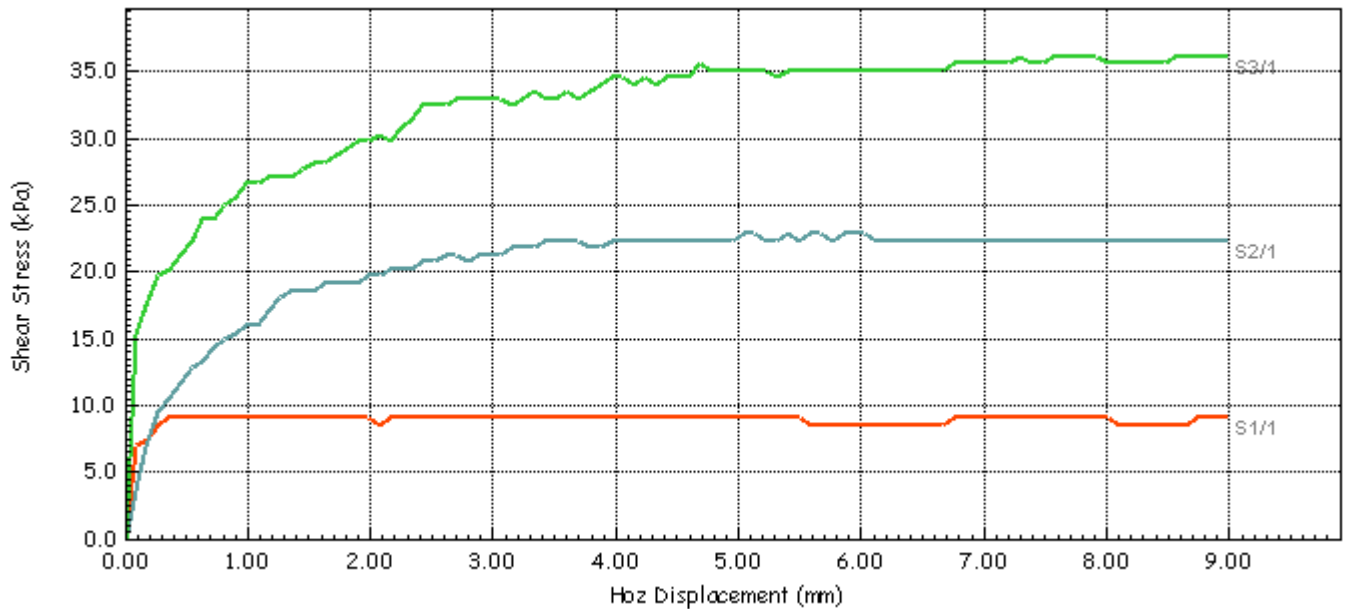
Specimen Number 3

	Test Method	BS 1377-7 : 1990 clause 4		Test Name	PEAK	
				Database:	.SQLEXPRESS \ GSTL	
	Site Reference	Dunsbury Park Units 100, 400, 600,		Test Date	14/09/2021	
	Jobfile	55427		Sample	NA	
	Client	Hydrock		Borehole	BH6.02	
Operator	*R.Owens	Checked	*R.John	Approved	*R.John	

Direct Shear Tests

Direct Shearbox Test

Shear Stage



	Test Method BS 1377-7 : 1990 clause 4		Test Name PEAK	
			Database: .\SQLEXPRESS \ GSTL	
	Site Reference	Dunsbury Park Units 100, 400, 600,	Test Date	14/09/2021
	Jobfile	55427	Sample	NA
	Client	Hydrock	Borehole	BH6.02
	Operator	*R.Owens	Checked	*R.John
			Approved	*R.John

Direct Shear Tests

Direct Shearbox Test

Summary

Sample Details		Depth	1m			
 <p>Sketch showing specimen location in original sample</p>	Description	Type				
				Spm. 1	2	3
	Initial Height	H ₀	(mm)	25.1	25.1	25.1
	Initial Width	D ₀	(mm)	60.0	60.0	60.0
	Initial Weight	W ₀	(gr)	171.5	171.5	171.5
	Initial Bulk Density	ρ ₀	(Mg/m3)	1.90	1.90	1.90
	Particle Density	ρ _s	(Mg/m3)	2.65	2.65	2.65

Initial Condition			Spm. 1	2	3
Normal Stress Level		(kPa)	20	40	80
Is Specimen Submersed?			Yes	Yes	Yes
Reverse Method			Motor Drive		
Hoz. Control Machine			Shearbox 1	Shearbox 1	Shearbox 1
Initial Moisture	ω _i %	(%)	23	23	23
Initial Dry Density	ρ _{di}	(Mg/m3)	1.54	1.55	1.55
Initial Voids Ratio	e _i	.	0.716	0.714	0.713
Initial Degree of Saturation	S _i	(%)	84.7	85.1	85.0
Notes					

Max Shear Stress Results			Spm. 1	2	3
Final Moisture	ω _f %	(%)	23	23	23
Final Dry Density	ρ _{df}	(Mg/m3)	1.96	1.96	2.04
Final Voids Ratio	e _f	.	0.659	0.661	0.599
Final Degree of Saturation	S _f	(%)	92.2	91.7	100.0
Peak Shear Stress		(kPa)	9.9	12.7	24.3
Hoz Displacement	L _H	(mm)	8.997	8.999	8.997
Vertical Displacement	L _V	(mm)	0.308	0.485	0.624

*GSTL (Clisp V2.5.5.2426)

	Test Method		BS 1377-7 : 1990 clause 4		Test Name		PEAK				
					Database:		.\SQLEXPRESS \ GSTL				
	Site Reference		Dunsbury Park Units 100, 400, 600,		Test Date		14/09/2021				
	Jobfile		55427		Sample		NA				
	Client		Hydrock		Borehole		BH7.03				
	Operator		*R.Owens		Checked		*R.John		Approved		*R.John

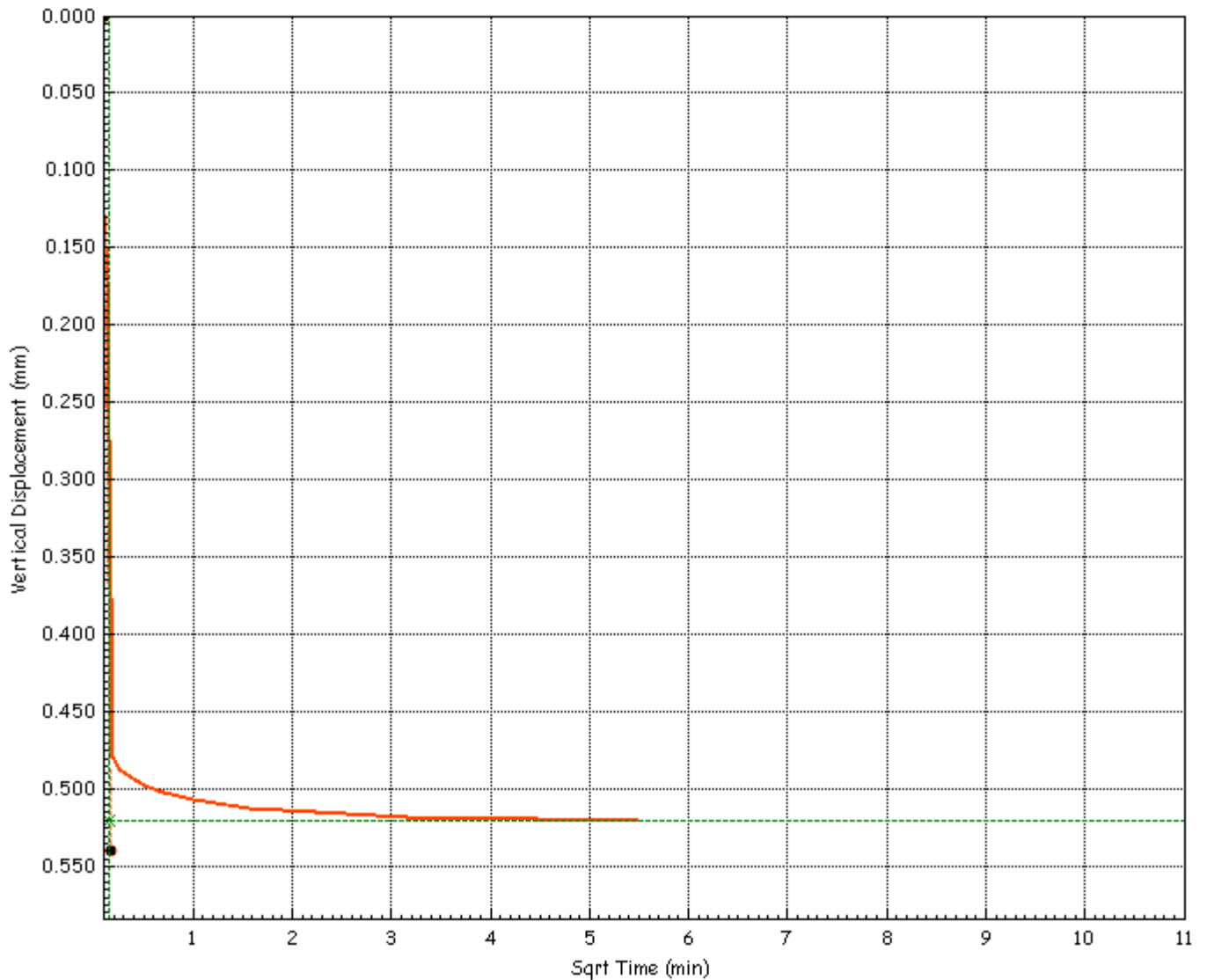
Direct Shear Tests

Direct Shearbox Test

Consolidation Stage

Max Shear Stress Results

			Spm. 1	2	3
Vertical Displacement	ΔH	(mm)	0.520	0.277	1.055
Voids Ratio	e_f	.	0.680	0.695	0.641
t100	t 100	(min)	0.0	0.1	0.1
Shear Speed		(mm/min)	0.300	0.300	0.300



Specimen Number 1

	Test Method	BS 1377-7 : 1990 clause 4		Test Name	PEAK	
				Database:	.SQLEXPRESS \ GSTL	
	Site Reference	Dunsbury Park Units 100, 400, 600,		Test Date	14/09/2021	
	Jobfile	55427		Sample	NA	
	Client	Hydrock		Borehole	BH7.03	
Operator	*R.Owens	Checked	*R.John	Approved	*R.John	

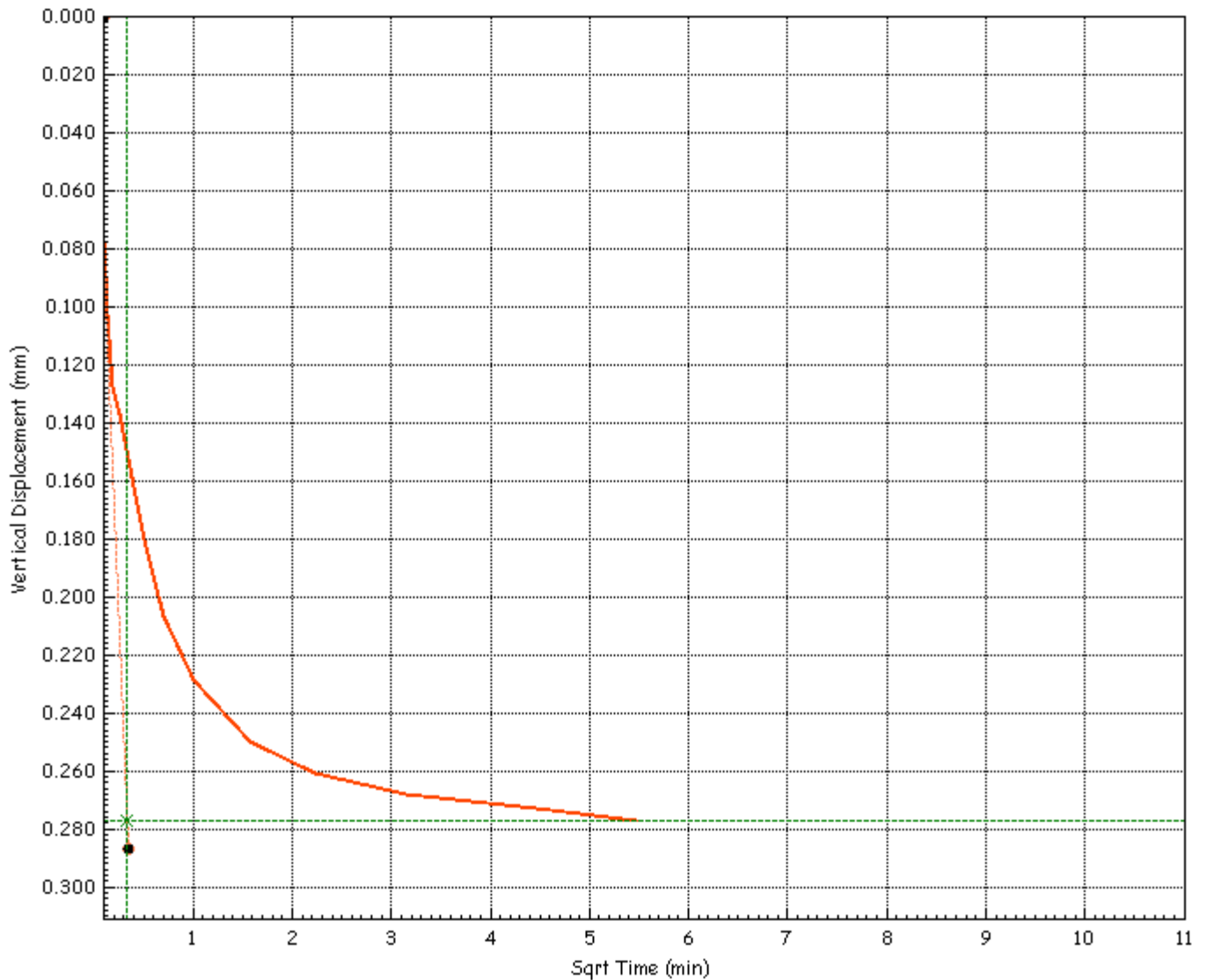
Direct Shear Tests

Direct Shearbox Test

Consolidation Stage

Max Shear Stress Results

			Spm. 1	2	3
Vertical Displacement	ΔH	(mm)	0.520	0.277	1.055
Voids Ratio	e_f	.	0.680	0.695	0.641
t100	t 100	(min)	0.0	0.1	0.1
Shear Speed		(mm/min)	0.300	0.300	0.300



Specimen Number 2

	Test Method	BS 1377-7 : 1990 clause 4		Test Name	PEAK	
				Database:	.SQLEXPRESS \ GSTL	
	Site Reference	Dunsbury Park Units 100, 400, 600,		Test Date	14/09/2021	
	Jobfile	55427		Sample	NA	
	Client	Hydrock		Borehole	BH7.03	
Operator	*R.Owens	Checked	*R.John	Approved	*R.John	

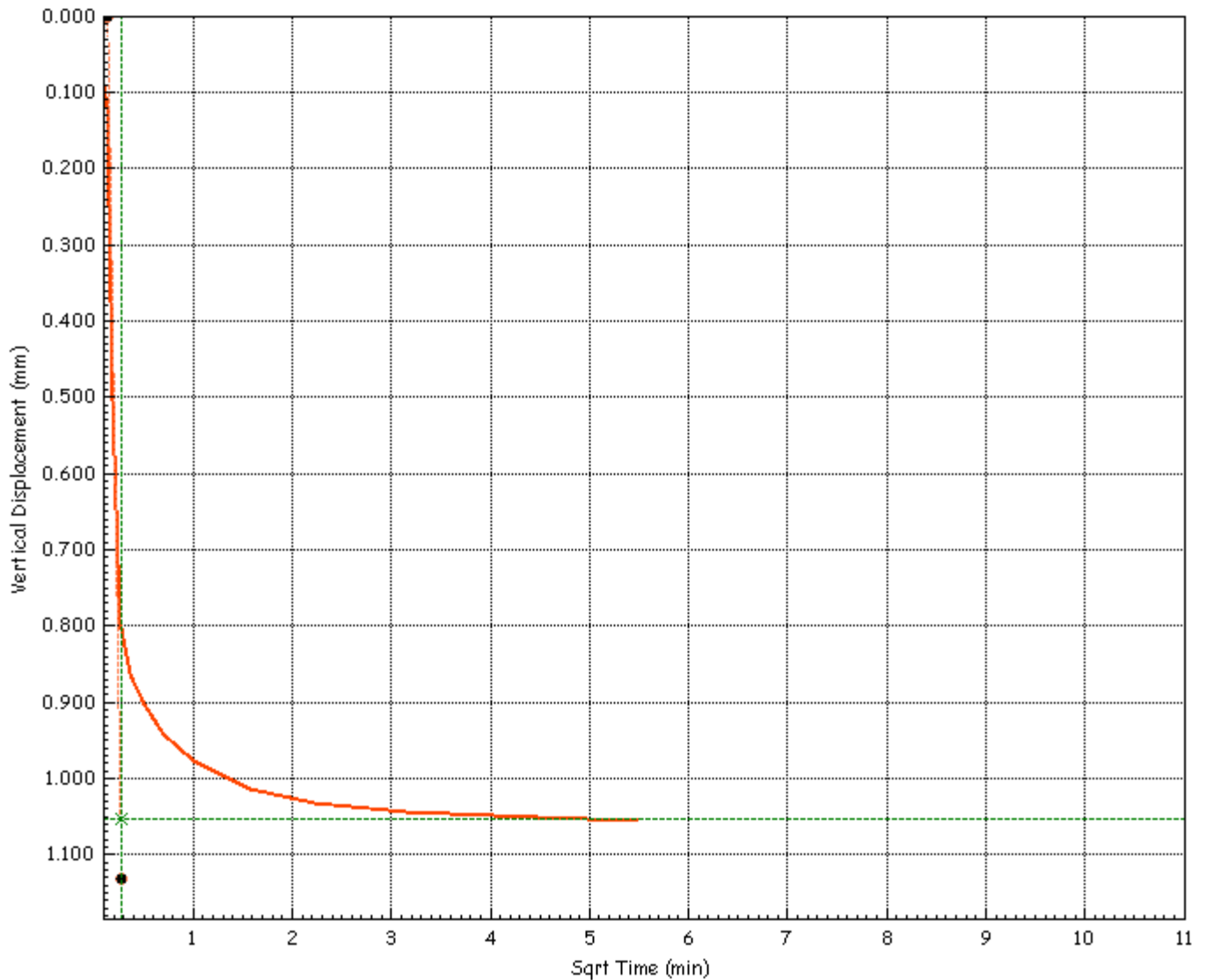
Direct Shear Tests

Direct Shearbox Test

Consolidation Stage

Max Shear Stress Results

			Spm. 1	2	3
Vertical Displacement	ΔH	(mm)	0.520	0.277	1.055
Voids Ratio	e_f	.	0.680	0.695	0.641
t100	t 100	(min)	0.0	0.1	0.1
Shear Speed		(mm/min)	0.300	0.300	0.300



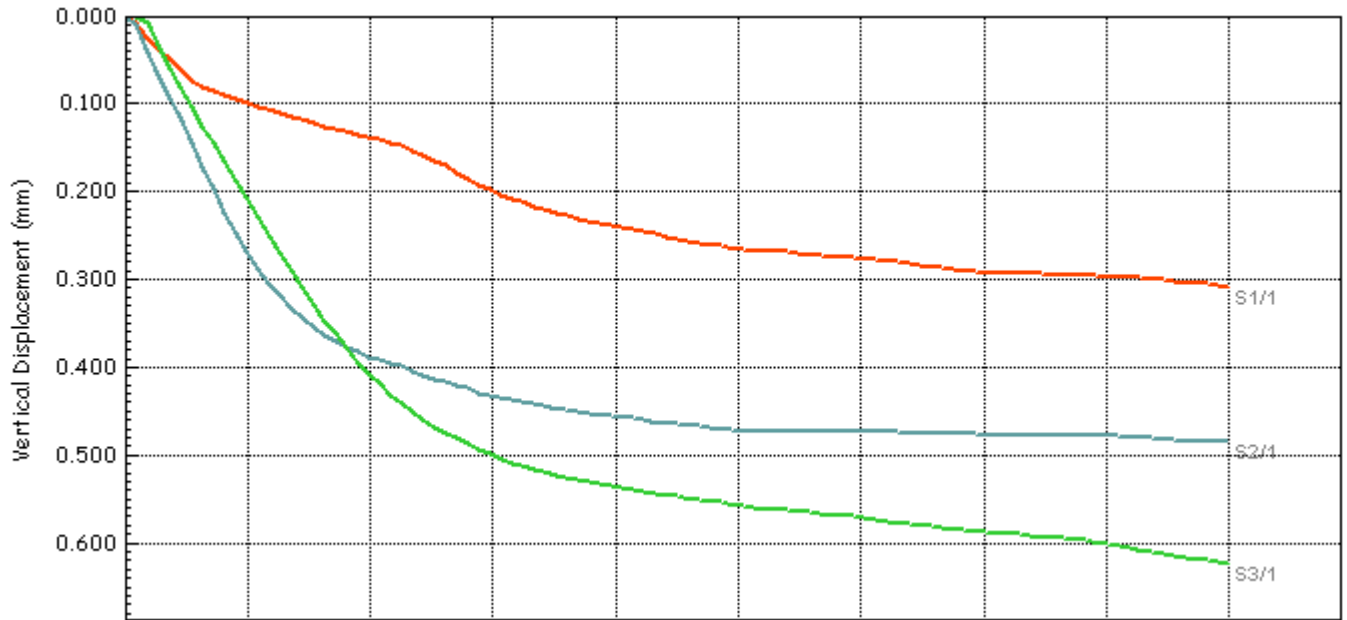
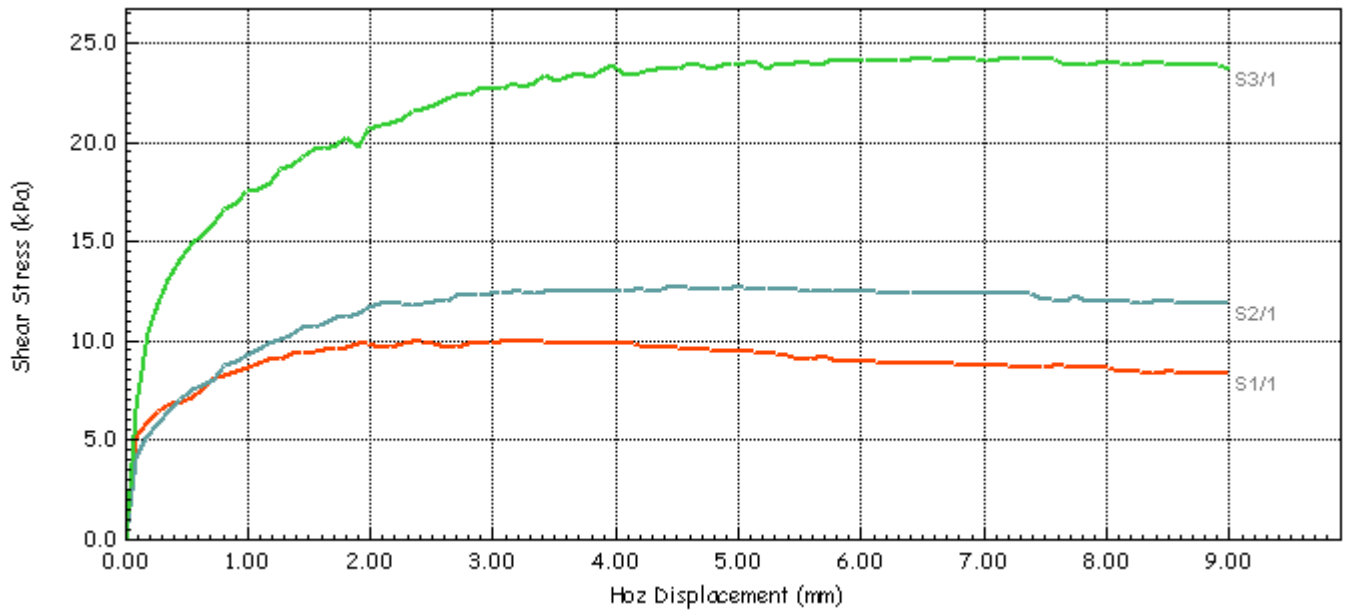
Specimen Number 3

	Test Method	BS 1377-7 : 1990 clause 4		Test Name	PEAK
				Database:	.\SQLEXPRESS \ GSTL
	Site Reference	Dunsbury Park Units 100, 400, 600,		Test Date	14/09/2021
	Jobfile	55427		Sample	NA
	Client	Hydrock		Borehole	BH7.03
Operator	*R.Owens	Checked	*R.John	Approved	*R.John

Direct Shear Tests

Direct Shearbox Test

Shear Stage



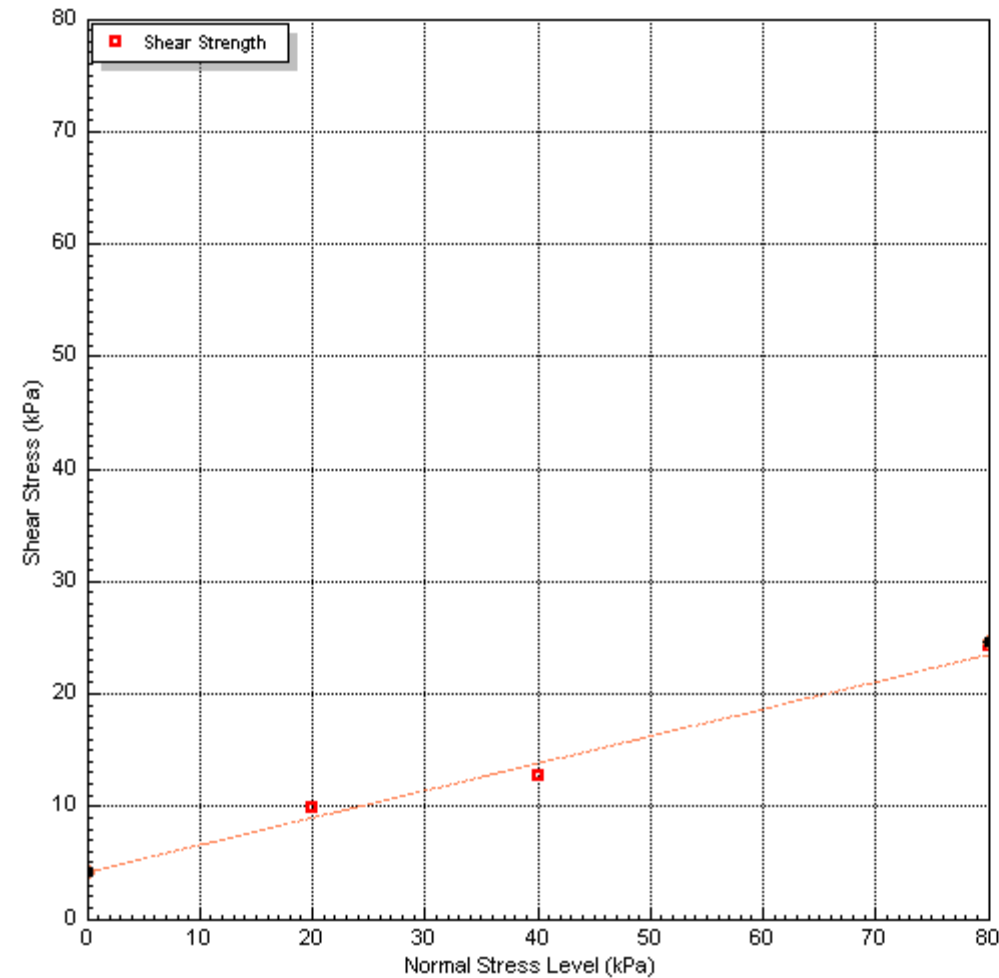
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			Database: .\SQLEXPRESS \ GSTL	
	Site Reference	Dunsbury Park Units 100, 400, 600,	Test Date	14/09/2021
	Jobfile	55427	Sample	NA
	Client	Hydrock	Borehole	BH7.03
Operator	*R.Owens	Checked	*R.John	Approved *R.John

Direct Shear Tests

Direct Shearbox Test

Shear Stage

Envelope Failure Results			Spm. 1	2	3
Final Moisture	$\omega_f\%$	(%)	23	23	23
Final Dry Density	ρ_{df}	(Mg/m3)	1.96	1.96	2.04
Final Voids Ratio	e_f	.	0.659	0.661	0.599
Final Degree of Saturation	S_f	(%)	92.2	91.7	100.0
Apparent cohesion	c	(kPa)	4.12		
Angle of Shearing Resistance	ϕ	.	13.9		
Notes					



	Test Method	BS 1377-7 : 1990 clause 4		Test Name	PEAK
				Database:	.\SQLEXPRESS \ GSTL
	Site Reference	Dunsbury Park Units 100, 400, 600,		Test Date	14/09/2021
	Jobfile	55427		Sample	NA
	Client	Hydrock		Borehole	BH7.03
	Operator	*R.Owens	Checked	*R.John	Approved

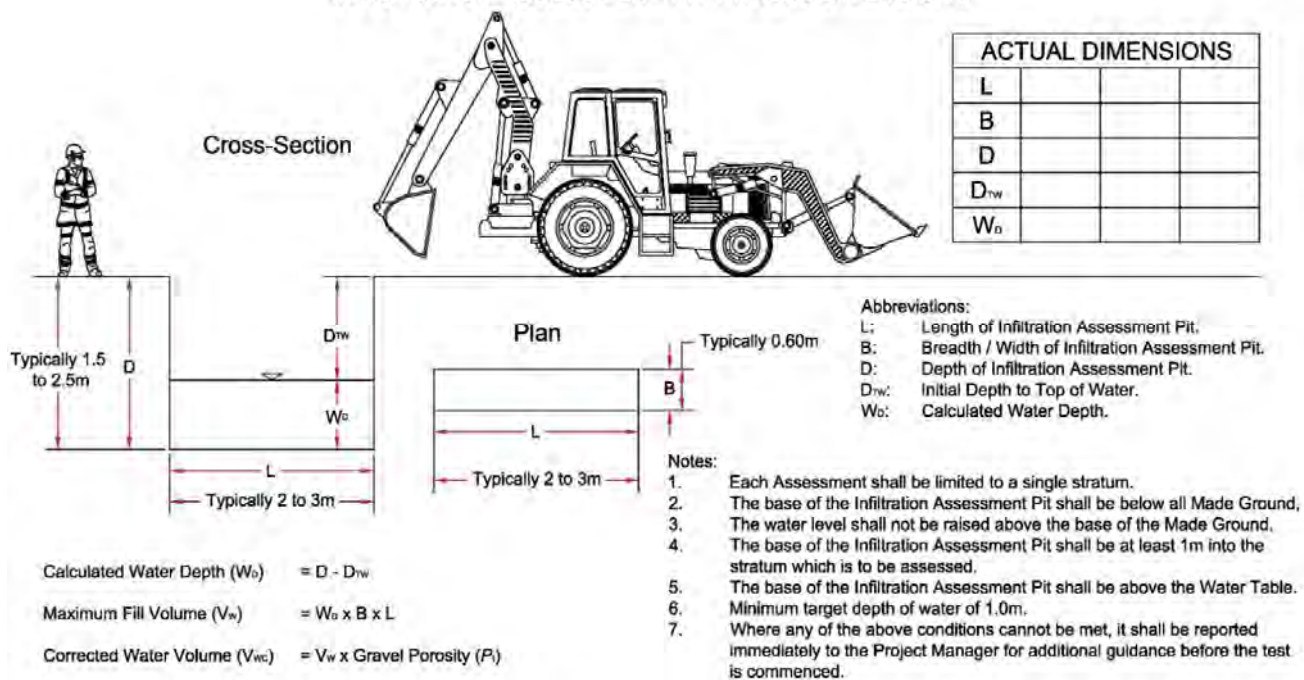
1 DAY INFILTRATION ASSESSMENT - AIDE MEMOIR

Site: Dunsbury Park unit 500
Client: Portsmouth City Council

Test Location SA101 Date of start 22/07/2021 Date at end 22/07/2021

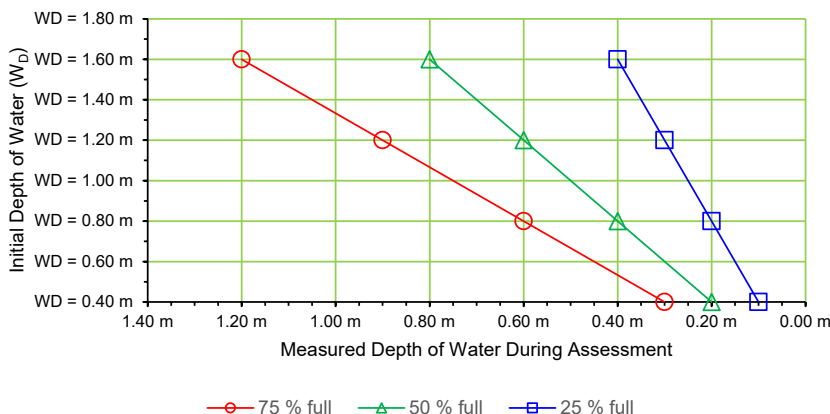
ANTICIPATED GROUND PROFILE FROM DESK STUDY			ACTUAL GROUND PROFILE FROM EXCAVATION		
GROUND LEVEL			GROUND LEVEL		
BASE OF PIT			BASE OF PIT 1.70m		

INFILTRATION ASSESSMENT PIT TYPICAL DIMENSIONS



Infiltration	RUN 1		RUN 2		RUN 3		SITE OBSERVATIONS - VOLUME LOSS		
	W _D	D _{TW1}	W _D	D _{TW2}	W _D	D _{TW3}	Test Run	Infiltration Records up to 6 Hours	Comments
75% full							1	<25%	Unlikely without significant attenuation
25% full								<75%	Requires additional BRE DG365 testing
								>75%	Refer to results of Run 2
							2	<25%	Unlikely without significant attenuation
								<75%	Requires additional BRE DG365 testing
								>75%	Refer to results of Run 3
							3	<25%	Unlikely without significant attenuation
								<75%	Requires additional BRE DG365 testing
								>75%	Indicative Infiltration Rate achieved.

Assessment of Degree of Infiltration



1 DAY INFILTRATION ASSESSMENT - WORKSHEET

Site: Dunsbury Park unit 500

Client: Portsmouth City Council

NOTE: Test abandoned due to no infiltration recorded.

Test Location SA101

Date of start 22/07/2021

Date at end 22/07/2021

[illegible]

Client Portsmouth City Council	Location or material to which this assessment applies London Clay Formation	
Project Dunsbury Park Plot 100		
Job number 19453-GELO		

Concrete in aggressive ground		After BRE Special Digest 1, 2005
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Soil data			
	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	1	1	0
No. tests in 20% data set	0	0	
No. tests with suspected pyrite		1	
Maximum value	600	1.7	
Mean of highest two values	600	2	
Mean of highest 20%			
Characteristic Value	600	1.7	
	[no pyrite]	[pyrite suspected]	
DS Class	DS-2	DS-4	
If pyrite suspected, DS Class limited to		DS-4	
Is pyrite assumed to be present?	Yes	Adopted DS Class = DS-4	

Water data		
	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0
DS Class		

pH data		
	Soil	Water
Number of tests	1	0
No. tests in 20% data set	0	
Lowest pH	7.8	
Mean of lowest 20%		
Characteristic value	7.8	
Design value	7.8	
Number of soil pH results less than 5.5	0	

DS Class design value	ACEC Class design value
Based on higher of soil and water data	Natural ground
DS-4	Mobile groundwater
	AC-4

Client Portsmouth City Council	Location or material to which this assessment applies Made Ground	
Project Dunsbury Park Plot 100		
Job number 19453-GELO		

Concrete in aggressive ground		After BRE Special Digest 1, 2005
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Soil data			
	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	2	2	0
No. tests in 20% data set	0	0	
No. tests with suspected pyrite		0	
Maximum value	160	0.3	
Mean of highest two values	90	0	
Mean of highest 20%			
Characteristic Value	160	0.3	
			Mg not required
	[no pyrite]	[pyrite suspected]	
DS Class	DS-1	DS-2	
If pyrite suspected, DS Class limited to		DS-2	
Is pyrite assumed to be present?	No	Adopted DS Class = DS-1	

Water data		
	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0
		Mg not required
DS Class		

pH data		
	Soil	Water
Number of tests	2	0
No. tests in 20% data set	0	
Lowest pH	6.3	
Mean of lowest 20%		
Characteristic value	6.3	
Design value	6.3	
Number of soil pH results less than 5.5	0	

DS Class design value	ACEC Class design value
Based on higher of soil and water data	Brownfield Mobile groundwater
DS-1	AC-2z

Client Portsmouth City Council	Location or material to which this assessment applies Bognor Sand Member	
Project Dunsbury Park Plot 400		
Job number 19453-GELO		

Concrete in aggressive ground		After BRE Special Digest 1, 2005
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Soil data			
	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	2	2	0
No. tests in 20% data set	0	0	
No. tests with suspected pyrite		0	
Maximum value	75	0	
Mean of highest two values	48	0	
Mean of highest 20%			
Characteristic Value	75	0	
			Mg not required
	[no pyrite]	[pyrite suspected]	
DS Class	DS-1	DS-1	
If pyrite suspected, DS Class limited to		DS-1	
Is pyrite assumed to be present?	No	Adopted DS Class = DS-1	

Water data		
	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0
		Mg not required
DS Class		

pH data		
	Soil	Water
Number of tests	2	0
No. tests in 20% data set	0	
Lowest pH	6.8	
Mean of lowest 20%		
Characteristic value	6.8	
Design value	6.8	
Number of soil pH results less than 5.5	0	

DS Class design value	ACEC Class design value
Based on higher of soil and water data	Brownfield Mobile groundwater
DS-1	AC-1

Client Portsmouth City Council	Location or material to which this assessment applies London Clay Formation	
Project Dunsbury Park Plot 400		
Job number 19453-GELO		

Concrete in aggressive ground		After BRE Special Digest 1, 2005
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Soil data			
	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	4	4	0
No. tests in 20% data set	1	1	
No. tests with suspected pyrite		4	
Maximum value	880	3.6	
Mean of highest two values	790	3	
Mean of highest 20%			
Characteristic Value	880	3.6	

	[no pyrite]	[pyrite suspected]
DS Class	DS-2	DS-5

If pyrite suspected, DS Class limited to	DS-4
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Is pyrite assumed to be present?	Yes	Adopted DS Class =	DS-4
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Water data		
	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0

DS Class

pH data		
	Soil	Water
Number of tests	4	0
No. tests in 20% data set	1	
Lowest pH	5.7	
Mean of lowest 20%	5.7	
Characteristic value	5.7	

Design value	5.7
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Number of soil pH results less than 5.5 0

DS Class design value	ACEC Class design value
Based on higher of soil and water data	Natural ground
	Mobile groundwater
	AC-4

Client Portsmouth City Council	Location or material to which this assessment applies Made Ground	
Project Dunsbury Park Plot 400		
Job number 19453-GELO		

Concrete in aggressive ground		After BRE Special Digest 1, 2005
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Soil data			
	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	2	2	0
No. tests in 20% data set	0	0	
No. tests with suspected pyrite		1	
Maximum value	440	1.7	
Mean of highest two values	258	1	
Mean of highest 20%			
Characteristic Value	440	1.7	
			Mg not required
	[no pyrite]	[pyrite suspected]	
DS Class	DS-1	DS-4 m	
If pyrite suspected, DS Class limited to		DS-4 m	
Is pyrite assumed to be present?	Yes	Adopted DS Class =	DS-4 m

Water data		
	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0
		Mg not required
DS Class		

pH data		
	Soil	Water
Number of tests	2	0
No. tests in 20% data set	0	
Lowest pH	5.7	
Mean of lowest 20%		
Characteristic value	5.7	
Design value	5.7	
Number of soil pH results less than 5.5	0	

DS Class design value	ACEC Class design value
Based on higher of soil and water data	Brownfield Mobile groundwater
DS-4 m	AC-5m

Client Portsmouth City Council	Location or material to which this assessment applies Bognor Sand Member	
Project Dunsbury Park Plot 600		
Job number 19453-GELO		

Concrete in aggressive ground		After BRE Special Digest 1, 2005
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Soil data			
	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	2	2	0
No. tests in 20% data set	0	0	
No. tests with suspected pyrite		1	
Maximum value	400	1.4	
Mean of highest two values	207	1	
Mean of highest 20%			
Characteristic Value	400	1.4	

	[no pyrite]	[pyrite suspected]
DS Class	DS-1	DS-4

If pyrite suspected, DS Class limited to	DS-4
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Is pyrite assumed to be present?	Yes	Adopted DS Class =	DS-4
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Water data		
	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0

DS Class

pH data		
	Soil	Water
Number of tests	2	0
No. tests in 20% data set	0	
Lowest pH	6.1	
Mean of lowest 20%		
Characteristic value	6.1	

Design value	6.1
---------------------	------------

Number of soil pH results less than 5.5 0

DS Class design value	ACEC Class design value
Based on higher of soil and water data	Natural ground Mobile groundwater
	DS-4
	AC-4

Client Portsmouth City Council	Location or material to which this assessment applies Head deposits	
Project Dunsbury Park Plot 600		
Job number 19453-GELO		

Concrete in aggressive ground		After BRE Special Digest 1, 2005
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Soil data			
	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	1	1	0
No. tests in 20% data set	0	0	
No. tests with suspected pyrite		0	
Maximum value	42	0	
Mean of highest two values	42	0	
Mean of highest 20%			
Characteristic Value	42	0	

	[no pyrite]	[pyrite suspected]
DS Class	DS-1	DS-1

If pyrite suspected, DS Class limited to	DS-1
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Is pyrite assumed to be present?	No	Adopted DS Class =	DS-1
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Water data		
	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0

DS Class

pH data		
	Soil	Water
Number of tests	1	0
No. tests in 20% data set	0	
Lowest pH	7.6	
Mean of lowest 20%		
Characteristic value	7.6	

Design value	7.6
---------------------	------------

Number of soil pH results less than 5.5	0
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DS Class design value	ACEC Class design value
Based on higher of soil and water data	Natural ground
	Mobile groundwater AC-1 *
	DS-1

* increase to AC-2z in flowing water (pure or with >15mg/l carbon dioxide)

Client Portsmouth City Council	Location or material to which this assessment applies London Clay Formation	
Project Dunsbury Park Plot 600		
Job number 19453-GELO		

Concrete in aggressive ground		After BRE Special Digest 1, 2005
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Soil data			
	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	5	5	0
No. tests in 20% data set	1	1	
No. tests with suspected pyrite		2	
Maximum value	450	1.7	
Mean of highest two values	440	2	
Mean of highest 20%			
Characteristic Value	440	2	

	[no pyrite]	[pyrite suspected]
DS Class	DS-1	DS-4

If pyrite suspected, DS Class limited to	DS-4
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Is pyrite assumed to be present?	Yes	Adopted DS Class =	DS-4
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Water data		
	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0

DS Class

pH data		
	Soil	Water
Number of tests	5	0
No. tests in 20% data set	1	
Lowest pH	6.5	
Mean of lowest 20%	6.5	
Characteristic value	6.5	

Design value	6.5
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Number of soil pH results less than 5.5 0

DS Class design value	ACEC Class design value
Based on higher of soil and water data	Natural ground Mobile groundwater
	DS-4
	AC-4

Client Portsmouth City Council	Location or material to which this assessment applies Bognor Sand Member	
Project Dunsbury Park Plot 700		
Job number 19453-GELO		

Concrete in aggressive ground		After BRE Special Digest 1, 2005
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Soil data			
	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	5	5	0
No. tests in 20% data set	1	1	
No. tests with suspected pyrite		0	
Maximum value	21	0.1	
Mean of highest two values	16	0	
Mean of highest 20%			
Characteristic Value	16	0	

	[no pyrite]	[pyrite suspected]
DS Class	DS-1	DS-1

If pyrite suspected, DS Class limited to	DS-1
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Is pyrite assumed to be present?	No	Adopted DS Class =	DS-1
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Water data		
	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0

DS Class

pH data		
	Soil	Water
Number of tests	5	0
No. tests in 20% data set	1	
Lowest pH	5.2	
Mean of lowest 20%	5.2	
Characteristic value	5.2	

Design value	5.2
---------------------	------------

Number of soil pH results less than 5.5	2
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DS Class design value	ACEC Class design value
Based on higher of soil and water data	Natural ground Mobile groundwater
DS-1	AC-2z

Client Portsmouth City Council	Location or material to which this assessment applies London Clay Formation	
Project Dunsbury Park Plot 700		
Job number 19453-GELO		

Concrete in aggressive ground		After BRE Special Digest 1, 2005
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Soil data			
	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	2	2	0
No. tests in 20% data set	0	0	
No. tests with suspected pyrite		1	
Maximum value	240	0.9	
Mean of highest two values	162	1	
Mean of highest 20%			
Characteristic Value	240	0.9	

	[no pyrite]	[pyrite suspected]
DS Class	DS-1	DS-3

If pyrite suspected, DS Class limited to	DS-3
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Is pyrite assumed to be present?	Yes	Adopted DS Class =	DS-3
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Water data		
	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0

DS Class

pH data		
	Soil	Water
Number of tests	2	0
No. tests in 20% data set	0	
Lowest pH	6.9	
Mean of lowest 20%		
Characteristic value	6.9	

Design value	6.9
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Number of soil pH results less than 5.5 0

DS Class design value	ACEC Class design value
Based on higher of soil and water data	Natural ground Mobile groundwater
	DS-3
	AC-3

Client Portsmouth City Council	Location or material to which this assessment applies Made Ground	
Project Dunsbury Park Plot 700		
Job number 19453-GELO		

Concrete in aggressive ground		After BRE Special Digest 1, 2005
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Soil data			
	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	1	1	0
No. tests in 20% data set	0	0	
No. tests with suspected pyrite		0	
Maximum value	12	0.1	
Mean of highest two values	12	0	
Mean of highest 20%			
Characteristic Value	12	0.1	
			Mg not required
	[no pyrite]	[pyrite suspected]	
DS Class	DS-1	DS-1	
If pyrite suspected, DS Class limited to		DS-1	
Is pyrite assumed to be present?	No	Adopted DS Class =	DS-1

Water data		
	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0
		Mg not required
DS Class		

pH data		
	Soil	Water
Number of tests	1	0
No. tests in 20% data set	0	
Lowest pH	6.7	
Mean of lowest 20%		
Characteristic value	6.7	
Design value	6.7	
Number of soil pH results less than 5.5	0	

DS Class design value	ACEC Class design value
Based on higher of soil and water data	Brownfield
DS-1	Mobile groundwater AC-1

Appendix E Site Monitoring Data and Ground Gas Risk Assessment



<div>Site: Dunsbury Park, Portsmouth</div> <div>Job number: Q2021.594</div> <div>Client: Hydrock</div> <div>Gas analyser: GA5000; GA505316</div> <div>Equipment check OK: Y</div> <div>Service in date: Y</div> <div>Calibration check OK: Y</div> <div>Name of person monitoring: Alex Thackray</div>							<div>Notes on site conditions: Area of site with WS4 points was busy with site traffic so didn't feel safe access was possible. Point WS6.01 has a post to mark the location but on arrival there is no borehole there to monitor.</div> <div>Notes: LEL = lower explosive limit = 5%v/v. * where the flow is less than the limit of detection of the instrument, the detection limit is reported (Highlighted in blue). GSVs are rounded to 3 places.</div>																	
Monitoring round		Borehole details					Pressure and flow				Gas concentrations										Local conditions			
Date	Time	Borehole	Single or dual gas tap	Response zone depth (m)	Depth to water or depth of hole if dry (m)	D denotes dry hole	Atmospheric pressure (hPa)	Atm pressure falling / rising / steady	Relative BH pressure (hPa)	Gas flow* (l/hr)	VOC (as ppm using PID)	CH ₄ (%v/v)		CH ₄ (%LEL)		CO ₂ (%v/v)		O ₂ (%v/v)		Other Gases		Notes on condition of borehole and surrounding ground		
												Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	CO (PPM)	H ₂ S (PPM)			
11/08/21	11:28	WS1.01		5.40	2.66		1017		0.0	0.0	ND	ND	ND	ND	ND	0.1	0.1	19.8	17.2	1.0	1			
11/08/21	NR	WS4.03		NR	NR		NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Unsafe access, site traffic		
11/08/21	NR	WS4.04		NR	NR		NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Unsafe access, site traffic		
11/08/21	NR	WS4.05		NR	NR		NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Unsafe access, site traffic		
11/08/21	12:50	WS5.02		5.30	3.56		1017		0.1	0.0	ND	ND	ND	ND	ND	ND	ND	20.0	20.4	1.0	ND			
11/08/21	11:45	WS5.04		5.47	2.06		1017		0.0	0.0	ND	ND	ND	ND	ND	ND	ND	20.2	20.0	1.0	1			
11/08/21	11:41	WS5.05		5.54	1.54		1018		-0.1	0.1	ND	ND	ND	ND	ND	ND	ND	20.3	20.3	1.0	1			
11/08/21	11:35	WS5.08		5.47	0.86		1018		0.0	0.1	ND	ND	ND	ND	ND	ND	ND	20.4	20.4	1.0	1			
11/08/21	NR	WS6.01		NR	NR		NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No borehole at location, see corresponding photo.		
11/08/21	12:00	WS6.03		5.34	2.13		1017		0.1	0.0	0.1	ND	ND	ND	ND	3.3	3.5	18.3	14.2	1.0	1			
11/08/21	12:18	WS6.04		5.30	2.16		1016		0.1	0.0	0.1	ND	ND	ND	ND	2.1	2.1	19.8	15.5	1.0	ND			
11/08/21	12:08	WS6.06		5.45	2.43		1017		0.1	0.0	ND	ND	ND	ND	ND	2.5	2.5	18.0	16.1	2.0	1			
11/08/21	12:40	WS7.03		5.46	3.01		1015		0.2	0.0	ND	ND	ND	ND	ND	0.1	0.1	20.3	20.3	2.0	ND			
11/08/21	12:35	WS7.04		5.35	1.60		1015		0.1	0.0	ND	ND	ND	ND	ND	4.3	4.6	19.3	12.1	2.0	ND			

<div>Site: Dunsbury Park, Portsmouth</div> <div>Job number: Q2021.594</div> <div>Client: Hydrock</div>							Notes on site conditions: Sunny. dry, ground dry, moderate breeze.															
Gas analyser: GA5000; G500691																						
Equipment check OK: Y																						
Service in date: Y																						
Calibration check OK: Y																						
Name of person monitoring: Richard Ward							Notes: LEL = lower explosive limit = 5%v/v. * where the flow is less than the limit of detection of the instrument, the detection limit is reported (Highlighted in blue). GSVs are rounded to 3 places.															
Monitoring round		Borehole details					Pressure and flow				Gas concentrations										Local conditions	
Date	Time	Borehole	Single or dual gas tap	Response zone depth (m)	Depth to water or depth of hole if dry (m)	D denotes dry hole	Atmospheric pressure (hPa)	Atm pressure falling / rising / steady	Relative BH pressure (hPa)	Gas flow* (l/hr)	VOC (as ppm using PID)	CH ₄ (%v/v)		CH ₄ (%LEL)		CO ₂ (%v/v)		O ₂ (%v/v)		Other Gases		Notes on condition of borehole and surrounding ground
												Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	CO (PPM)	H ₂ S (PPM)	
27/08/21	10:29	WS1.01		5.39	2.74		1021		-0.1	0.1	NA	ND	ND	ND	ND	0.1	0.1	20.8	20.5	1.0	ND	All good.
27/08/21	11:42	WS4.03		5.49	2.48		1020		-27.0	-5.0	NA	ND	ND	ND	ND	0.1	1.6	20.8	18.4	3.0	ND	All good.
27/08/21	12:11	WS4.04		5.36	3.13		1021		0.1	0.0	NA	ND	ND	ND	ND	0.1	0.0	20.8	17.7	2.0	ND	All good.
27/08/21	11:58	WS4.05		5.45	2.57		1021		0.0	0.0	NA	ND	ND	ND	ND	0.1	0.3	20.8	18.6	2.0	ND	All good.
27/08/21	08:10	WS5.02		5.23	3.72		1019		2.6	0.0	NA	ND	4.0	ND	80	0.1	0.1	20.8	9.4	ND	ND	All good.
27/08/21	08:07	WS5.04		5.54	2.14		1019		-21.9	-5.2	NA	ND	0.2	ND	4	0.1	ND	20.8	10.9	1.0	1	All good.
27/08/21	08:02	WS5.05		5.51	1.61		1019		-46.3	-9.4	NA	ND	ND	ND	ND	0.1	0.4	20.8	17.5	ND	ND	All good.
27/08/21	07:56	WS5.08		5.44	1.13		1019		-12.2	-0.6	NA	ND	ND	ND	ND	0.1	0.2	20.8	20.5	1.0	ND	All good.
27/08/21	08:47	WS6.01		5.38	1.87		1017		-0.5	0.0	NA	ND	ND	ND	ND	0.1	6.5	20.8	17.3	1.0	ND	All good.
27/08/21	08:52	WS6.03		5.30	2.23		1018		-0.2	0.0	NA	ND	ND	ND	ND	0.1	10.4	20.8	13.8	1.0	ND	All good.
27/08/21	09:01	WS6.04		5.27	2.36		1019		-0.3	0.0	NA	ND	ND	ND	ND	0.1	5.5	20.8	17.4	2.0	ND	All good.
27/08/21	08:56	WS6.06		5.42	2.49		1019		-0.1	0.0	NA	ND	ND	ND	ND	0.1	5.1	20.8	18.0	2.0	ND	All good.
27/08/21	08:29	WS7.03		5.47	3.13		1017		-0.3	0.0	NA	ND	ND	ND	ND	0.1	0.8	20.8	20.0	ND	ND	All good.
27/08/21	09:16	WS7.04		5.32	2.00		1018		6.6	0.1	NA	ND	ND	ND	ND	0.1	8.7	20.8	14.9	1.0	ND	All good.
27/08/21	10:33	BH1.01		10.47	4.16		1022		0.2	0.0	NA	ND	0.1	ND	2	0.1	0.6	20.8	19.8	7.0	ND	All good.
27/08/21	NR	BH4.02		NR	NR		NR		NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Unable to access borehole, bolt has been overscrewed during installation resulting in the cover being impossible to open with an allen key.
27/08/21	10:00	BH5.01		10.48	1.58		1019		0.0	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	19.7	1.0	ND	All good.
27/08/21	10:05	BH5.02		5.46	2.49		1020		0.0	0.0	NA	ND	ND	ND	ND	0.1	ND	20.8	20.3	2.0	ND	All good.
27/08/21	10:10	BH5.03		10.44	0.34		1020		14.5	4.5	NA	ND	ND	ND	ND	0.1	0.1	20.8	20.8	ND	ND	All good.
27/08/21	10:17	BH5.05		10.02	1.78		1021		0.0	0.0	NA	ND	ND	ND	ND	0.1	0.2	20.8	19.2	4.0	ND	All good.
27/08/21	09:45	BH6.02		10.33	2.57		1018		-0.2	0.1	NA	ND	ND	ND	ND	0.1	2.2	20.8	18.1	2.0	ND	All good.
27/08/21	09:50	BH6.03		5.48	2.63		1019		0.0	0.0	NA	ND	ND	ND	ND	0.1	4.1	20.8	17.8	ND	ND	All good.
27/08/21	09:29	BH7.01		20.34	3.65		1018		-0.1	0.0	NA	ND	ND	ND	ND	0.1	1.4	20.8	17.7	2.0	ND	All good.
27/08/21	09:37	BH7.03		5.06	2.33		1018		-0.2	0.0	NA	ND	ND	ND	ND	0.1	1.3	20.8	19.4	3.0	ND	All good.

<div>Site: Dunsbury Park, Portsmouth</div> <div>Job number: Q2021.594</div> <div>Client: Hydrock</div>							Notes on site conditions: Sunny, dry, ground dry, moderate breeze.																
Gas analyser: GA5000; G500691																							
Equipment check OK: Y																							
Service in date: Y																							
Calibration check OK: Y																							
Name of person monitoring: Richard Ward							Notes: LEL = lower explosive limit = 5%v/v. * where the flow is less than the limit of detection of the instrument, the detection limit is reported (Highlighted in blue). GSVs are rounded to 3 places.																
Monitoring round		Borehole details					Pressure and flow				Gas concentrations										Local conditions		
Date	Time	Borehole	Single or dual gas tap	Response zone depth (m)	Depth to water or depth of hole if dry (m)	D denotes dry hole	Atmospheric pressure (hPa)	Atm pressure falling / rising / steady	Relative BH pressure (hPa)	Gas flow* (l/hr)	VOC (as ppm using PID)	CH ₄ (%v/v)		CH ₄ (%LEL)		CO ₂ (%v/v)		O ₂ (%v/v)		Other Gases		Notes on condition of borehole and surrounding ground	
												Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	CO (PPM)	H ₂ S (PPM)		
07/09/21	08:26	WS1.01		5.39	2.81		1019		-0.2	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	20.2	1.0	ND	All good.	
07/09/21	09:16	WS4.03		5.49	2.14		1019		-0.3	0.0	NA	ND	ND	ND	ND	0.1	2.8	20.8	16.6	1.0	ND	All good.	
07/09/21	09:19	WS4.04		5.36	3.31		1019		0.1	0.0	NA	ND	ND	ND	ND	0.1	ND	20.8	16.1	2.0	ND	All good.	
07/09/21	09:25	WS4.05		5.45	2.68		1019		0.2	0.0	NA	ND	ND	ND	ND	0.1	1.2	20.8	14.9	1.0	1	All good.	
07/09/21	09:04	WS5.02		5.23	3.85		1019		0.2	0.0	NA	ND	4.1	ND	82	0.1	0.1	20.8	4.8	1.0	ND	All good.	
07/09/21	08:58	WS5.04		5.54	2.18		1019		-13.6	-3.4	NA	ND	0.1	ND	2	0.1	ND	20.8	9.9	2.0	ND	All good.	
07/09/21	08:54	WS5.05		5.51	1.70		1020		-51.1	-11.7	NA	ND	ND	ND	ND	0.1	0.5	20.8	15.3	1.0	ND	All good.	
07/09/21	08:44	WS5.08		5.44	1.31		1019		-15.6	-4.8	NA	ND	ND	ND	ND	0.1	0.4	20.8	19.3	4.0	ND	All good.	
07/09/21	10:27	WS6.01		5.38	1.99		1017		0.1	0.0	NA	ND	ND	ND	ND	0.1	4.1	20.8	18.2	1.0	ND	All good.	
07/09/21	10:32	WS6.03		5.30	2.26		1018		0.2	0.0	NA	ND	ND	ND	ND	0.1	8.3	20.8	15.8	1.0	1	All good.	
07/09/21	10:44	WS6.04		5.27	2.42		1019		6.5	0.0	NA	ND	ND	ND	ND	0.1	1.5	20.8	19.5	2.0	ND	All good.	
07/09/21	10:37	WS6.06		5.42	2.54		1019		0.4	0.0	NA	ND	ND	ND	ND	0.1	3.3	20.8	18.6	2.0	ND	All good.	
07/09/21	10:16	WS7.03		5.47	3.18		1017		0.3	0.0	NA	ND	ND	ND	ND	0.1	0.4	20.8	20.2	1.0	ND	All good.	
07/09/21	10:12	WS7.04		5.32	2.15		1017		0.2	0.0	NA	ND	ND	ND	ND	0.1	5.6	20.8	17.4	2.0	ND	All good.	
07/09/21	08:29	BH1.01		10.47	4.23		1020		-0.2	0.0	NA	ND	0.1	ND	2	0.1	1.0	20.8	18.9	2.0	ND	All good.	
27/08/21	NR	BH4.02		NR	NR		NR		NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Unable to access borehole, bolt has been overscrewed during installation resulting in the cover being impossible to open with an allen key.	
07/09/21	09:07	BH5.01		10.48	1.81		1019		0.1	0.0	NA	ND	ND	ND	ND	0.1	ND	20.8	18.6	1.0	1	All good.	
07/09/21	09:00	BH5.02		5.46	2.60		1019		0.1	0.0	NA	ND	ND	ND	ND	0.1	ND	20.8	19.5	1.0	1	All good.	
07/09/21	08:50	BH5.03		10.44	0.38		1019		0.0	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	20.0	1.0	ND	All good.	
07/09/21	08:41	BH5.05		10.02	1.81		1019		-0.2	0.0	NA	ND	ND	ND	ND	0.1	0.3	20.8	19.2	1.0	ND	All good.	
07/09/21	10:35	BH6.02		10.33	2.61		1018		0.3	0.0	NA	ND	ND	ND	ND	0.1	2.2	20.8	18.7	2.0	ND	All good.	
07/09/21	10:40	BH6.03		5.48	2.69		1019		0.0	0.0	NA	ND	ND	ND	ND	0.1	2.7	20.8	18.8	1.0	1	All good.	
07/09/21	10:20	BH7.01		20.34	3.71		1017		0.2	0.0	NA	ND	ND	ND	ND	0.1	1.9	20.8	17.7	2.0	ND	All good.	
07/09/21	10:08	BH7.03		5.06	2.47		1017		0.1	0.0	NA	ND	ND	ND	ND	0.1	2.0	20.8	19.0	2.0	ND	All good.	

<div>Site: Dunsbury Park, Portsmouth</div> <div>Job number:</div> <div>Client: Hydrock</div>							Notes on site conditions: Sunny, dry, ground dry, moderate breeze.																
<div>Gas analyser: G500691</div>																							
<div>Equipment check OK: Y</div>																							
<div>Service in date: Y</div>																							
<div>Calibration check OK: Y</div>																							
<div>Name of person monitoring: Richard Ward</div>							Notes: LEL = lower explosive limit = 5%v/v. * where the flow is less than the limit of detection of the instrument, the detection limit is reported (Highlighted in blue). GSVs are rounded to 3 places.																
Monitoring round		Borehole details					Pressure and flow				Gas concentrations										Local conditions		
Date	Time	Borehole	Single or dual gas tap	Response zone depth (m)	Depth to water or depth of hole if dry (m)	D denotes dry hole	Atmospheric pressure (hPa)	Atm pressure falling / rising / steady	Relative BH pressure (hPa)	Gas flow* (l/hr)	VOC (as ppm using PID)	CH ₄ (%v/v)		CH ₄ (%LEL)		CO ₂ (%v/v)		O ₂ (%v/v)		Other Gases		Notes on condition of borehole and surrounding ground	
												Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	CO (PPM)	H ₂ S (PPM)		
15/09/21	09:41	WS1.01		5.39	2.86		1012		-0.4	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	20.1	1.0	ND	All good.	
15/09/21	11:48	WS4.03		5.49	2.25		1011		0.5	0.0	NA	ND	ND	ND	ND	0.1	5.6	20.8	14.6	1.0	ND	All good.	
15/09/21	11:51	WS4.04		5.36	3.40		1011		0.4	0.0	NA	ND	ND	ND	ND	0.1	ND	20.8	16.2	1.0	ND	All good.	
15/09/21	11:55	WS4.05		5.45	2.73		1011		-0.1	0.0	NA	ND	ND	ND	ND	0.1	1.5	20.8	15.0	1.0	ND	All good.	
15/09/21	11:34	WS5.02		5.23	3.91		1012		-0.2	0.0	NA	ND	4.1	ND	82	0.1	0.1	20.8	5.3	1.0	ND	All good.	
15/09/21	11:24	WS5.04		5.54	2.21		1012		-24.3	-6.4	NA	ND	0.2	ND	4	0.1	ND	20.8	8.7	2.0	ND	All good.	
15/09/21	11:21	WS5.05		5.51	1.83		1012		-5.1	-7.9	NA	ND	ND	ND	ND	0.1	0.9	20.8	12.9	1.0	ND	All good.	
15/09/21	11:08	WS5.08		5.44	1.40		1012		-1.3	0.1	NA	ND	ND	ND	ND	0.1	0.1	20.8	20.3	1.0	ND	All good.	
15/09/21	12:52	WS6.01		5.38	2.08		1009		-0.1	0.0	NA	ND	ND	ND	ND	0.1	3.2	20.8	19.2	1.0	ND	All good.	
15/09/21	12:56	WS6.03		5.30	2.28		1011		0.2	0.0	NA	ND	ND	ND	ND	0.1	7.7	20.8	17.2	1.0	ND	All good.	
15/09/21	13:17	WS6.04		5.27	2.45		1012		0.2	0.0	NA	ND	ND	ND	ND	0.1	2.8	20.8	19.3	1.0	ND	All good.	
15/09/21	13:06	WS6.06		5.42	2.56		1011		0.0	0.0	NA	ND	ND	ND	ND	0.1	3.0	20.8	19.1	1.0	ND	All good.	
15/09/21	12:47	WS7.03		5.47	3.21		1009		0.0	0.0	NA	ND	ND	ND	ND	0.1	1.1	20.8	20.3	1.0	ND	All good.	
15/09/21	12:33	WS7.04		5.32	2.29		1010		0.1	0.0	NA	ND	ND	ND	ND	0.1	4.6	20.8	18.3	1.0	ND	All good.	
15/09/21	09:46	BH1.01		10.47	4.29		1011		-0.5	0.0	NA	ND	0.1	ND	ND	0.1	1.2	20.8	18.3	1.0	ND	All good.	
15/09/21	NR	BH4.02		NR	NR		NR		NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Unable to access borehole, bolt has been overscrewed during installation resulting in the cover being impossible to open with an allen key.	
15/09/21	11:37	BH5.01		10.48	1.88		1011		0.1	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	18.9	1.0	ND	All good.	
15/09/21	11:27	BH5.02		5.46	2.64		1012		-0.2	0.0	NA	ND	ND	ND	ND	0.1	ND	20.8	19.8	1.0	1	All good.	
15/09/21	11:13	BH5.03		10.44	0.56		1012		-0.1	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	19.6	1.0	ND	All good.	
15/09/21	11:01	BH5.05		10.02	1.92		1012		-0.2	0.0	NA	ND	ND	ND	ND	0.1	0.4	20.8	19.7	1.0	ND	All good.	
15/09/21	12:59	BH6.02		10.33	2.63		1011		0.3	0.0	NA	ND	ND	ND	ND	0.1	2.3	20.8	19.3	1.0	ND	All good.	
15/09/21	13:09	BH6.03		5.48	2.71		1011		0.3	0.0	NA	ND	ND	ND	ND	0.1	2.4	20.8	19.7	1.0	ND	All good.	
15/09/21	12:39	BH7.01		20.34	3.86		1009		0.0	0.0	NA	ND	ND	ND	ND	0.1	2.2	20.8	18.3	1.0	ND	All good.	
15/09/21	12:30	BH7.03		5.06	2.50		1010		0.2	0.0	NA	ND	ND	ND	ND	0.1	2.3	20.8	19.0	1.0	ND	All good.	

<div>Site: Dunsbury Park, Portsmouth</div> <div>Job number:</div> <div>Client: Hydrock</div> <div>Gas analyser: G500691</div> <div>Equipment check OK: Y</div> <div>Service in date: Y</div> <div>Calibration check OK: Y</div> <div>Name of person monitoring: Richard Ward</div>							Notes on site conditions: Sunny, dry, ground dry, moderate breeze.																
Notes: LEL = lower explosive limit = 5%v/v. * where the flow is less than the limit of detection of the instrument, the detection limit is reported (Highlighted in blue). GSVs are rounded to 3 places.																							
Monitoring round		Borehole details					Pressure and flow				Gas concentrations										Local conditions		
Date	Time	Borehole	Single or dual gas tap	Response zone depth (m)	Depth to water or depth of hole if dry (m)	D denotes dry hole	Atmospheric pressure (hPa)	Atm pressure falling / rising / steady	Relative BH pressure (hPa)	Gas flow* (l/hr)	VOC (as ppm using PID)	CH ₄ (%v/v)		CH ₄ (%LEL)		CO ₂ (%v/v)		O ₂ (%v/v)		Other Gases		Notes on condition of borehole and surrounding ground	
												Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	CO (PPM)	H ₂ S (PPM)		
20/09/21	10:00	WS1.01		5.39	2.90		1019		-0.6	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	20.6	ND	ND	All good.	
20/09/21	13:31	WS4.03		5.49	2.20		1019		3.1	0.0	NA	ND	ND	ND	ND	0.1	5.8	20.8	14.7	1.0	ND	All good.	
20/09/21	13:33	WS4.04		5.36	3.47		1020		7.1	0.0	NA	ND	ND	ND	ND	0.1	ND	20.8	16.4	2.0	ND	All good.	
20/09/21	13:37	WS4.05		5.45	2.77		1020		0.2	0.0	NA	ND	ND	ND	ND	0.1	1.5	20.8	15.7	1.0	ND	All good.	
20/09/21	12:34	WS5.02		5.23	3.97		1020		-0.1	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	4.4	1.0	1	All good.	
20/09/21	12:21	WS5.04		5.54	2.21		1020		-16.1	-5.1	NA	ND	4.2	ND	84	0.1	ND	20.8	11.2	1.0	1	All good.	
20/09/21	12:09	WS5.05		5.51	2.03		1020		-11.7	-3.9	NA	ND	ND	ND	ND	0.1	1.1	20.8	11.9	1.0	1	All good.	
20/09/21	11:54	WS5.08		5.44	1.43		1020		-6.3	-1.8	NA	ND	ND	ND	ND	0.1	0.5	20.8	19.6	2.0	ND	All good.	
20/09/21	14:03	WS6.01		5.38	2.13		1018		0.1	0.0	NA	ND	ND	ND	ND	0.1	2.9	20.8	19.2	1.0	ND	All good.	
		WS6.02																					
20/09/21	14:10	WS6.03		5.30	2.30		1019		0.1	0.0	NA	ND	ND	ND	ND	0.1	4.1	20.8	18.8	1.0	ND	All good.	
20/09/21	14:19	WS6.04		5.27	2.49		1020		0.2	0.0	NA	ND	ND	ND	ND	0.1	2.5	20.8	19.4	1.0	ND	All good.	
20/09/21	14:15	WS6.06		5.42	2.58		1020		6.3	0.1	NA	ND	ND	ND	ND	0.1	2.7	20.8	19.3	1.0	ND	All good.	
20/09/21	13:54	WS7.03		5.47	3.24		1019		0.2	-0.1	NA	ND	ND	ND	ND	0.1	0.3	20.8	20.6	1.0	ND	All good.	
20/09/21	13:51	WS7.04		5.32	2.25		1019		0.1	0.0	NA	ND	ND	ND	ND	0.1	3.3	20.8	18.9	1.0	ND	All good.	
20/09/21	10:02	BH1.01		10.47	4.34		1018		-0.2	-0.1	NA	ND	ND	ND	ND	0.1	0.7	20.8	19.5	ND	ND	All good.	
20/09/21	NR	BH4.02		NR	NR		NR		NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Unable to access borehole, bolt has been overscrewed during installation resulting in the cover being impossible to open with an allen key.	
20/09/21	12:58	BH5.01		10.48	1.95		1018		0.4	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	19.1	1.0	ND	All good.	
20/09/21	12:19	BH5.02		5.46	2.68		1019		-0.1	0.0	NA	ND	0.2	ND	4	0.1	ND	20.8	20.0	1.0	1	All good.	
20/09/21	12:03	BH5.03		10.44	0.75		1020		-0.1	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	18.9	1.0	ND	All good.	
20/09/21	11:51	BH5.05		10.02	1.95		1019		-0.4	0.0	NA	ND	ND	ND	ND	0.1	0.4	20.8	19.7	ND	ND	All good.	
20/09/21	14:12	BH6.02		10.33	2.66		1020		0.1	0.0	NA	ND	ND	ND	ND	0.1	2.1	20.8	19.5	1.0	ND	All good.	
20/09/21	14:17	BH6.03		5.48	2.74		1020		0.2	0.0	NA	ND	ND	ND	ND	0.1	2.1	20.8	19.4	1.0	ND	All good.	
20/09/21	13:57	BH7.01		20.34	3.92		1018		3.4	0.0	NA	ND	ND	ND	ND	0.1	2.2	20.8	18.4	1.0	ND	All good.	
20/09/21	13:48	BH7.03		5.06	2.53		1020		0.3	0.0	NA	ND	ND	ND	ND	0.1	2.3	20.8	19.1	1.0	ND	All good.	

<div>Site: Dunsbury Park, Portsmouth</div> <div>Job number:</div> <div>Client: Hydrock</div> <div>Gas analyser: G500691</div> <div>Equipment check OK: Y</div> <div>Service in date: Y</div> <div>Calibration check OK: Y</div> <div>Name of person monitoring: Richard Ward</div>							Notes on site conditions: Sunny, dry, ground dry, moderate breeze.															
Notes: LEL = lower explosive limit = 5%v/v. * where the flow is less than the limit of detection of the instrument, the detection limit is reported (Highlighted in blue). GSVs are rounded to 3 places.																						
Monitoring round		Borehole details					Pressure and flow				Gas concentrations										Local conditions	
Date	Time	Borehole	Single or dual gas tap	Response zone depth (m)	Depth to water or depth of hole if dry (m)	D denotes dry hole	Atmospheric pressure (hPa)	Atm pressure falling / rising / steady	Relative BH pressure (hPa)	Gas flow * (l/hr)	VOC (as ppm using PID)	CH ₄ (%v/v)		CH ₄ (%LEL)		CO ₂ (%v/v)		O ₂ (%v/v)		Other Gases		Notes on condition of borehole and surrounding ground
												Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	CO (PPM)	H ₂ S (PPM)	
24/09/21	09:19	WS1.01		5.39	2.92		1015		-0.5	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	19.5	ND	ND	All good.
24/09/21	10:23	WS4.03		5.49	2.24		1014		-0.1	0.0	NA	ND	ND	ND	ND	0.1	5.8	20.8	14.7	ND	ND	All good.
24/09/21	10:45	WS4.04		5.36	3.47		1014		0.1	-0.1	NA	ND	ND	ND	ND	0.1	ND	20.8	16.1	1.0	ND	All good.
24/09/21	10:49	WS4.05		5.45	2.78		1015		0.0	0.0	NA	ND	ND	ND	ND	0.1	1.5	20.8	15.1	1.0	ND	All good.
24/09/21	09:46	WS5.02		5.23	4.00		1015		0.1	0.0	NA	ND	2.6	ND	52	0.1	0.1	20.8	6.9	1.0	1	All good.
24/09/21	09:41	WS5.04		5.54	2.47		1015		-3.6	-0.7	NA	ND	0.4	ND	8	0.1	ND	20.8	4.4	1.0	1	All good.
24/09/21	09:39	WS5.05		5.51	2.20		1015		5.9	0.0	NA	ND	ND	ND	ND	0.1	1.2	20.8	12.9	ND	1	All good.
24/09/21	09:34	WS5.08		5.44	1.55		1015		12.0	4.1	NA	ND	ND	ND	ND	0.1	0.1	20.8	18.3	2.0	1	All good.
24/09/21	11:55	WS6.01		5.38	2.19		1012		3.0	0.0	NA	ND	ND	ND	ND	0.1	2.6	20.8	19.6	1.0	ND	All good.
25/09/21	11:59	WS6.02		5.37	2.49		1010		0.9	0.0	NA	ND	ND	ND	ND	0.1	3.8	20.8	19.3	1.0	ND	All good.
24/09/21	12:08	WS6.03		5.30	2.43		1014		0.2	0.0	NA	ND	ND	ND	ND	0.1	5.9	20.8	17.8	1.0	ND	All good.
24/09/21	12:18	WS6.04		5.27	2.56		1014		2.5	0.0	NA	ND	ND	ND	ND	0.1	2.3	20.8	19.6	1.0	ND	All good.
24/09/21	12:13	WS6.06		5.42	2.67		1014		2.5	0.0	NA	ND	ND	ND	ND	0.1	2.4	20.8	19.8	1.0	ND	All good.
24/09/21	11:38	WS7.03		5.47	3.62		1013		0.1	0.0	NA	ND	ND	ND	ND	0.1	0.7	20.8	20.5	1.0	ND	All good.
24/09/21	11:28	WS7.04		5.32	2.39		1012		2.7	0.1	NA	ND	ND	ND	ND	0.1	3.6	20.8	19.0	1.0	ND	All good.
24/09/21	09:23	BH1.01		10.47	4.35		1015		-0.5	0.0	NA	ND	ND	ND	ND	0.1	0.8	20.8	19.1	1.0	ND	All good.
24/09/21	NR	BH4.02		NR	NR		NR		NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Unable to access borehole, bolt has been overscrewed during installation resulting in the cover being impossible to open with an allen key.
24/09/21	09:49	BH5.01		10.48	2.00		1015		5.2	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	18.9	1.0	1	All good.
24/09/21	09:43	BH5.02		5.46	2.69		1015		-0.1	0.0	NA	ND	ND	ND	ND	0.1	ND	20.8	19.7	1.0	1	All good.
24/09/21	09:36	BH5.03		10.44	0.56		1015		-0.2	-0.1	NA	ND	ND	ND	ND	0.1	0.1	20.8	19.8	ND	1	All good.
24/09/21	09:31	BH5.05		10.02	1.98		1015		1.9	0.1	NA	ND	ND	ND	ND	0.1	0.4	20.8	19.6	1.0	ND	All good.
24/09/21	12:10	BH6.02		10.33	2.67		1014		3.8	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	20.6	1.0	ND	All good.
24/09/21	12:15	BH6.03		5.48	2.76		1014		0.3	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.8	20.7	1.0	ND	All good.
24/09/21	11:48	BH7.01		20.34	3.94		1013		3.1	0.0	NA	ND	ND	ND	ND	0.1	2.2	20.8	18.4	1.0	ND	All good.
24/09/21	11:13	BH7.03		5.06	2.54		1015		0.2	0.0	NA	ND	ND	ND	ND	0.1	2.2	20.8	19.1	1.0	ND	All good.

<div>Site: Dunsbury Park</div> <div>Job number:</div> <div>Client: Hydrock</div>							<div>Notes on site conditions: dry, overcast, ground wet, light breeze</div> <div>Notes: LEL = lower explosive limit = 5%v/v. * where the flow is less than the limit of detection of the instrument, the detection limit is reported (Highlighted in blue). GSVs are rounded to 3 places.</div>																	
Gas analyser: G505363																								
Equipment check OK: Y																								
Service in date: Y																								
Calibration check OK: Y																								
Name of person monitoring: Richard Ward																								
Monitoring round		Borehole details					Pressure and flow				Gas concentrations										Local conditions			
Date	Time	Borehole	Single or dual gas tap	Response zone depth (m)	Depth to water or depth of hole if dry (m)	D denotes dry hole	Atmospheric pressure (hPa)	Atm pressure falling / rising / steady	Relative BH pressure (hPa)	Gas flow* (l/hr)	VOC (as ppm using PID)	CH ₄ (%v/v)		CH ₄ (%LEL)		CO ₂ (%v/v)		O ₂ (%v/v)		Other Gases		Notes on condition of borehole and surrounding ground		
												Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	CO (PPM)	H ₂ S (PPM)			
22/01/22		BH1.01		9.97	3.90		1037		-1.8	0.0	NA	ND	2.6	ND	52	0.1	4.4	20.9	1.8	ND	1	All good.		
22/01/22		BH5.01		10.41	1.37		1035		11.9	7.0	NA	ND	ND	ND	ND	0.1	0.7	20.9	7.5	ND	ND	All good.		
22/01/22		BH5.02		5.53	2.21		1036		-1.5	0.0	NA	ND	1.0	ND	20	0.1	0.1	20.9	4.6	2.0	1	All good.		
22/01/22		BH5.05		9.67	1.74		1037		19.2	0.0	NA	ND	ND	ND	ND	0.1	1.1	20.9	3.3	ND	1	All good.		
22/01/22		BH6.02		10.25	1.38		1035		-0.9	0.0	NA	ND	ND	ND	ND	0.1	4.2	20.9	17.0	3.0	ND	All good.		
22/01/22		BH6.03		5.46	1.87		1035		-0.8	0.0	NA	ND	ND	ND	ND	0.1	3.2	20.9	17.7	1.0	ND	All good.		
22/01/22		BH7.02		20.33	2.16		1033		-0.8	0.0	NA	ND	ND	ND	ND	0.1	1.9	20.9	20.2	ND	ND	All good.		
22/01/22		BH7.03		5.00	1.49		1036		-3.2	0.0	NA	ND	ND	ND	ND	0.1	5.8	20.9	14.1	1.0	ND	All good.		
22/01/22		WS1.01		5.39	2.37		1036		-1.6	0.0	NA	ND	0.8	ND	16	0.1	0.2	20.9	1.9	1.0	1	All good.		
22/01/22		WS4.03		5.41	0.88		1035		4.5	1.6	NA	ND	ND	ND	ND	0.1	2.6	20.9	6.5	1.0	ND	All good.		
22/01/22		WS4.04		5.36	2.84		1035		4.7	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.9	20.1	ND	ND	All good.		
22/01/22		WS4.05		5.45	2.38		1035		-0.8	0.0	NA	ND	4.0	ND	80	0.1	3.6	20.9	1.6	1.0	ND	All good.		
22/01/22		WS5.02		5.24	3.54		1035		-0.8	0.0	NA	ND	37.9	ND	>>>>	0.1	0.1	20.9	1.4	1.0	ND	All good.		
22/01/22		WS5.04		5.46	2.21		1036		-0.7	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.9	19.6	1.0	ND	All good.		
22/01/22		WS5.05		5.51	1.88		1036		33.5	9.2	NA	ND	ND	ND	ND	0.1	1.3	20.9	1.4	1.0	ND	All good.		
22/01/22		WS5.07		10.44	0.31		1036		-0.9	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.9	20.7	ND	ND	All good.		
22/01/22		WS5.08		5.41	0.73		1036		-1.8	0.0	NA	ND	ND	ND	ND	0.1	0.4	20.9	14.4	ND	ND	All good.		
22/01/22		WS6.01		5.37	1.37		1033		31.1	5.3	NA	ND	ND	ND	ND	0.1	5.2	20.9	12.3	1.0	ND	All good.		
22/01/22		WS6.02		5.38	1.03		1034		-0.8	0.0	NA	ND	ND	ND	ND	0.1	3.2	20.9	20.1	ND	ND	All good.		
22/01/22		WS6.03		5.30	1.18		1035		7.0	3.2	NA	ND	ND	ND	ND	0.1	6.3	20.9	6.8	1.0	ND	All good.		
22/01/22		WS6.04		5.13	1.40		1035		-0.8	0.0	NA	ND	ND	ND	ND	0.1	0.2	20.9	20.9	1.0	ND	All good.		
22/01/22		WS6.06		5.44	1.30		1035		4.5	0.0	NA	ND	ND	ND	ND	0.1	2.4	20.9	18.1	ND	ND	All good.		
22/01/22		WS7.03		5.25	1.55		1033		-0.8	0.0	NA	ND	ND	ND	ND	0.1	0.2	20.9	21.0	ND	ND	All good.		
22/01/22		WS7.04		5.31	1.03		1033		46.7	9.0	NA	ND	ND	ND	ND	0.1	7.0	20.9	11.5	2.0	ND	All good.		

<div>Site: Dunsbury Park</div> <div>Job number:</div> <div>Client:</div> <div>Gas analyser: G505315</div> <div>Equipment check OK: Y</div> <div>Service in date: Y</div> <div>Calibration check OK: Y</div> <div>Name of person monitoring: Jaime de la Torre</div>							<div>Notes on site conditions:</div> <div>Notes: LEL = lower explosive limit = 5%v/v. * where the flow is less than the limit of detection of the instrument, the detection limit is reported (Highlighted in blue). GSVs are rounded to 3 places.</div>																	
Monitoring round		Borehole details					Pressure and flow				Gas concentrations										Local conditions			
Date	Time	Borehole	Single or dual gas tap	Response zone depth (m)	Depth to water or depth of hole if dry (m)	D denotes dry hole	Atmospheric pressure (hPa)	Atm pressure falling / rising / steady	Relative BH pressure (hPa)	Gas flow* (l/hr)	VOC (as ppm using PID)	CH ₄ (%v/v)		CH ₄ (%LEL)		CO ₂ (%v/v)		O ₂ (%v/v)		Other Gases		Notes on condition of borehole and surrounding ground		
												Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	CO (PPM)	H ₂ S (PPM)			
28/01/22	08:53	WS1.01		5.41	2.42		1037		-2.7	-0.3	NA	0.0	0.8	0	16	0.1	0.2	20.9	0.7	0.0	0	Borehole in good condition		
28/01/22	09:39	WS4.03		5.43	0.84		1035		1.3	0.1	NA	0.0	1.1	0	22	0.1	2.3	20.8	14.6	0.0	0	Borehole in good condition		
28/01/22	10:57	WS4.04		5.37	2.78		1035		-6.2	-2.4	NA	0.0	0.0	0	0	0.1	0.2	20.9	14.7	0.0	0	Borehole in good condition		
28/01/22	10:51	WS4.05		5.37	2.40		1036		-1.4	-0.2	NA	0.0	2.7	0	54	0.1	3.6	20.8	0.5	0.0	0	Borehole in good condition		
28/01/22	09:28	WS5.02		5.27	3.52		1035		-0.1	0.0	NA	0.0	39.2	0	>>>>	0.1	0.1	20.9	0.6	0.0	0	Borehole in good condition		
28/01/22	09:23	WS5.04		5.55	2.24		1036		-0.7	0.0	NA	0.0	0.5	0	10	0.1	0.2	20.9	12.2	1.0	0	Borehole in good condition		
28/01/22	09:19	WS5.05		5.53	1.83		1036		19.8	4.1	NA	0.0	0.0	0	0	0.1	1.2	20.8	2.7	0.0	0	Borehole in good condition		
28/01/22	09:09	WS5.08		5.46	0.75		1036		-0.4	-0.4	NA	0.0	0.0	0	0	0.1	0.8	20.9	16.3	0.0	0	Borehole in good condition		
28/01/22	10:07	WS6.03		5.32	1.46		1035		-0.1	0.0	NA	0.0	0.0	0	0	0.1	5.4	20.9	9.3	0.0	0	Borehole in good condition		
28/01/22	10:12	WS6.04		5.15	1.55		NR		NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Bung out of the pipe/Cover removed/Fixed		
28/01/22	10:21	WS6.06		5.43	1.40		1035		-0.1	0.0	NA	0.0	0.0	0	0	0.1	2.2	20.9	19.4	0.0	0	Borehole in good condition		
28/01/22	10:01	WS601		5.40	1.13		1034		4.6	0.5	NA	0.0	0.1	0	2	0.1	4.8	20.9	14.2	0.0	0	Borehole in good condition		
28/01/22	10:37	WS7.03		5.48	1.80		NR		NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Bung out of the pipe/Cover removed/Unable to find the bung		
28/01/22	10:33	WS7.04		5.34	0.88		1034		8.6	1.7	NA	0.0	0.0	0	0	0.1	6.0	20.8	14.3	0.0	0	Borehole in good condition		

<div>Site: Dunsbury Park</div> <div>Job number:</div> <div>Client: Hydrock</div> <div>Gas analyser: G505363</div> <div>Equipment check OK: Y</div> <div>Service in date: Y</div> <div>Calibration check OK: Y</div> <div>Name of person monitoring: Richard Ward</div>							Notes on site conditions: dry, overcast, ground wet, light breeze																	
Notes: LEL = lower explosive limit = 5%v/v. * where the flow is less than the limit of detection of the instrument, the detection limit is reported (Highlighted in blue). GSVs are rounded to 3 places.																								
Monitoring round		Borehole details					Pressure and flow				Gas concentrations										Local conditions			
Date	Time	Borehole	Single or dual gas tap	Response zone depth (m)	Depth to water or depth of hole if dry (m)	D denotes dry hole	Atmospheric pressure (hPa)	Atm pressure falling / rising / steady	Relative BH pressure (hPa)	Gas flow* (l/hr)	VOC (as ppm using PID)	CH ₄ (%v/v)		CH ₄ (%LEL)		CO ₂ (%v/v)		O ₂ (%v/v)		Other Gases		Notes on condition of borehole and surrounding ground		
												Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	CO (PPM)	H ₂ S (PPM)			
04/02/22	08:53	BH1.01		9.97	4.01		1007		3.4	0.0	NA	ND	2.5	ND	50	0.1	4.1	20.9	6.7	1.0	1	All good.		
04/02/22	09:18	BH5.01		10.41	1.37		1006		6.6	0.0	NA	ND	ND	ND	ND	0.1	0.6	20.9	15.5	ND	ND	All good.		
04/02/22	09:13	BH5.02		5.53	2.22		1006		-1.4	0.0	NA	ND	0.5	ND	10	0.1	0.1	20.9	11.4	3.0	ND	All good.		
04/02/22	09:03	BH5.05		9.67	1.71		1007		5.1	0.0	NA	ND	ND	ND	ND	0.1	0.8	20.9	11.5	ND	ND	All good.		
04/02/22	09:50	BH6.02		10.25	1.80		1007		-0.7	0.0	NA	ND	ND	ND	ND	0.1	4.3	20.9	17.8	1.0	ND	All good.		
04/02/22	09:54	BH6.03		5.46	2.06		1007		-0.8	0.0	NA	ND	ND	ND	ND	0.1	3.6	20.9	20.0	1.0	ND	All good.		
04/02/22	09:37	BH7.02		20.33	2.69		1005		-0.4	0.0	NA	ND	ND	ND	ND	0.1	2.2	20.9	20.7	1.0	ND	All good.		
04/02/22	09:32	BH7.03		5.00	1.59		1006		-1.0	0.0	NA	ND	ND	ND	ND	0.1	5.5	20.9	17.4	1.0	ND	All good.		
04/02/22	08:51	WS1.01		5.39	2.48		1006		2.0	0.0	NA	ND	0.5	ND	10	0.1	0.1	20.9	7.9	ND	1	All good.		
04/02/22	09:22	WS4.03		5.41	0.99		1006		-0.8	0.0	NA	ND	0.3	ND	6	0.1	0.1	20.9	21.0	1.0	ND	All good.		
04/02/22	09:23	WS4.04		5.36	2.89		1006		-0.8	0.0	NA	ND	0.1	ND	2	0.1	0.1	20.9	21.3	1.0	ND	All good.		
04/02/22	09:25	WS4.05		5.45	2.41		1006		-0.8	0.0	NA	ND	ND	ND	ND	0.1	2.5	20.9	21.2	1.0	ND	All good.		
04/02/22	09:16	WS5.02		5.24	3.48		1007		-0.7	0.0	NA	ND	41.3	ND	>>>>>	0.1	0.0	20.9	0.3	1.0	ND	All good.		
04/02/22	09:10	WS5.04		5.46	2.25		1007		4.5	0.0	NA	ND	ND	ND	ND	0.1	0.1	20.9	20.4	1.0	ND	All good.		
04/02/22	09:08	WS5.05		5.51	1.82		1007		22.8	6.9	NA	ND	ND	ND	ND	0.1	1.2	20.9	8.4	ND	ND	All good.		
04/02/22	09:06	WS5.07		NR	NR		NR		NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Flooded.		
04/02/22	09:05	WS5.08		5.41	0.84		1007		1.3	0.0	NA	ND	ND	ND	ND	0.1	0.9	20.9	19.3	1.0	ND	All good.		
04/02/22	09:44	WS6.01		5.37	1.37		1005		-0.8	0.0	NA	ND	ND	ND	ND	0.1	4.5	20.9	19.3	1.0	ND	All good.		
04/02/22	09:47	WS6.02		5.38	1.33		1006		-12.1	-4.4	NA	ND	ND	ND	ND	0.1	3.2	20.9	20.7	1.0	ND	All good.		
04/02/22	09:48	WS6.03		5.30	1.62		1006		-0.8	0.0	NA	ND	ND	ND	ND	0.1	5.7	20.9	16.6	1.0	ND	All good.		
04/02/22	09:56	WS6.04		5.13	1.94		1008		-0.9	0.0	NA	ND	ND	ND	ND	0.1	3.6	20.9	20.2	1.0	ND	All good.		
04/02/22	09:52	WS6.06		5.44	1.52		1007		-0.8	0.0	NA	ND	ND	ND	ND	0.1	3.9	20.9	19.4	1.0	ND	All good.		
04/02/22	09:41	WS7.03		5.25	2.00		1005		-0.8	0.0	NA	ND	ND	ND	ND	0.1	0.2	20.9	21.3	ND	ND	All good.		
04/02/22	09:34	WS7.04		5.31	0.99		1005		-2.2	0.0	NA	ND	ND	ND	ND	0.1	5.9	20.9	19.1	1.0	ND	All good.		

Ground Gas Risk Assessment



Job Number 19453 Data Plot 100
 Job Name Dunsbury Park, Havant
 Client Portsmouth City Council

Max CH4	Max CO2	Worst Case Flow	Worst Case GSV Methane	Worst Case GSV CO ₂
2.6	4.4	0.1	0.0026	0.0044

Number of Readings	9
Number of Monitoring Rounds	9
Number of Readings with Flow Rate	16

CIRIA C665 Assessment				
	Methane		Carbon Dioxide	
	Max Value	GSV	Max Value	GSV
CS1	14	16	16	16
CS2	2	0	0	0
CS3	N/A	0	N/A	0
CS4	N/A	0	N/A	0
CS5	N/A	0	N/A	0
CS6	N/A	0	N/A	0

Location	Pressure Tre0.0	Date	Relative Pressure (mb)	Flow Rate (l/hr)	Atmos. Pressure (m.bar)	CH ₄ (% vol)		(%LEL)		CO ₂ (% vol)		O ₂ (% vol)		GSV – CH ₄	GSV – CO ₂
						Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady		
WS1.01	Falling	11/08/21	-0.02	0.1	1017	0.0	0.0	0.0	0.0	0.1	0.1	19.8	17.2	0.0000	0.0001
WS1.01	Rising	27/08/21	-0.14	0.1	1021	0.0	0.0	0.0	0.0	0.1	0.1	20.8	20.5	0.0000	0.0001
BH1.01	Rising	27/08/21	0.24	0.1	1022	0.0	0.1	0.0	2.0	0.1	0.6	20.8	19.8	0.0001	0.0006
WS1.01	Steady	07/09/21	-0.17	0.1	1019	0.0	0.0	0.0	0.0	0.1	0.1	20.8	20.2	0.0000	0.0001
BH1.01	Steady	07/09/21	-0.24	0.1	1020	0.0	0.1	0.0	2.0	0.1	1.0	20.8	18.9	0.0001	0.0010
WS1.01	Falling	15/09/21	-0.35	0.1	1012	0.0	0.0	0.0	0.0	0.1	0.1	20.8	20.1	0.0000	0.0001
BH1.01	Falling	15/09/21	-0.53	0.1	1011	0.0	0.1	0.0	0.0	0.1	1.2	20.8	18.3	0.0001	0.0012
WS1.01	Steady	20/09/21	-0.57	0.1	1019	0.0	0.0	0.0	0.0	0.1	0.1	20.8	20.6	0.0000	0.0001
BH1.01	Steady	20/09/21	-0.24	-0.1	1018	0.0	0.0	0.0	0.0	0.1	0.7	20.8	19.5	0.0000	-0.0007
WS1.01	Steady	24/09/21	-0.48	0.1	1015	0.0	0.0	0.0	0.0	0.1	0.1	20.8	19.5	0.0000	0.0001
BH1.01	Steady	24/09/21	-0.48	0.1	1015	0.0	0.0	0.0	0.0	0.1	0.8	20.8	19.1	0.0000	0.0008
BH1.01	Steady	22/01/22	-1.75	0.1	1037	0.0	2.6	0.0	52.0	0.1	4.4	20.9	1.8	0.0026	0.0044
WS1.01	Steady	22/01/22	-1.61	0.1	1036	0.0	0.8	0.0	16.0	0.1	0.2	20.9	1.9	0.0008	0.0002
WS1.01	Falling	28/01/22	-2.74	-0.3	1037	0.0	0.8	0.0	16.0	0.1	0.2	20.9	0.7	-0.0024	-0.0006
BH1.01	Steady	04/02/22	3.41	0.1	1007	0.0	2.5	0.0	50.0	0.1	4.1	20.9	6.7	0.0025	0.0041
WS1.01	Steady	04/02/22	1.96	0.1	1006	0.0	0.5	0.0	10.0	0.1	0.1	20.9	7.9	0.0005	0.0001

Ground Gas Risk Assessment



Job Number 19453 Data Plot 400
 Job Name Dunsbury Park, Havant
 Client Portsmouth City Council

Max CH4	Max CO2	Worst Case Flow	Worst Case GSV Methane	Worst Case GSV CO ₂
4.0	5.8	1.6	0.0640	0.0928

Number of Readings	9
Number of Monitoring Rounds	9
Number of Readings with Flow Rate	24

CIRIA C665 Assessment				
	Methane		Carbon Dioxide	
	Max Value	GSV	Max Value	GSV
CS1	21	24	21	24
CS2	3	0	3	0
CS3	N/A	0	N/A	0
CS4	N/A	0	N/A	0
CS5	N/A	0	N/A	0
CS6	N/A	0	N/A	0

Location	Pressure Tre0.0	Date	Relative Pressure (mb)	Flow Rate (l/hr)	Atmos. Pressure (m.bar)	CH ₄ (% vol)		(%LEL)		CO ₂ (% vol)		O ₂ (% vol)		GSV - CH ₄	GSV - CO ₂
						Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady		
WS4.03	Rising	27/08/21	-27.04	-5.0	1020	0.0	0.0	0.0	0.0	0.1	1.6	20.8	18.4	0.0000	-0.0800
WS4.04	Rising	27/08/21	0.12	0.1	1021	0.0	0.0	0.0	0.0	0.1	0.0	20.8	17.7	0.0000	0.0000
WS4.05	Rising	27/08/21	-0.02	0.1	1021	0.0	0.0	0.0	0.0	0.1	0.3	20.8	18.6	0.0000	0.0003
WS4.03	Steady	07/09/21	-0.28	0.1	1019	0.0	0.0	0.0	0.0	0.1	2.8	20.8	16.6	0.0000	0.0028
WS4.04	Steady	07/09/21	0.09	0.1	1019	0.0	0.0	0.0	0.0	0.1	0.0	20.8	16.1	0.0000	0.0000
WS4.05	Steady	07/09/21	0.21	0.1	1019	0.0	0.0	0.0	0.0	0.1	1.2	20.8	14.9	0.0000	0.0012
WS4.03	Falling	15/09/21	0.47	0.1	1011	0.0	0.0	0.0	0.0	0.1	5.6	20.8	14.6	0.0000	0.0056
WS4.04	Falling	15/09/21	0.36	0.1	1011	0.0	0.0	0.0	0.0	0.1	0.0	20.8	16.2	0.0000	0.0000
WS4.05	Falling	15/09/21	-0.09	0.1	1011	0.0	0.0	0.0	0.0	0.1	1.5	20.8	15.0	0.0000	0.0015
WS4.03	Steady	20/09/21	3.12	0.1	1019	0.0	0.0	0.0	0.0	0.1	5.8	20.8	14.7	0.0000	0.0058
WS4.04	Steady	20/09/21	7.11	0.1	1020	0.0	0.0	0.0	0.0	0.1	0.0	20.8	16.4	0.0000	0.0000
WS4.05	Steady	20/09/21	0.19	0.1	1020	0.0	0.0	0.0	0.0	0.1	1.5	20.8	15.7	0.0000	0.0015
WS4.03	Steady	24/09/21	-0.07	0.1	1014	0.0	0.0	0.0	0.0	0.1	5.8	20.8	14.7	0.0000	0.0058
WS4.04	Steady	24/09/21	0.10	-0.1	1014	0.0	0.0	0.0	0.0	0.1	0.0	20.8	16.1	0.0000	0.0000
WS4.05	Steady	24/09/21	-0.03	0.1	1015	0.0	0.0	0.0	0.0	0.1	1.5	20.8	15.1	0.0000	0.0015
WS4.03	Steady	22/01/22	4.54	1.6	1035	0.0	0.0	0.0	0.0	0.1	2.6	20.9	6.5	0.0000	0.0416
WS4.04	Steady	22/01/22	4.69	0.1	1035	0.0	0.0	0.0	0.0	0.1	0.1	20.9	20.1	0.0000	0.0001
WS4.05	Steady	22/01/22	-0.81	0.1	1035	0.0	4.0	0.0	80.0	0.1	3.6	20.9	1.6	0.0040	0.0036
WS4.03	Falling	28/01/22	1.29	0.1	1035	0.0	1.1	0.0	22.0	0.1	2.3	20.8	14.6	0.0011	0.0023
WS4.04	Falling	28/01/22	-6.18	-2.4	1035	0.0	0.0	0.0	0.0	0.1	0.2	20.9	14.7	0.0000	-0.0048
WS4.05	Falling	28/01/22	-1.35	-0.2	1036	0.0	2.7	0.0	54.0	0.1	3.6	20.8	0.5	-0.0054	-0.0072
WS4.03	Steady	04/02/22	-0.80	0.1	1006	0.0	0.3	0.0	6.0	0.1	0.1	20.9	21.0	0.0003	0.0001
WS4.04	Steady	04/02/22	-0.81	0.1	1006	0.0	0.1	0.0	2.0	0.1	0.1	20.9	21.3	0.0001	0.0001
WS4.05	Steady	04/02/22	-0.76	0.1	1006	0.0	0.0	0.0	0.0	0.1	2.5	20.9	21.2	0.0000	0.0025

Ground Gas Risk Assessment



Job Number 19453
 Job Name Dunsbury Park, Havant
 Client Portsmouth City Council

Data Plot 600

Max CH4	Max CO2	Worst Case Flow	Worst Case GSV Methane	Worst Case GSV CO ₂
0.1	10.4	5.3	0.0053	0.5512

Number of Readings	9
Number of Monitoring Rounds	9
Number of Readings with Flow Rate	51

CIRIA C665 Assessment				
	Methane		Carbon Dioxide	
	Max Value	GSV	Max Value	GSV
CS1	51	51	40	49
CS2	0	0	11	2
CS3	N/A	0	N/A	0
CS4	N/A	0	N/A	0
CS5	N/A	0	N/A	0
CS6	N/A	0	N/A	0

Location	Pressure Tre0.0	Date	Relative Pressure (mb)	Flow Rate (l/hr)	Atmos. Pressure (m.bar)	CH ₄ (% vol)		(%LEL)		CO ₂ (% vol)		O ₂ (% vol)		GSV - CH ₄	GSV - CO ₂
						Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady		
WS6.03	Falling	11/08/21	0.09	0.1	1017	0.0	0.0	0.0	0.0	3.3	3.5	18.3	14.2	0.0000	0.0032
WS6.04	Falling	11/08/21	0.11	0.1	1016	0.0	0.0	0.0	0.0	2.1	2.1	19.8	15.5	0.0000	0.0023
WS6.06	Falling	11/08/21	0.07	0.1	1017	0.0	0.0	0.0	0.0	2.5	2.5	18.0	16.1	0.0000	0.0018
WS6.01	Rising	27/08/21	-0.45	0.1	1017	0.0	0.0	0.0	0.0	0.1	6.5	20.8	17.3	0.0000	0.0065
WS6.03	Rising	27/08/21	-0.19	0.1	1018	0.0	0.0	0.0	0.0	0.1	10.4	20.8	13.8	0.0000	0.0104
WS6.04	Rising	27/08/21	-0.29	0.1	1019	0.0	0.0	0.0	0.0	0.1	5.5	20.8	17.4	0.0000	0.0055
WS6.06	Rising	27/08/21	-0.09	0.1	1019	0.0	0.0	0.0	0.0	0.1	5.1	20.8	18.0	0.0000	0.0051
BH6.02	Rising	27/08/21	-0.24	0.1	1018	0.0	0.0	0.0	0.0	0.1	2.2	20.8	18.1	0.0000	0.0022
BH6.03	Rising	27/08/21	0.03	0.1	1019	0.0	0.0	0.0	0.0	0.1	4.1	20.8	17.8	0.0000	0.0041
WS6.01	Steady	07/09/21	0.09	0.1	1017	0.0	0.0	0.0	0.0	0.1	4.1	20.8	18.2	0.0000	0.0041
WS6.03	Steady	07/09/21	0.22	0.1	1018	0.0	0.0	0.0	0.0	0.1	8.3	20.8	15.8	0.0000	0.0083
WS6.04	Steady	07/09/21	6.47	0.1	1019	0.0	0.0	0.0	0.0	0.1	1.5	20.8	19.5	0.0000	0.0015
WS6.06	Steady	07/09/21	0.38	0.1	1019	0.0	0.0	0.0	0.0	0.1	3.3	20.8	18.6	0.0000	0.0033
BH6.02	Steady	07/09/21	0.31	0.1	1018	0.0	0.0	0.0	0.0	0.1	2.2	20.8	18.7	0.0000	0.0022
BH6.03	Steady	07/09/21	-0.02	0.1	1019	0.0	0.0	0.0	0.0	0.1	2.7	20.8	18.8	0.0000	0.0027
WS6.01	Falling	15/09/21	-0.14	0.1	1009	0.0	0.0	0.0	0.0	0.1	3.2	20.8	19.2	0.0000	0.0032
WS6.03	Falling	15/09/21	0.19	0.1	1011	0.0	0.0	0.0	0.0	0.1	7.7	20.8	17.2	0.0000	0.0077
WS6.04	Falling	15/09/21	0.17	0.1	1012	0.0	0.0	0.0	0.0	0.1	2.8	20.8	19.3	0.0000	0.0028
WS6.06	Falling	15/09/21	0.03	0.1	1011	0.0	0.0	0.0	0.0	0.1	3.0	20.8	19.1	0.0000	0.0030
BH6.02	Falling	15/09/21	0.31	0.1	1011	0.0	0.0	0.0	0.0	0.1	2.3	20.8	19.3	0.0000	0.0023
BH6.03	Falling	15/09/21	0.31	0.1	1011	0.0	0.0	0.0	0.0	0.1	2.4	20.8	19.7	0.0000	0.0024
WS6.01	Steady	20/09/21	0.09	0.1	1018	0.0	0.0	0.0	0.0	0.1	2.9	20.8	19.2	0.0000	0.0029
WS6.03	Steady	20/09/21	0.09	0.1	1019	0.0	0.0	0.0	0.0	0.1	4.1	20.8	18.8	0.0000	0.0041
WS6.04	Steady	20/09/21	0.21	0.1	1020	0.0	0.0	0.0	0.0	0.1	2.5	20.8	19.4	0.0000	0.0025
WS6.06	Steady	20/09/21	6.33	0.1	1020	0.0	0.0	0.0	0.0	0.1	2.7	20.8	19.3	0.0000	0.0027
BH6.02	Steady	20/09/21	0.14	0.1	1020	0.0	0.0	0.0	0.0	0.1	2.1	20.8	19.5	0.0000	0.0021
BH6.03	Steady	20/09/21	0.21	0.1	1020	0.0	0.0	0.0	0.0	0.1	2.1	20.8	19.4	0.0000	0.0021
WS6.01	Steady	24/09/21	2.95	0.1	1012	0.0	0.0	0.0	0.0	0.1	2.6	20.8	19.6	0.0000	0.0026
WS6.02	Steady	25/09/21	0.85	0.1	1010	0.0	0.0	0.0	0.0	0.1	3.8	20.8	19.3	0.0000	0.0038
WS6.03	Steady	24/09/21	0.16	0.1	1014	0.0	0.0	0.0	0.0	0.1	5.9	20.8	17.8	0.0000	0.0059
WS6.04	Steady	24/09/21	2.47	0.1	1014	0.0	0.0	0.0	0.0	0.1	2.3	20.8	19.6	0.0000	0.0023
WS6.06	Steady	24/09/21	2.50	0.1	1014	0.0	0.0	0.0	0.0	0.1	2.4	20.8	19.8	0.0000	0.0024
BH6.02	Steady	24/09/21	3.83	0.1	1014	0.0	0.0	0.0	0.0	0.1	0.1	20.8	20.6	0.0000	0.0001
BH6.03	Steady	24/09/21	0.28	0.1	1014	0.0	0.0	0.0	0.0	0.1	0.1	20.8	20.7	0.0000	0.0001
BH6.02	Steady	22/01/22	-0.90	0.1	1035	0.0	0.0	0.0	0.0	0.1	4.2	20.9	17.0	0.0000	0.0042
BH6.03	Steady	22/01/22	-0.76	0.1	1035	0.0	0.0	0.0	0.0	0.1	3.2	20.9	17.7	0.0000	0.0032
WS6.01	Steady	22/01/22	31.07	5.3	1033	0.0	0.0	0.0	0.0	0.1	5.2	20.9	12.3	0.0000	0.2756
WS6.02	Steady	22/01/22	-0.81	0.1	1034	0.0	0.0	0.0	0.0	0.1	3.2	20.9	20.1	0.0000	0.0032
WS6.03	Steady	22/01/22	6.96	3.2	1035	0.0	0.0	0.0	0.0	0.1	6.3	20.9	6.8	0.0000	0.2016
WS6.04	Steady	22/01/22	-0.80	0.1	1035	0.0	0.0	0.0	0.0	0.1	0.2	20.9	20.9	0.0000	0.0002
WS6.06	Steady	22/01/22	4.54	0.1	1035	0.0	0.0	0.0	0.0	0.1	2.4	20.9	18.1	0.0000	0.0024
WS6.03	Falling	28/01/22	-0.12	0.1	1035	0.0	0.0	0.0	0.0	0.1	5.4	20.9	9.3	0.0000	0.0054
WS6.06	Falling	28/01/22	-0.14	0.1	1035	0.0	0.0	0.0	0.0	0.1	2.2	20.9	19.4	0.0000	0.0022
WS6.01	Falling	28/01/22	4.59	0.5	1034	0.0	0.1	0.0	2.0	0.1	4.8	20.9	14.2	0.0005	0.0240
BH6.02	Steady	04/02/22	-0.73	0.1	1007	0.0	0.0	0.0	0.0	0.1	4.3	20.9	17.8	0.0000	0.0043
BH6.03	Steady	04/02/22	-0.81	0.1	1007	0.0	0.0	0.0	0.0	0.1	3.6	20.9	20.0	0.0000	0.0036
WS6.01	Steady	04/02/22	-0.76	0.1	1005	0.0	0.0	0.0	0.0	0.1	4.5	20.9	19.3	0.0000	0.0045
WS6.02	Steady	04/02/22	-12.07	-4.4	1006	0.0	0.0	0.0	0.0	0.1	3.2	20.9	20.7	0.0000	0.0032
WS6.03	Steady	04/02/22	-0.76	0.1	1006	0.0	0.0	0.0	0.0	0.1	5.7	20.9	16.6	0.0000	-0.2508
WS6.04	Steady	04/02/22	-0.88	0.1	1008	0.0	0.0	0.0	0.0	0.1	3.6	20.9	20.2	0.0000	0.0036
WS6.06	Steady	04/02/22	-0.76	0.1	1007	0.0	0.0	0.0	0.0	0.1	3.9	20.9	19.4	0.0000	0.0039

Ground Gas Risk Assessment



Job Number 19453 Data Plot 700
 Job Name Dunsbury Park, Havant
 Client Portsmouth City Council

Max CH4	Max CO2	Worst Case Flow	Worst Case GSV Methane	Worst Case GSV CO ₂
0.0	8.7	9.0	0.0000	0.7830

Number of Readings	9
Number of Monitoring Rou0.0s	9
Number of Readings with Flow Rate	31

CIRIA C665 Assessment				
	Methane		Carbon Dioxide	
	Max Value	GSV	Max Value	GSV
CS1	31	31	24	29
CS2	0	0	7	2
CS3	N/A	0	N/A	0
CS4	N/A	0	N/A	0
CS5	N/A	0	N/A	0
CS6	N/A	0	N/A	0

Location	Pressure Tre0.0	Date	Relative Pressure (mb)	Flow Rate (l/hr)	Atmos. Pressure (m.bar)	CH ₄ (% vol)		(%LEL)		CO ₂ (% vol)		O ₂ (% vol)		GSV - CH ₄	GSV - CO ₂
						Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady		
WS7.03	Falling	11/08/21	0.19	0.2	1015	0.0	0.0	0.0	0.0	0.1	0.1	20.3	20.3	0.0000	0.0002
WS7.04	Falling	11/08/21	0.09	0.1	1015	0.0	0.0	0.0	0.0	4.3	4.6	19.3	12.1	0.0000	0.0041
WS7.03	Rising	27/08/21	-0.26	0.1	1017	0.0	0.0	0.0	0.0	0.1	0.8	20.8	20.0	0.0000	0.0008
WS7.04	Rising	27/08/21	6.59	0.1	1018	0.0	0.0	0.0	0.0	0.1	8.7	20.8	14.9	0.0000	0.0087
BH7.01	Rising	27/08/21	-0.12	0.1	1018	0.0	0.0	0.0	0.0	0.1	1.4	20.8	17.7	0.0000	0.0014
BH7.03	Rising	27/08/21	-0.16	0.1	1018	0.0	0.0	0.0	0.0	0.1	1.3	20.8	19.4	0.0000	0.0013
WS7.03	Steady	07/09/21	0.26	0.1	1017	0.0	0.0	0.0	0.0	0.1	0.4	20.8	20.2	0.0000	0.0004
WS7.04	Steady	07/09/21	0.17	0.1	1017	0.0	0.0	0.0	0.0	0.1	5.6	20.8	17.4	0.0000	0.0056
BH7.01	Steady	07/09/21	0.16	0.1	1017	0.0	0.0	0.0	0.0	0.1	1.9	20.8	17.7	0.0000	0.0019
BH7.03	Steady	07/09/21	0.14	0.1	1017	0.0	0.0	0.0	0.0	0.1	2.0	20.8	19.0	0.0000	0.0020
WS7.03	Falling	15/09/21	0.03	0.1	1009	0.0	0.0	0.0	0.0	0.1	1.1	20.8	20.3	0.0000	0.0011
WS7.04	Falling	15/09/21	0.05	0.1	1010	0.0	0.0	0.0	0.0	0.1	4.6	20.8	18.3	0.0000	0.0046
BH7.01	Falling	15/09/21	0.03	0.1	1009	0.0	0.0	0.0	0.0	0.1	2.2	20.8	18.3	0.0000	0.0022
BH7.03	Falling	15/09/21	0.19	0.1	1010	0.0	0.0	0.0	0.0	0.1	2.3	20.8	19.0	0.0000	0.0023
WS7.03	Steady	20/09/21	0.17	-0.1	1019	0.0	0.0	0.0	0.0	0.1	0.3	20.8	20.6	0.0000	-0.0003
WS7.04	Steady	20/09/21	0.05	0.1	1019	0.0	0.0	0.0	0.0	0.1	3.3	20.8	18.9	0.0000	0.0033
BH7.01	Steady	20/09/21	3.36	0.1	1018	0.0	0.0	0.0	0.0	0.1	2.2	20.8	18.4	0.0000	0.0022
BH7.03	Steady	20/09/21	0.29	0.1	1020	0.0	0.0	0.0	0.0	0.1	2.3	20.8	19.1	0.0000	0.0023
WS7.03	Steady	24/09/21	0.14	0.1	1013	0.0	0.0	0.0	0.0	0.1	0.7	20.8	20.5	0.0000	0.0007
WS7.04	Steady	24/09/21	2.74	0.1	1012	0.0	0.0	0.0	0.0	0.1	3.6	20.8	19.0	0.0000	0.0036
BH7.01	Steady	24/09/21	3.11	0.1	1013	0.0	0.0	0.0	0.0	0.1	2.2	20.8	18.4	0.0000	0.0022
BH7.03	Steady	24/09/21	0.22	0.1	1015	0.0	0.0	0.0	0.0	0.1	2.2	20.8	19.1	0.0000	0.0022
BH7.01	Steady	22/01/22	-0.81	0.1	1033	0.0	0.0	0.0	0.0	0.1	1.9	20.9	20.2	0.0000	0.0019
BH7.03	Steady	22/01/22	-3.22	0.1	1036	0.0	0.0	0.0	0.0	0.1	5.8	20.9	14.1	0.0000	0.0058
WS7.03	Steady	22/01/22	-0.81	0.1	1033	0.0	0.0	0.0	0.0	0.1	0.2	20.9	21.0	0.0000	0.0002
WS7.04	Steady	22/01/22	46.70	9.0	1033	0.0	0.0	0.0	0.0	0.1	7.0	20.9	11.5	0.0000	0.6300
WS7.04	Falling	28/01/22	8.63	1.7	1034	0.0	0.0	0.0	0.0	0.1	6.0	20.8	14.3	0.0000	0.1020
BH7.01	Steady	04/02/22	-0.36	0.1	1005	0.0	0.0	0.0	0.0	0.1	2.2	20.9	20.7	0.0000	0.0022
BH7.03	Steady	04/02/22	-0.97	0.1	1006	0.0	0.0	0.0	0.0	0.1	5.5	20.9	17.4	0.0000	0.0055
WS7.03	Steady	04/02/22	-0.81	0.1	1005	0.0	0.0	0.0	0.0	0.1	0.2	20.9	21.3	0.0000	0.0002
WS7.04	Steady	04/02/22	-2.15	0.1	1005	0.0	0.0	0.0	0.0	0.1	5.9	20.9	19.1	0.0000	0.0059

Appendix F Contamination Test Results and Statistical Analysis



**Yacklin Panza**

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e: Group Southampton cc engineer

Analytical Report Number : 21-10737

Project / Site name:	Dunsbury Park	Samples received on:	16/09/2021
Your job number:	19453 GELO ALL UNITS	Samples instructed on/ Analysis started on:	17/09/2021
Your order number:	PO10000	Analysis completed by:	24/09/2021
Report Issue Number:	1	Report issued on:	24/09/2021
Samples Analysed:	8 water samples		

Signed: *A. Czerwińska*

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 21-10737
Project / Site name: Dunsbury Park

Your Order No: PO10000

Lab Sample Number	2015467	2015468	2015469	2015470	2015471
Sample Reference	BH1.01	BH5.01	BH5.02	BH5.03	BH5.05
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	4.29	1.88	2.64	0.56	1.92
Date Sampled	15/09/2021	15/09/2021	15/09/2021	15/09/2021	15/09/2021
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

pH	pH Units	N/A	ISO 17025	7.7	8.0	7.9	7.9	7.9
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	430	590	1500	510	850
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sulphate as SO4	µg/l	45	ISO 17025	22700	19000	133000	15200	74500
Chloride	mg/l	0.15	ISO 17025	20	52	350	38	140
Fluoride	µg/l	50	ISO 17025	370	500	480	490	660
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	170	85	57	190	36
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	210	100	69	230	44
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	220	110	73	240	47
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	3.09	2.96	4.35	3.09	3.09
Nitrate as N	mg/l	0.01	ISO 17025	0.48	0.17	0.17	0.19	0.66
Nitrate as NO3	mg/l	0.05	ISO 17025	2.12	0.77	0.77	0.83	2.94
Nitrite as N	µg/l	1	ISO 17025	< 1.0	13	6.0	2.8	< 1.0
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	44	20	9.3	< 5.0

Hardness - Total	mg CaCO3/l	1	ISO 17025	192	278	400	264	308
Bromate by IC	mg/l	0.002	ISO 17025	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Total Phenols

Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

PAH Sums

Sum of Benzo(b)fluoranthene & Benzo(k)fluoranthene	µg/l	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Sum of Benzo(ghi)perylene & Indeno(1,2,3-cd)pyrene	µg/l	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Sum of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(ghi)perylene & Indeno(1,2,3-cd)pyrene	µg/l	0.04	NONE	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 21-10737
Project / Site name: Dunsbury Park

Your Order No: PO10000

Lab Sample Number				2015467	2015468	2015469	2015470	2015471
Sample Reference				BH1.01	BH5.01	BH5.02	BH5.03	BH5.05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				4.29	1.88	2.64	0.56	1.92
Date Sampled				15/09/2021	15/09/2021	15/09/2021	15/09/2021	15/09/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	62	200	560	180	260
Calcium (dissolved)	mg/l	0.012	ISO 17025	43	55	100	49	84
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	1	NONE	2.0	4.1	2.6	2.5	2.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.029	0.025	0.021	0.024	0.020
Iron (dissolved)	µg/l	4	ISO 17025	29	25	21	24	20
Magnesium (dissolved)	mg/l	0.005	ISO 17025	20	34	34	35	24
Sodium (dissolved)	mg/l	0.01	ISO 17025	26	60	210	25	110

Aluminium (dissolved)	µg/l	1	ISO 17025	24	25	3.6	3.3	6.2
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.5	0.7	0.7	0.9	0.5
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.32	4.30	3.82	1.58	2.42
Barium (dissolved)	µg/l	0.06	ISO 17025	72	32	34	42	21
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.0	4.1	2.6	2.5	2.0
Cobalt (dissolved)	µg/l	0.2	ISO 17025	0.6	0.3	1.9	0.7	1.0
Copper (dissolved)	µg/l	0.5	ISO 17025	3.4	3.6	4.6	3.0	4.4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	21	8.9	110	33	16
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.4	2.7	5.0	1.6	3.5
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	0.8	2.1	< 0.6	1.0
Silver (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tin (dissolved)	µg/l	0.2	ISO 17025	0.35	< 0.20	0.43	0.52	0.70
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.6	5.0	3.2	1.9	3.0
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.4	3.0	4.5	17	8.1



Analytical Report Number: 21-10737
Project / Site name: Dunsbury Park

Your Order No: PO10000

Lab Sample Number				2015467	2015468	2015469	2015470	2015471
Sample Reference				BH1.01	BH5.01	BH5.02	BH5.03	BH5.05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				4.29	1.88	2.64	0.56	1.92
Date Sampled				15/09/2021	15/09/2021	15/09/2021	15/09/2021	15/09/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sum of m, p & o-Xylene	µg/l	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG Total C5 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 21-10737
Project / Site name: Dunsbury Park

Your Order No: PO10000

Lab Sample Number	2015472	2015473	2015474
Sample Reference	BH6.02	BH6.03	BH7.01
Sample Number	None Supplied	None Supplied	None Supplied
Depth (m)	2.63	2.71	3.86
Date Sampled	15/09/2021	15/09/2021	15/09/2021
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status

General Inorganics

pH	pH Units	N/A	ISO 17025	7.8	7.5	7.3
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	510	1900	710
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Sulphate as SO4	µg/l	45	ISO 17025	37900	184000	48900
Chloride	mg/l	0.15	ISO 17025	33	400	43
Fluoride	µg/l	50	ISO 17025	380	410	170
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	110	28	79
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	130	34	96
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	140	36	100
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	1.06	4.29	2.69
Nitrate as N	mg/l	0.01	ISO 17025	0.27	0.31	1.83
Nitrate as NO3	mg/l	0.05	ISO 17025	1.19	1.39	8.10
Nitrite as N	µg/l	1	ISO 17025	5.9	< 1.0	280
Nitrite as NO2	µg/l	5	ISO 17025	19	< 5.0	920

Hardness - Total	mg CaCO3/l	1	ISO 17025	303	479	392
Bromate by IC	mg/l	0.002	ISO 17025	< 0.002	< 0.002	< 0.002

Total Phenols

Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01

PAH Sums

Sum of Benzo(b)fluoranthene & Benzo(k)fluoranthene	µg/l	0.02	NONE	< 0.020	< 0.020	< 0.020
Sum of Benzo(ghi)perylene & Indeno(1,2,3-cd)pyrene	µg/l	0.02	NONE	< 0.020	< 0.020	< 0.020
Sum of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(ghi)perylene & Indeno(1,2,3-cd)pyrene	µg/l	0.04	NONE	< 0.040	< 0.040	< 0.040

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 21-10737
Project / Site name: Dunsbury Park

Your Order No: PO10000

Lab Sample Number				2015472	2015473	2015474
Sample Reference				BH6.02	BH6.03	BH7.01
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				2.63	2.71	3.86
Date Sampled				15/09/2021	15/09/2021	15/09/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	110	660	94
Calcium (dissolved)	mg/l	0.012	ISO 17025	91	110	130
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	1	NONE	2.0	3.6	3.5
Iron (dissolved)	mg/l	0.004	ISO 17025	0.037	0.016	0.006
Iron (dissolved)	µg/l	4	ISO 17025	37	16	5.8
Magnesium (dissolved)	mg/l	0.005	ISO 17025	18	48	19
Sodium (dissolved)	mg/l	0.01	ISO 17025	98	270	25

Aluminium (dissolved)	µg/l	1	ISO 17025	3.0	2.6	3.6
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.4	0.6	0.6
Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.14	2.44	0.71
Barium (dissolved)	µg/l	0.06	ISO 17025	17	23	15
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.0	3.6	3.5
Cobalt (dissolved)	µg/l	0.2	ISO 17025	0.3	3.8	0.6
Copper (dissolved)	µg/l	0.5	ISO 17025	3.1	4.8	4.1
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	40	310	49
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.0	6.1	3.3
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	2.6	0.8
Silver (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Tin (dissolved)	µg/l	0.2	ISO 17025	0.48	0.50	0.35
Vanadium (dissolved)	µg/l	0.2	ISO 17025	1.6	1.2	0.8
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.6	4.3	8.7



Analytical Report Number: 21-10737

Project / Site name: Dunsbury Park

Your Order No: PO10000

Lab Sample Number				2015472	2015473	2015474
Sample Reference				BH6.02	BH6.03	BH7.01
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				2.63	2.71	3.86
Date Sampled				15/09/2021	15/09/2021	15/09/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Sum of m, p & o-Xylene	µg/l	2	ISO 17025	< 2.0	< 2.0	< 2.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG Total C5 - C44	µg/l	10	NONE	< 10	< 10	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 21-10737
Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Fluoride in water	Determination of fluoride in water by 1:1 ratio with a buffer solution followed by Ion Selective Electrode. Accredited matrices: SW, PW, GW.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Speciated EPA-16 PAHs in water (LOW LEVEL Dets)	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270 (low level)	L102B-PL	W	NONE
TPH in (Water)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L070-PL	W	NONE



Analytical Report Number : 21-10737
Project / Site name: Dunsbury Park

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

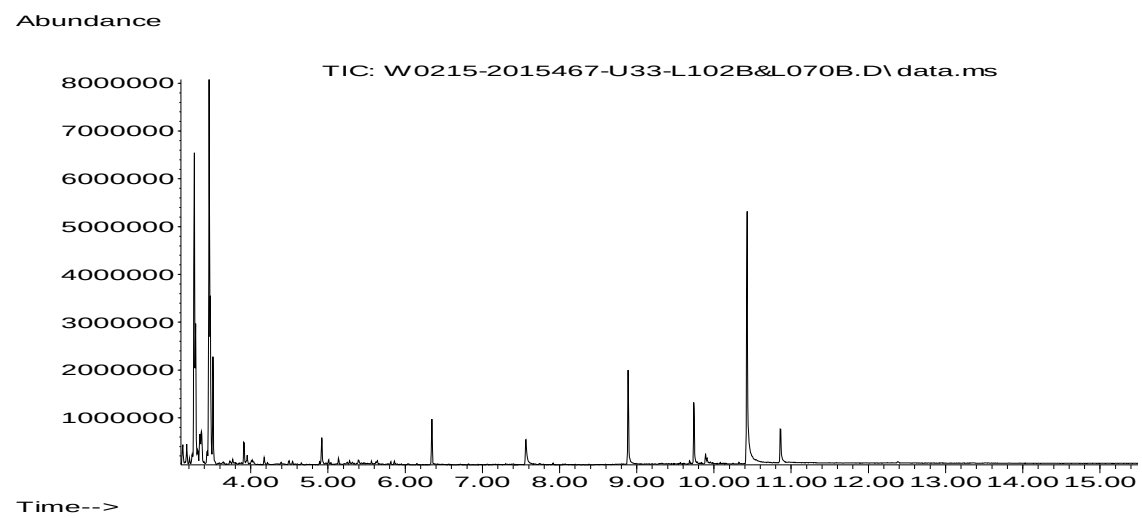
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH ₃ in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Ammonium as NH ₄ in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
TPH Chromatogram in Water	TPH Chromatogram in Water.	In-house method	L070-PL	W	NONE
Cr (III) in water	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Free cyanide (low level) in water	Determination of free cyanide by distillation followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Bromate in Water	Determination of bromate in waters based on ion chromatography. Accredited matrices GW, PW, SW.	In house method based on Standard Methods for the Analysis of Water and Waste Water, method 4500	L008-PL	W	ISO 17025
Specific PAH sums in water	Determination of PAH compounds in water by extraction in hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
Chloride in water	Determination of Chloride (diissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

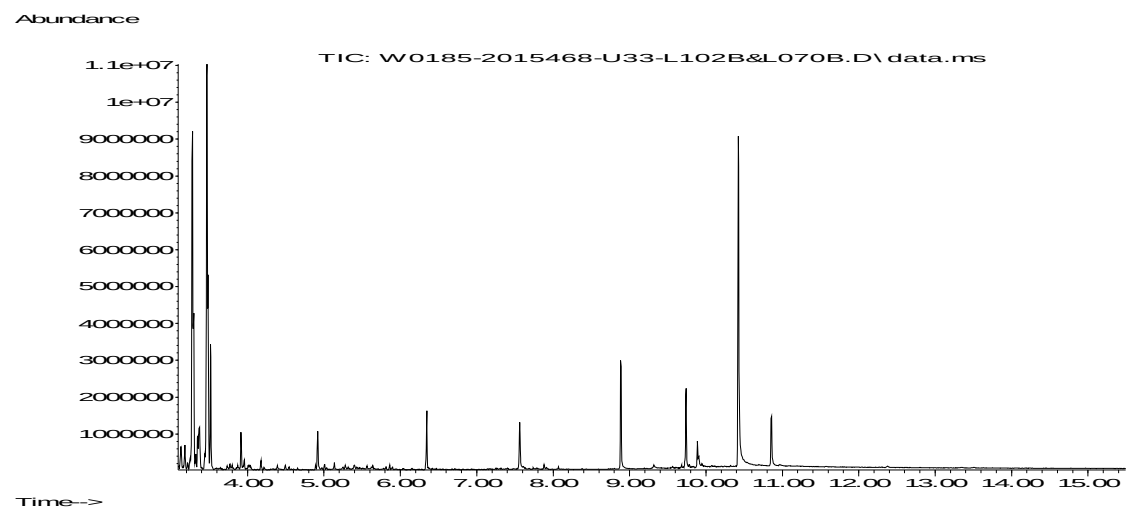
For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

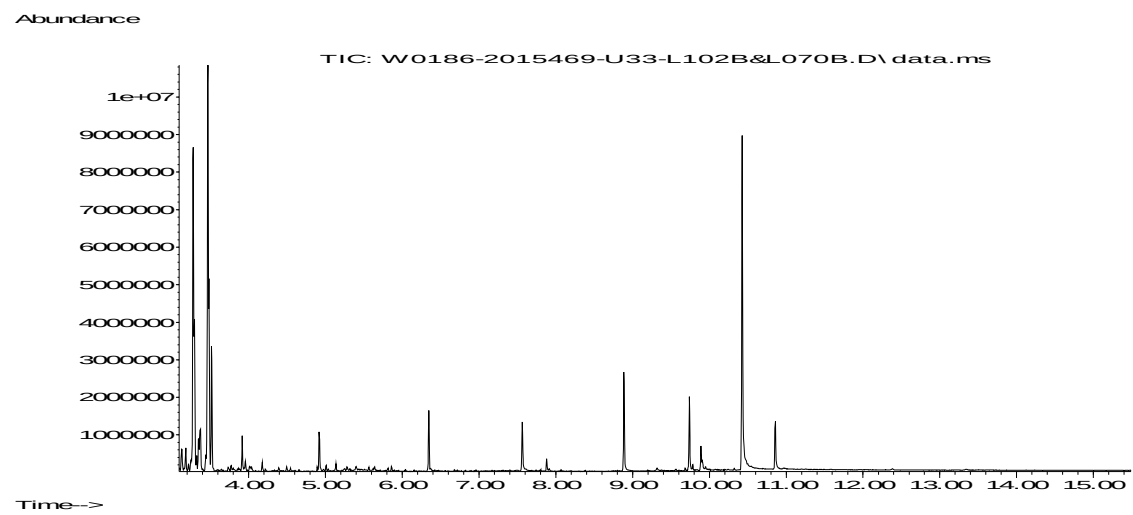
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

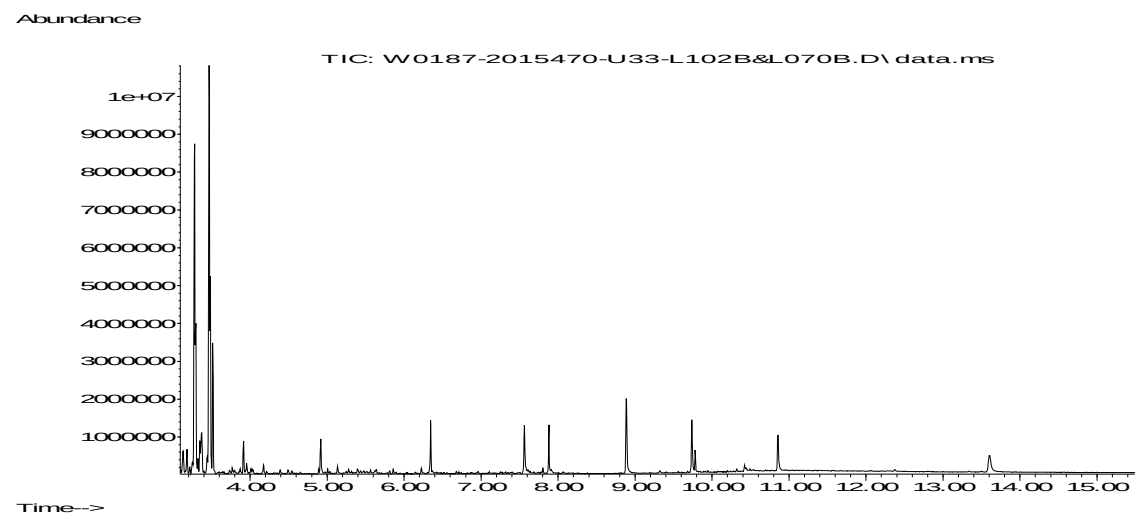
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.



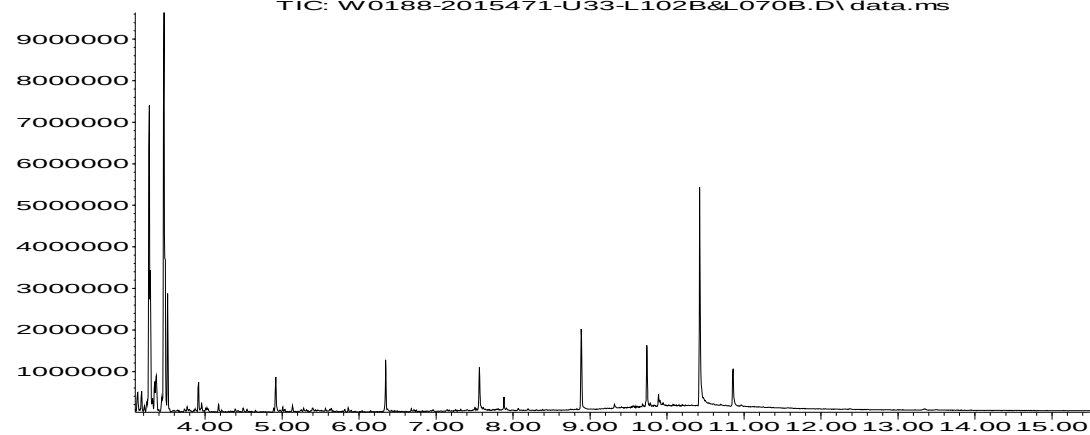






Abundance

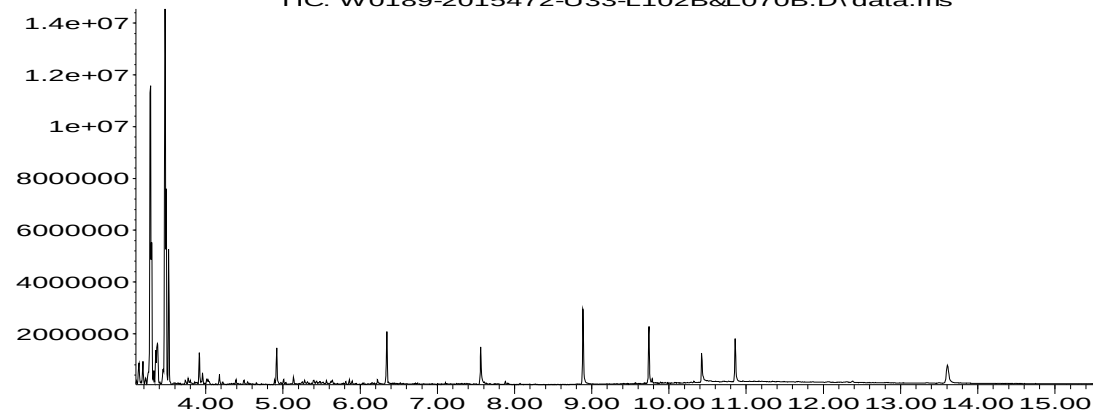
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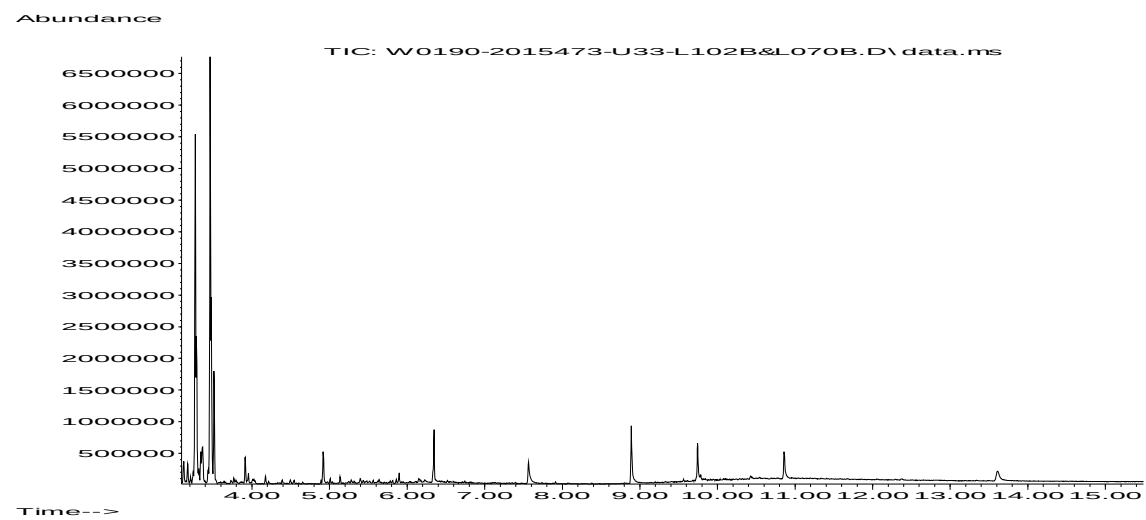
Time-->

Abundance

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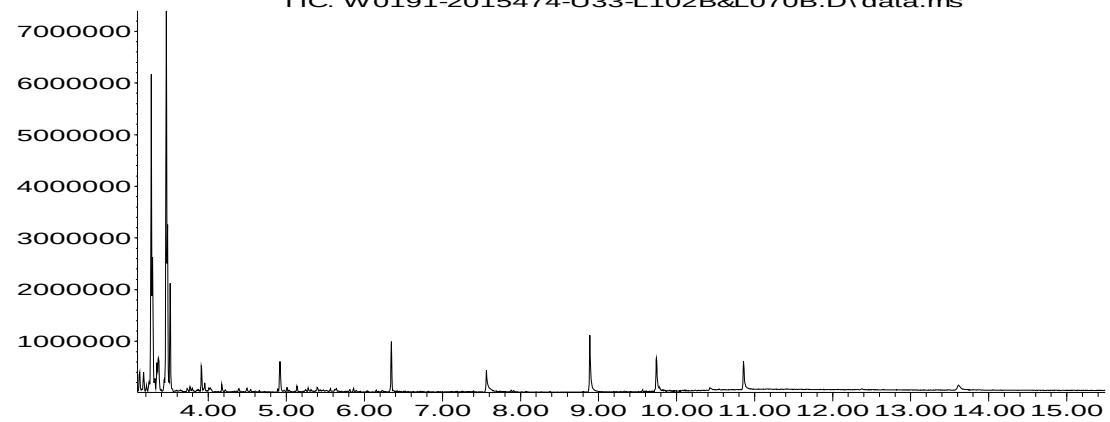


Time-->



Abundance

TIC: W0191-2015474-U33-L102B&L070B.D\data.ms



Time-->

Sample Deviation Report



Analytical Report Number : 21-10737
Project / Site name: Dunsbury Park

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH1.01	None Supplied	W	2015467	c	Ammonia as NH3 in water	L082-PL	c
BH1.01	None Supplied	W	2015467	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH1.01	None Supplied	W	2015467	c	Ammonium as NH4 in water	L082-PL	c
BH1.01	None Supplied	W	2015467	c	Electrical conductivity at 20oC of water	L031-PL	c
BH1.01	None Supplied	W	2015467	c	pH at 20oC in water (automated)	L099-PL	c
BH5.01	None Supplied	W	2015468	c	Ammonia as NH3 in water	L082-PL	c
BH5.01	None Supplied	W	2015468	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH5.01	None Supplied	W	2015468	c	Ammonium as NH4 in water	L082-PL	c
BH5.01	None Supplied	W	2015468	c	Electrical conductivity at 20oC of water	L031-PL	c
BH5.01	None Supplied	W	2015468	c	pH at 20oC in water (automated)	L099-PL	c
BH5.02	None Supplied	W	2015469	c	Ammonia as NH3 in water	L082-PL	c
BH5.02	None Supplied	W	2015469	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH5.02	None Supplied	W	2015469	c	Ammonium as NH4 in water	L082-PL	c
BH5.02	None Supplied	W	2015469	c	Electrical conductivity at 20oC of water	L031-PL	c
BH5.02	None Supplied	W	2015469	c	pH at 20oC in water (automated)	L099-PL	c
BH5.03	None Supplied	W	2015470	c	Ammonia as NH3 in water	L082-PL	c
BH5.03	None Supplied	W	2015470	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH5.03	None Supplied	W	2015470	c	Ammonium as NH4 in water	L082-PL	c
BH5.03	None Supplied	W	2015470	c	Electrical conductivity at 20oC of water	L031-PL	c
BH5.03	None Supplied	W	2015470	c	pH at 20oC in water (automated)	L099-PL	c
BH5.05	None Supplied	W	2015471	c	Ammonia as NH3 in water	L082-PL	c
BH5.05	None Supplied	W	2015471	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH5.05	None Supplied	W	2015471	c	Ammonium as NH4 in water	L082-PL	c
BH5.05	None Supplied	W	2015471	c	Electrical conductivity at 20oC of water	L031-PL	c
BH5.05	None Supplied	W	2015471	c	pH at 20oC in water (automated)	L099-PL	c
BH6.02	None Supplied	W	2015472	c	Ammonia as NH3 in water	L082-PL	c
BH6.02	None Supplied	W	2015472	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH6.02	None Supplied	W	2015472	c	Ammonium as NH4 in water	L082-PL	c
BH6.02	None Supplied	W	2015472	c	Electrical conductivity at 20oC of water	L031-PL	c
BH6.02	None Supplied	W	2015472	c	pH at 20oC in water (automated)	L099-PL	c
BH6.03	None Supplied	W	2015473	c	Ammonia as NH3 in water	L082-PL	c
BH6.03	None Supplied	W	2015473	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH6.03	None Supplied	W	2015473	c	Ammonium as NH4 in water	L082-PL	c
BH6.03	None Supplied	W	2015473	c	Electrical conductivity at 20oC of water	L031-PL	c
BH6.03	None Supplied	W	2015473	c	pH at 20oC in water (automated)	L099-PL	c
BH7.01	None Supplied	W	2015474	c	Ammonia as NH3 in water	L082-PL	c
BH7.01	None Supplied	W	2015474	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH7.01	None Supplied	W	2015474	c	Ammonium as NH4 in water	L082-PL	c
BH7.01	None Supplied	W	2015474	c	Electrical conductivity at 20oC of water	L031-PL	c
BH7.01	None Supplied	W	2015474	c	pH at 20oC in water (automated)	L099-PL	c

**Yacklin Panza**

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e: Group Southampton cc engineer

Analytical Report Number : 21-11194

Project / Site name:	Dunsbury Park	Samples received on:	21/09/2021
Your job number:	19453-GELO ALL UNITS	Samples instructed on/ Analysis started on:	21/09/2021
Your order number:	PO10051	Analysis completed by:	28/09/2021
Report Issue Number:	1	Report issued on:	28/09/2021
Samples Analysed:	5 water samples		

Signed: *A. Czerwińska*

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 21-11194
Project / Site name: Dunsbury Park

Your Order No: PO10051

Lab Sample Number	2017861	2017862	2017863	2017864	2017865
Sample Reference	WS1.01	WS5.02	WS5.04	WS5.05	WS5.08
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	2.90	3.97	2.21	2.03	1.43
Date Sampled	20/09/2021	20/09/2021	20/09/2021	20/09/2021	20/09/2021
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

pH	pH Units	N/A	ISO 17025	6.9	8.4	7.6	8.0	7.7
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	580	1400	670	590	630
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	4.8	< 1.0	< 1.0	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sulphate as SO ₄	µg/l	45	ISO 17025	39000	12500	29200	62100	79600
Chloride	mg/l	0.15	ISO 17025	35	110	70	52	53
Fluoride	µg/l	50	ISO 17025	120	640	430	300	210
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	64	5700	120	37	45
Ammoniacal Nitrogen as NH ₃	µg/l	15	ISO 17025	77	6900	140	45	54
Ammoniacal Nitrogen as NH ₄	µg/l	15	ISO 17025	82	7300	150	47	58
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	3.52	24.6	4.94	1.83	16.3
Nitrate as N	mg/l	0.01	ISO 17025	3.60	0.48	0.06	0.05	0.09
Nitrate as NO ₃	mg/l	0.05	ISO 17025	15.9	2.12	0.26	0.21	0.41
Nitrite as N	µg/l	1	ISO 17025	150	< 1.0	4.7	1.4	< 1.0
Nitrite as NO ₂	µg/l	5	ISO 17025	500	< 5.0	16	< 5.0	< 5.0

Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	272	794	296	264	301
Bromate by IC	mg/l	0.002	ISO 17025	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Total Phenols

Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	9400	4.1	2.5	2.0
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

PAH Sums

Sum of Benzo(b)fluoranthene & Benzo(k)fluoranthene	µg/l	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Sum of Benzo(ghi)perylene & Indeno(1,2,3-cd)pyrene	µg/l	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Sum of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(ghi)perylene & Indeno(1,2,3-cd)pyrene	µg/l	0.04	NONE	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 21-11194
Project / Site name: Dunsbury Park

Your Order No: PO10051

Lab Sample Number	2017861	2017862	2017863	2017864	2017865
Sample Reference	WS1.01	WS5.02	WS5.04	WS5.05	WS5.08
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	2.90	3.97	2.21	2.03	1.43
Date Sampled	20/09/2021	20/09/2021	20/09/2021	20/09/2021	20/09/2021
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	86	110	160	120	99
Calcium (dissolved)	mg/l	0.012	ISO 17025	73	280	74	71	82
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	1	NONE	2.4	2.3	2.1	1.6	2.2
Iron (dissolved)	mg/l	0.004	ISO 17025	0.008	0.11	0.49	0.14	< 0.004
Iron (dissolved)	µg/l	4	ISO 17025	8.0	110	490	140	< 4.0
Magnesium (dissolved)	mg/l	0.005	ISO 17025	22	24	27	21	23
Sodium (dissolved)	mg/l	0.01	ISO 17025	34	71	45	43	31

Aluminium (dissolved)	µg/l	1	ISO 17025	1.5	19	1.4	22	260
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.6	1.2	0.5	< 0.4	< 0.4
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.24	32.6	1.61	3.51	3.60
Barium (dissolved)	µg/l	0.06	ISO 17025	67	55	120	50	60
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.17	0.08	0.02	0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.4	2.3	2.1	1.6	2.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	6.0	4.6	0.7	0.3	1.0
Copper (dissolved)	µg/l	0.5	ISO 17025	2.7	1.8	5.5	2.8	1.4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	300	210	120	46	260
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	13	77	2.7	1.6	2.1
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.6	13	1.1	< 0.6	< 0.6
Silver (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	0.45	0.33	0.79	0.74
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.2	6.1	0.5	0.6	1.5
Zinc (dissolved)	µg/l	0.5	ISO 17025	8.4	3.2	5.3	4.5	2.3

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	31.9	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sum of m, p & o-Xylene	µg/l	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0



Analytical Report Number: 21-11194

Project / Site name: Dunsbury Park

Your Order No: PO10051

Lab Sample Number	2017861	2017862	2017863	2017864	2017865
Sample Reference	WS1.01	WS5.02	WS5.04	WS5.05	WS5.08
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	2.90	3.97	2.21	2.03	1.43
Date Sampled	20/09/2021	20/09/2021	20/09/2021	20/09/2021	20/09/2021
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	32	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	32	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C44)	µg/l	10	NONE	< 10	32	< 10	< 10	< 10

TPH-CWG Total C5 - C44	µg/l	10	NONE	< 10	32	< 10	< 10	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 21-11194
Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Fluoride in water	Determination of fluoride in water by 1:1 ratio with a buffer solution followed by Ion Selective Electrode. Accredited matrices: SW, PW, GW.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Speciated EPA-16 PAHs in water (LOW LEVEL Dets)	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270 (low level)	L102B-PL	W	NONE
TPH in (Water)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L070-PL	W	NONE



Analytical Report Number : 21-11194
Project / Site name: Dunsbury Park

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

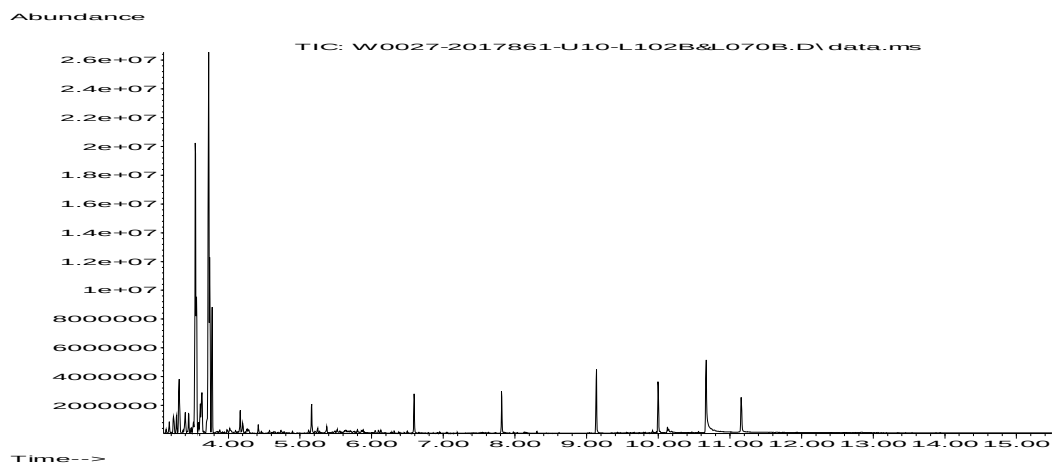
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH ₃ in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Ammonium as NH ₄ in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
TPH Chromatogram in Water	TPH Chromatogram in Water.	In-house method	L070-PL	W	NONE
Cr (III) in water	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Free cyanide (low level) in water	Determination of free cyanide by distillation followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Bromate in Water	Determination of bromate in waters based on ion chromatography. Accredited matrices GW, PW, SW.	In house method based on Standard Methods for the Analysis of Water and Waste Water, method 4500	L008-PL	W	ISO 17025
Specific PAH sums in water	Determination of PAH compounds in water by extraction in hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
Chloride in water	Determination of Chloride (dissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

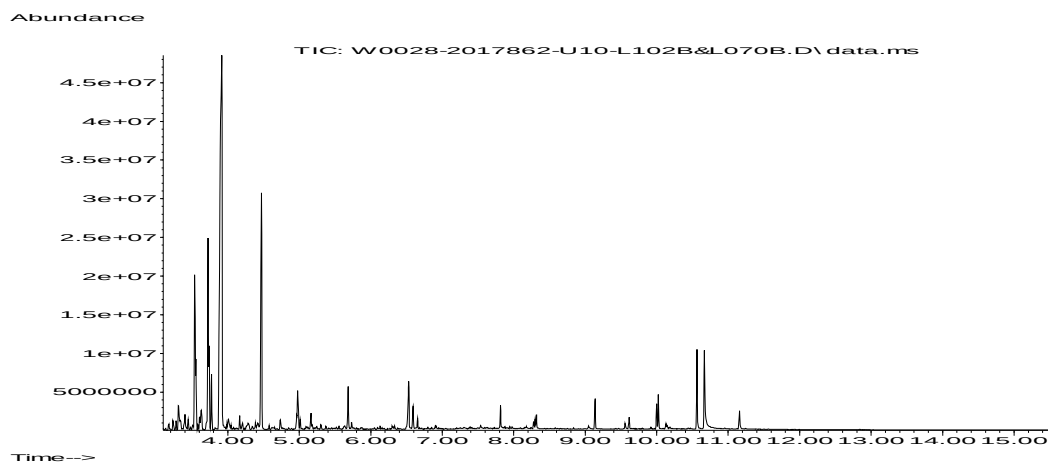
For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

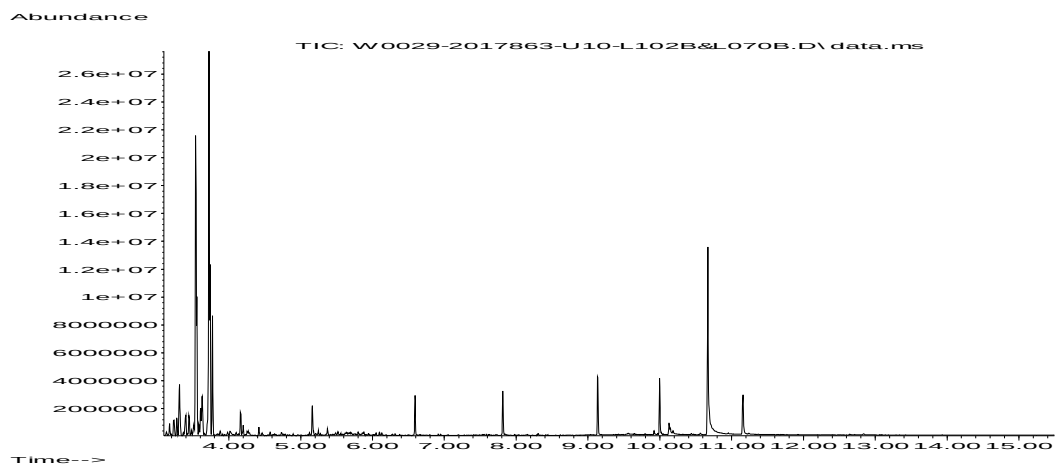
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

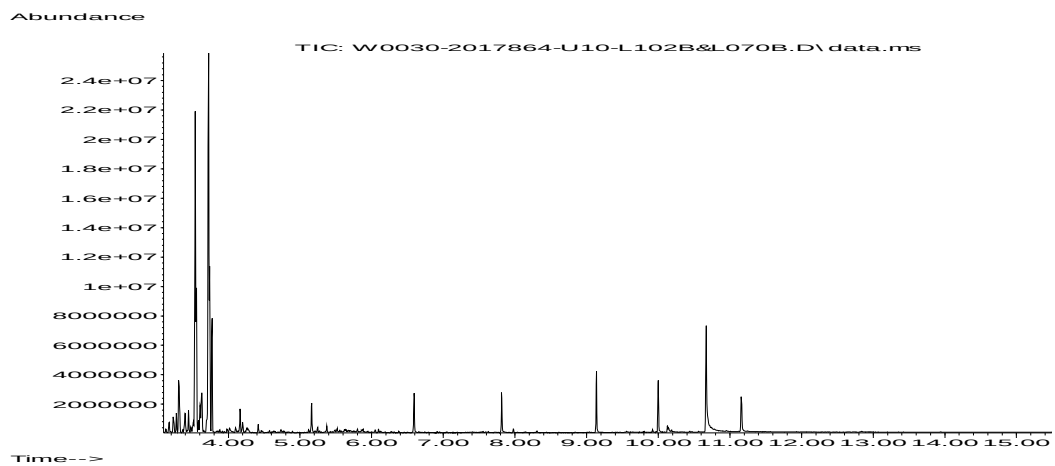
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

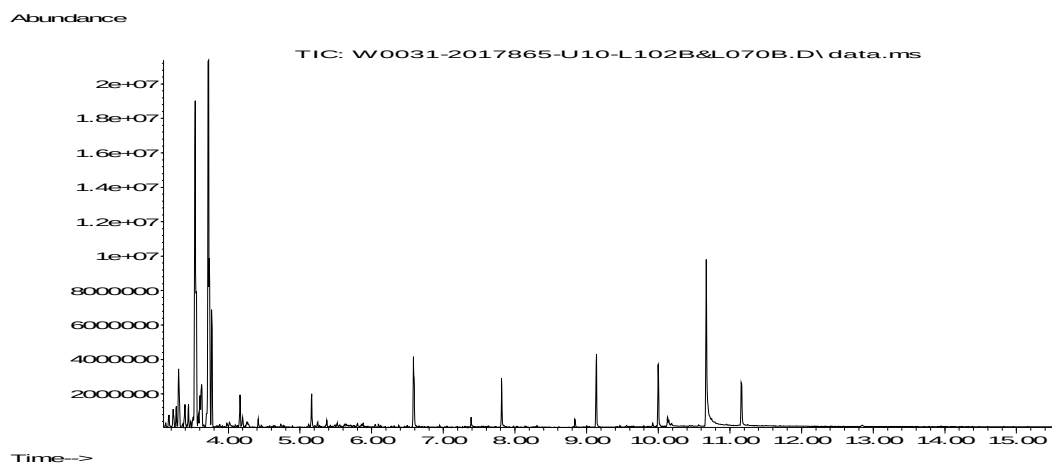
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.











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e: Group Southampton cc engineer

Analytical Report Number : 21-12364

Project / Site name:	Dunsbury Park	Samples received on:	27/09/2021
Your job number:	19453-GELO ALL UNITS	Samples instructed on/ Analysis started on:	27/09/2021
Your order number:	PO10146	Analysis completed by:	01/10/2021
Report Issue Number:	1	Report issued on:	01/10/2021
Samples Analysed:	7 water samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 21-12364
Project / Site name: Dunsbury Park

Your Order No: PO10146

Lab Sample Number	2024167				2024168	2024169	2024170	2024171
Sample Reference	WS4.03				WS4.05	BH7.03	WS7.03	WS7.04
Sample Number	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	2.24				2.78	2.54	3.62	2.39
Date Sampled	24/09/2021				24/09/2021	24/09/2021	24/09/2021	24/09/2021
Time Taken	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

pH	pH Units	N/A	ISO 17025	7.1	7.3	7.6	7.3	6.5
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	690	500	2100	560	320
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sulphate as SO ₄	µg/l	45	ISO 17025	210000	83200	177000	47200	50400
Chloride	mg/l	0.15	ISO 17025	30	16	430	14	16
Fluoride	µg/l	50	ISO 17025	180	180	140	140	130
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	65	27	31	110	32
Ammoniacal Nitrogen as NH ₃	µg/l	15	ISO 17025	79	32	37	130	39
Ammoniacal Nitrogen as NH ₄	µg/l	15	ISO 17025	84	34	39	140	41
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	5.04	3.65	8.14	2.69	2.45
Nitrate as N	mg/l	0.01	ISO 17025	0.09	0.11	1.44	2.03	3.80
Nitrate as NO ₃	mg/l	0.05	ISO 17025	0.41	0.47	6.36	9.00	16.8
Nitrite as N	µg/l	1	ISO 17025	< 1.0	< 1.0	480	320	110
Nitrite as NO ₂	µg/l	5	ISO 17025	< 5.0	< 5.0	1600	1000	380

Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	363	278	441	317	143
Bromate by IC	mg/l	0.002	ISO 17025	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Total Phenols

Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01



Analytical Report Number: 21-12364
Project / Site name: Dunsbury Park

Your Order No: PO10146

Lab Sample Number	2024167	2024168	2024169	2024170	2024171
Sample Reference	WS4.03	WS4.05	BH7.03	WS7.03	WS7.04
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	2.24	2.78	2.54	3.62	2.39
Date Sampled	24/09/2021	24/09/2021	24/09/2021	24/09/2021	24/09/2021
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

PAH Sums

Sum of Benzo(b)fluoranthene & Benzo(k)fluoranthene	µg/l	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Sum of Benzo(ghi)perylene & Indeno(1,2,3-cd)pyrene	µg/l	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Sum of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(ghi)perylene & Indeno(1,2,3-cd)pyrene	µg/l	0.04	NONE	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
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Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	41	31	710	42	49
Calcium (dissolved)	mg/l	0.012	ISO 17025	110	80	120	95	34
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	1	NONE	1.9	1.8	3.8	4.4	9.7
Iron (dissolved)	mg/l	0.004	ISO 17025	0.035	0.031	0.008	0.011	0.34
Iron (dissolved)	µg/l	4	ISO 17025	35	31	8.2	11	340
Magnesium (dissolved)	mg/l	0.005	ISO 17025	24	19	35	19	14
Sodium (dissolved)	mg/l	0.01	ISO 17025	39	13	390	13	13

Aluminium (dissolved)	µg/l	1	ISO 17025	3.5	2.4	12	10	43
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.5	< 0.4	0.8	0.7	0.5
Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.72	0.59	2.16	0.59	0.33
Barium (dissolved)	µg/l	0.06	ISO 17025	45	33	51	32	41
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.02	< 0.02	0.16
Chromium (dissolved)	µg/l	0.2	ISO 17025	1.9	1.8	3.8	4.4	9.7
Cobalt (dissolved)	µg/l	0.2	ISO 17025	3.5	0.8	2.4	4.4	10
Copper (dissolved)	µg/l	0.5	ISO 17025	1.1	3.0	6.6	1.5	4.3
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	570	360	130	390	180
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.3	4.4	5.2	9.9	24
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.9	0.7	21	1.0	1.7
Silver (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	0.58	0.22	< 0.20	0.71
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.2	0.2	1.2	< 0.2	0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.4	3.8	3.0	8.8	31

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sum of m, p & o-Xylene	µg/l	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10



Analytical Report Number: 21-12364
Project / Site name: Dunsbury Park

Your Order No: PO10146

Lab Sample Number				2024167	2024168	2024169	2024170	2024171
Sample Reference				WS4.03	WS4.05	BH7.03	WS7.03	WS7.04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.24	2.78	2.54	3.62	2.39
Date Sampled				24/09/2021	24/09/2021	24/09/2021	24/09/2021	24/09/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
TPH-CWG - Aliphatic >C16 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C44)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG Total C5 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 21-12364
Project / Site name: Dunsbury Park

Your Order No: PO10146

Lab Sample Number	2024172			2024173		
Sample Reference	WS6.02			WS6.04		
Sample Number	None Supplied			None Supplied		
Depth (m)	2.49			2.56		
Date Sampled	24/09/2021			24/09/2021		
Time Taken	None Supplied			None Supplied		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

General Inorganics

pH	pH Units	N/A	ISO 17025	7.8	7.5
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	550	470
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0
Sulphate as SO ₄	µg/l	45	ISO 17025	81700	44400
Chloride	mg/l	0.15	ISO 17025	31	23
Fluoride	µg/l	50	ISO 17025	140	270
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	94
Ammoniacal Nitrogen as NH ₃	µg/l	15	ISO 17025	< 15	110
Ammoniacal Nitrogen as NH ₄	µg/l	15	ISO 17025	< 15	120
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	6.21	8.48
Nitrate as N	mg/l	0.01	ISO 17025	0.06	0.19
Nitrate as NO ₃	mg/l	0.05	ISO 17025	0.26	0.83
Nitrite as N	µg/l	1	ISO 17025	< 1.0	< 1.0
Nitrite as NO ₂	µg/l	5	ISO 17025	< 5.0	< 5.0

Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	289	264
Bromate by IC	mg/l	0.002	ISO 17025	< 0.002	< 0.002

Total Phenols

Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	15
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01



Analytical Report Number: 21-12364
Project / Site name: Dunsbury Park

Your Order No: PO10146

Lab Sample Number				2024172	2024173
Sample Reference				WS6.02	WS6.04
Sample Number				None Supplied	None Supplied
Depth (m)				2.49	2.56
Date Sampled				24/09/2021	24/09/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

PAH Sums

Sum of Benzo(b)fluoranthene & Benzo(k)fluoranthene	µg/l	0.02	NONE	< 0.020	< 0.020
Sum of Benzo(ghi)perylene & Indeno(1,2,3-cd)pyrene	µg/l	0.02	NONE	< 0.020	< 0.020
Sum of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(ghi)perylene & Indeno(1,2,3-cd)pyrene	µg/l	0.04	NONE	< 0.040	< 0.040

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16
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Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	33	43
Calcium (dissolved)	mg/l	0.012	ISO 17025	77	72
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (III)	µg/l	1	NONE	2.0	2.3
Iron (dissolved)	mg/l	0.004	ISO 17025	0.13	0.12
Iron (dissolved)	µg/l	4	ISO 17025	130	120
Magnesium (dissolved)	mg/l	0.005	ISO 17025	24	21
Sodium (dissolved)	mg/l	0.01	ISO 17025	23	25

Aluminium (dissolved)	µg/l	1	ISO 17025	1.9	5.4
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.5	0.7
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.76	2.55
Barium (dissolved)	µg/l	0.06	ISO 17025	44	34
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.0	2.3
Cobalt (dissolved)	µg/l	0.2	ISO 17025	0.3	0.4
Copper (dissolved)	µg/l	0.5	ISO 17025	0.8	0.9
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	250	190
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.2	1.3
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.6	0.9
Silver (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	0.31
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.3	0.5
Zinc (dissolved)	µg/l	0.5	ISO 17025	1.7	1.9

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0
Sum of m, p & o-Xylene	µg/l	2	ISO 17025	< 2.0	< 2.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10



Analytical Report Number: 21-12364
Project / Site name: Dunsbury Park

Your Order No: PO10146

Lab Sample Number				2024172	2024173
Sample Reference				WS6.02	WS6.04
Sample Number				None Supplied	None Supplied
Depth (m)				2.49	2.56
Date Sampled				24/09/2021	24/09/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
TPH-CWG - Aliphatic >C16 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C44)	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C44)	µg/l	10	NONE	< 10	< 10
TPH-CWG Total C5 - C44	µg/l	10	NONE	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 21-12364
Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Fluoride in water	Determination of fluoride in water by 1:1 ratio with a buffer solution followed by Ion Selective Electrode. Accredited matrices: SW, PW, GW.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Speciated EPA-16 PAHs in water (LOW LEVEL Dets)	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270 (low level)	L102B-PL	W	NONE
TPH in (Water)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L070-PL	W	NONE



Analytical Report Number : 21-12364
Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH3 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
TPH Chromatogram in Water	TPH Chromatogram in Water.	In-house method	L070-PL	W	NONE
Cr (III) in water	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Free cyanide (low level) in water	Determination of free cyanide by distillation followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Bromate in Water	Determination of bromate in waters based on ion chromatography. Accredited matrices GW, PW, SW.	In house method based on Standard Methods for the Analysis of Water and Waste Water, method 4500	L008-PL	W	ISO 17025
Specific PAH sums in water	Determination of PAH compounds in water by extraction in hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
Chloride in water	Determination of Chloride (dissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

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

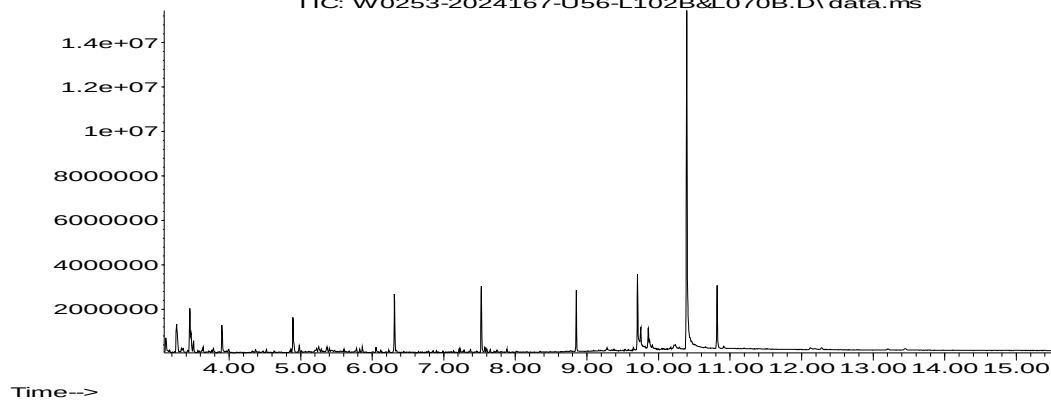
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

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

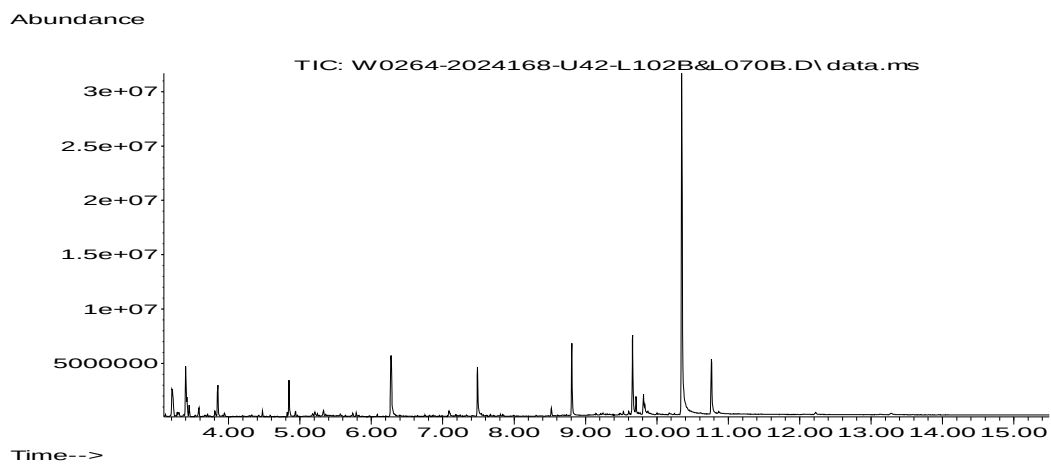
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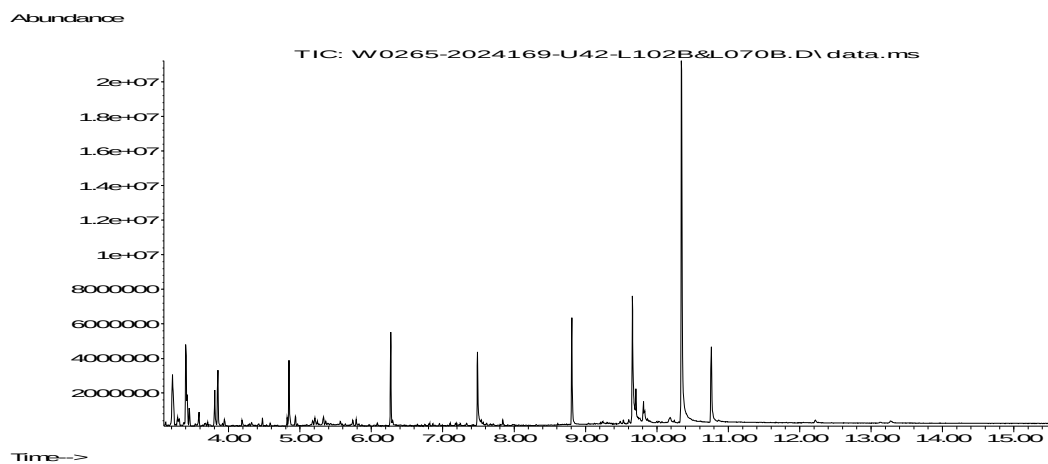
Abundance

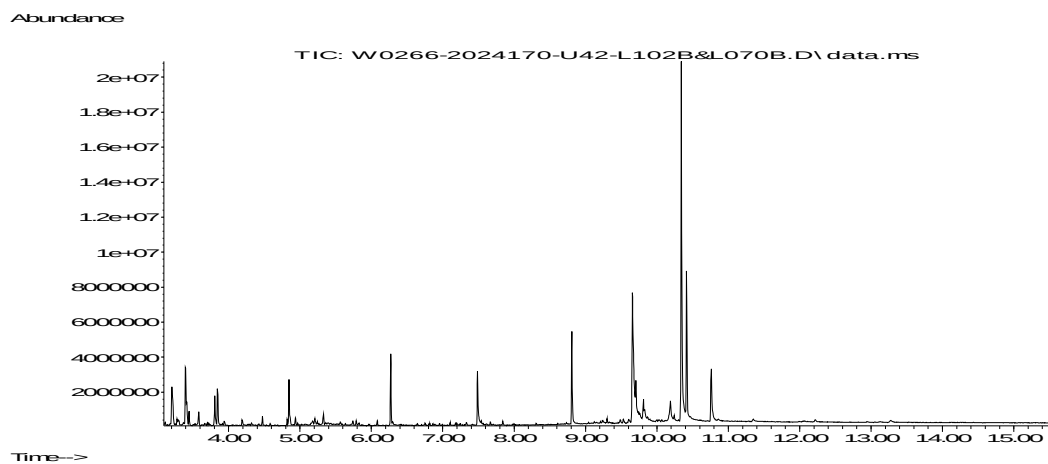
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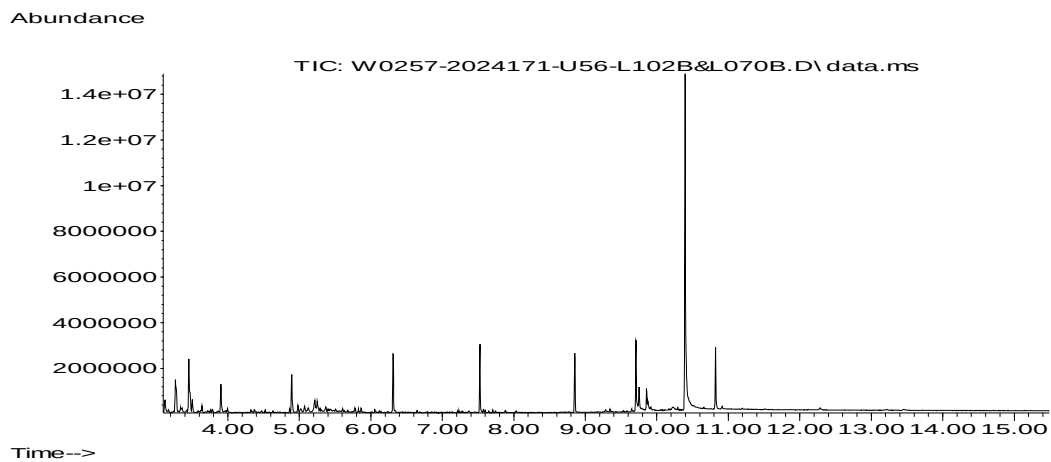


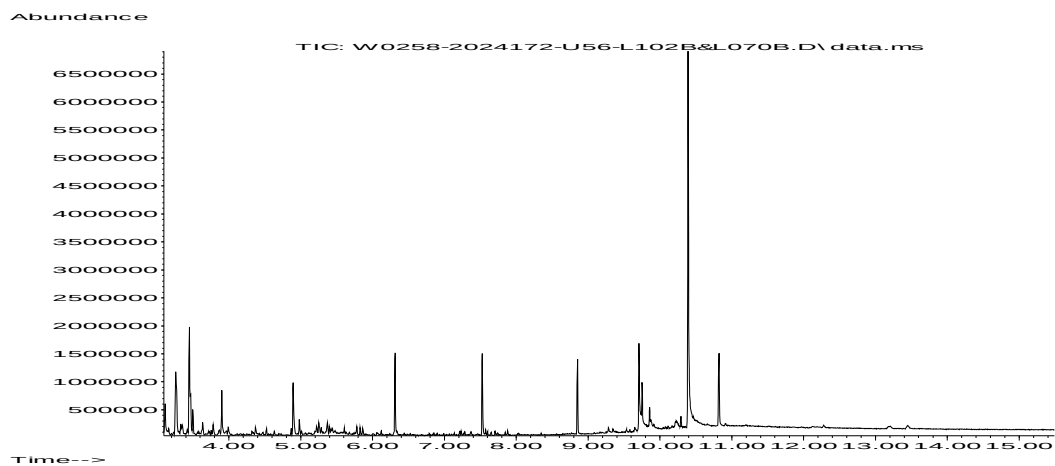
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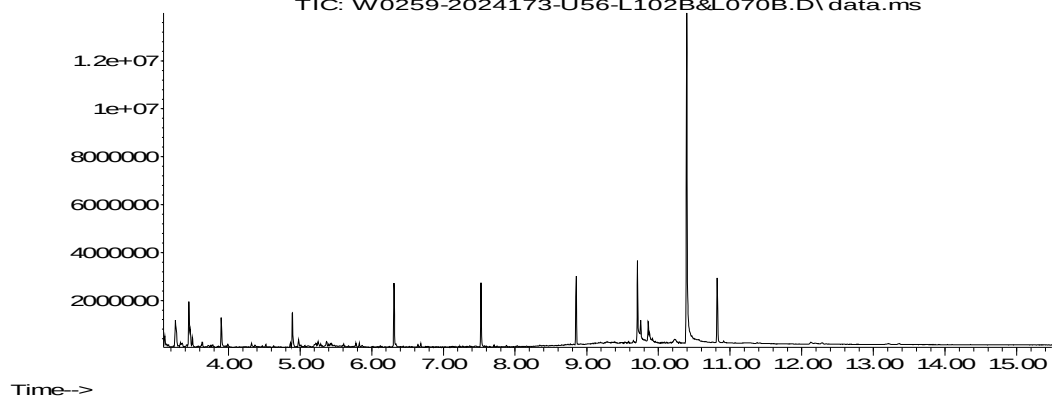






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**Yacklin Panza**

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e: Group Southampton cc engineer

Analytical Report Number : 21-90851

Project / Site name:	Dunsbury Park	Samples received on:	29/07/2021
Your job number:	16453-GELO	Samples instructed on/ Analysis started on:	04/08/2021
Your order number:	PO08919	Analysis completed by:	10/08/2021
Report Issue Number:	1	Report issued on:	10/08/2021
Samples Analysed:	8 soil samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 21-90851
Project / Site name: Dunsbury Park
Your Order No: P008919

Lab Sample Number				1961610	1961611	1961612	1961613	1961614
Sample Reference				TP6.01	TP6.04	TP6.06	TP6.08	TP6.09
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.50	0.50	0.40	0.50
Date Sampled				22/07/2021	23/07/2021	23/07/2021	23/07/2021	23/07/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	9.3	8.4	8.4	12
Total mass of sample received	kg	0.001	NONE	1.0	1.2	1.2	1.2	1.2

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

pH - Automated	pH Units	N/A	MCERTS	7.1	7.1	7.7	6.7	7.4
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0047	0.0042	0.0072	0.0052	0.0042
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	0.0099	0.0032	0.0048	0.0052	0.0012

Total Phenols

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

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

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.1	7.3	10	5.8	9.2
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.26	0.28	0.38	0.28	0.63
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.4	0.5	0.2	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	15	19	22	16	48
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15	20	22	16	48
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8.1	7.1	8.5	4.2	7.6
Lead (aqua regia extractable)	mg/kg	1	MCERTS	18	9.1	13	7.0	9.9
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.4	5.5	7.7	6.4	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	22	32	36	26	52
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	33	26	35	28	40

Analytical Report Number: 21-90851
Project / Site name: Dunsbury Park
Your Order No: PO08919

Lab Sample Number				1961610	1961611	1961612	1961613	1961614
Sample Reference				TP6.01	TP6.04	TP6.06	TP6.08	TP6.09
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.50	0.50	0.40	0.50
Date Sampled				22/07/2021	23/07/2021	23/07/2021	23/07/2021	23/07/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	-	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	-	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	-	-	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	< 10	< 10	-	-	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	-	-	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	-	-	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	-	-	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	-	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	-	-	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	-	-	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	-	-	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	-	-	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	-	-	< 10

TPH Total C5 - C44	mg/kg	10	NONE	< 10	< 10	-	-	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-90851

Project / Site name: Dunsbury Park

Your Order No: P008919

Lab Sample Number				1961615	1961616	1961617
Sample Reference				WS6.03	WS6.06	WS6.07
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.50	0.60
Date Sampled				28/07/2021	28/07/2021	28/07/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8.1	12	7.5
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.2

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

pH - Automated	pH Units	N/A	MCERTS	6.7	7.6	7.3
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.014	0.038	0.16
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	0.012	0.0014	0.0031

Total Phenols

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

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

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.5	7.1	8.8
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.33	0.51	0.48
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	< 0.2	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	20	33	23
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	33	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	13	4.6
Lead (aqua regia extractable)	mg/kg	1	MCERTS	17	10	7.3
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.6	13	12
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	31	41	33
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	39	33	33

Analytical Report Number: 21-90851
 Project / Site name: Dunsbury Park
 Your Order No: P008919

Lab Sample Number				1961615	1961616	1961617
Sample Reference				WS6.03	WS6.06	WS6.07
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.50	0.60
Date Sampled				28/07/2021	28/07/2021	28/07/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Monoaromatics & Oxygenates						
Benzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	-	< 10	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	-	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	11	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	15	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	-	15	< 10

TPH Total C5 - C44	mg/kg	10	NONE	-	15	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 21-90851

Project / Site name: Dunsbury Park

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1961610	TP6.01	None Supplied	0.2	Brown loam and sand with gravel and vegetation.
1961611	TP6.04	None Supplied	0.5	Light brown clay and sand with gravel.
1961612	TP6.06	None Supplied	0.5	Light brown clay and sand with gravel and vegetation.
1961613	TP6.08	None Supplied	0.4	Light brown sand with gravel and vegetation.
1961614	TP6.09	None Supplied	0.5	Light brown clay and sand with vegetation and gravel.
1961615	WS6.03	None Supplied	0.2	Brown loam and sand with vegetation and gravel.
1961616	WS6.06	None Supplied	0.5	Light brown clay and sand with gravel.
1961617	WS6.07	None Supplied	0.6	Light brown sand with vegetation and gravel.

Analytical Report Number : 21-90851
Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE



Analytical Report Number : 21-90851
Project / Site name: Dunsbury Park

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

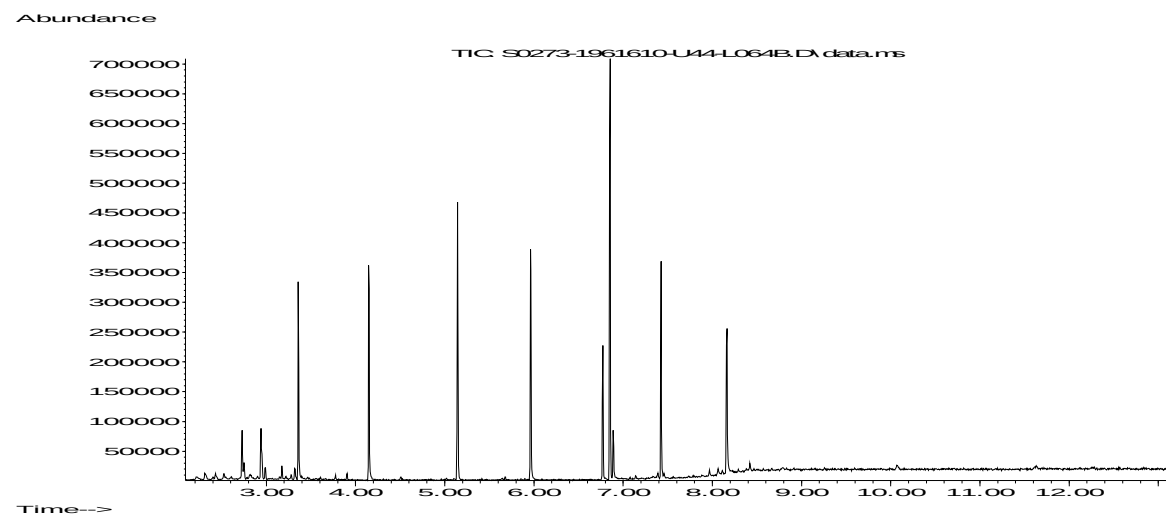
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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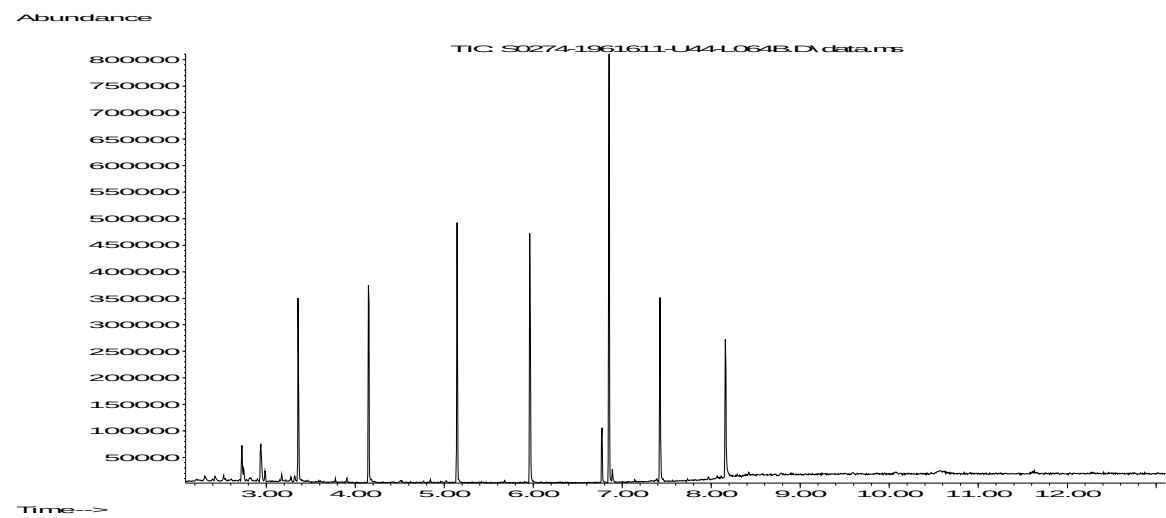
For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

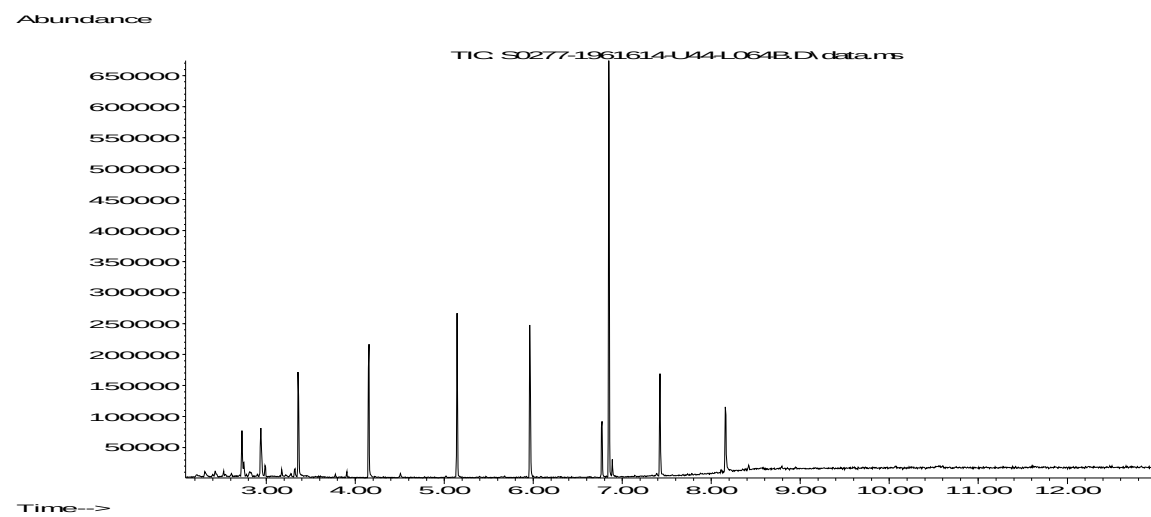
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

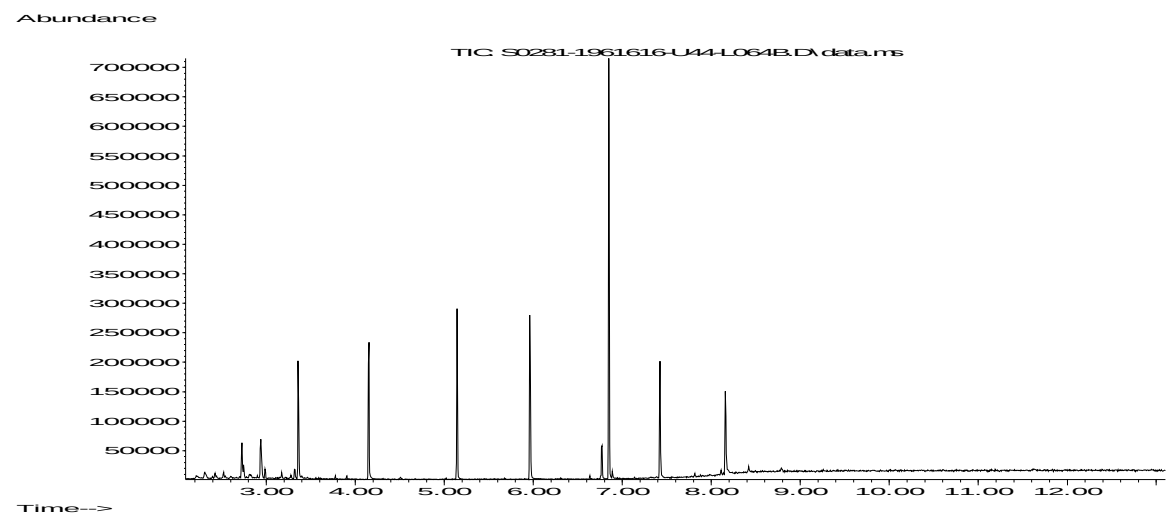
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

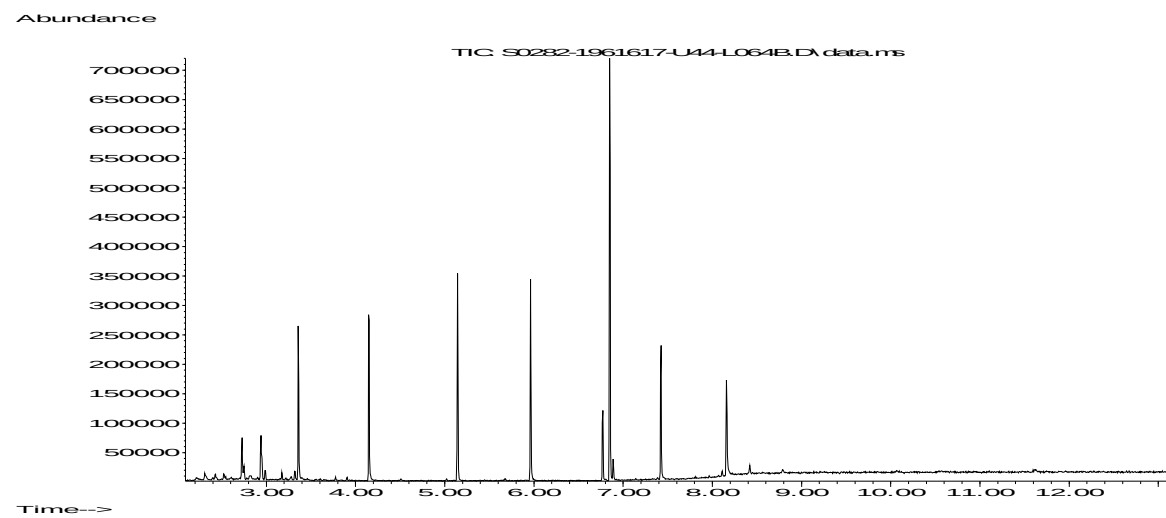
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.











Sample Deviation Report



Analytical Report Number : 21-90851

Project / Site name: Dunsbury Park

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP6.01	None Supplied	S	1961610	c	Free cyanide in soil	L080-PL	c
TP6.04	None Supplied	S	1961611	c	Free cyanide in soil	L080-PL	c
TP6.06	None Supplied	S	1961612	c	Free cyanide in soil	L080-PL	c
TP6.08	None Supplied	S	1961613	c	Free cyanide in soil	L080-PL	c
TP6.09	None Supplied	S	1961614	c	Free cyanide in soil	L080-PL	c

**Yacklin Panza**

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Analytical Report Number : 21-91147

Project / Site name:	Dunsbury Park	Samples received on:	29/07/2021
Your job number:	19353-GELO	Samples instructed on/ Analysis started on:	04/08/2021
Your order number:	PO08919	Analysis completed by:	11/08/2021
Report Issue Number:	1	Report issued on:	11/08/2021
Samples Analysed:	1 soil sample		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 21-91147

Project / Site name: Dunsbury Park

Your Order No: P008919

Lab Sample Number				1962992
Sample Reference				WS6.03
Sample Number				None Supplied
Depth (m)				0.60
Date Sampled				28/07/2021
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	16
Total mass of sample received	kg	0.001	NONE	1.0

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

pH - Automated	pH Units	N/A	MCERTS	7.8
Free Cyanide	mg/kg	1	MCERTS	< 1.0
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0071
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	0.0028

Total Phenols

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

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

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.68
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2
Chromium (III)	mg/kg	1	NONE	34
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	34
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.8
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	49
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	44

Analytical Report Number: 21-91147
 Project / Site name: Dunsbury Park
 Your Order No: P008919

Lab Sample Number				1962992
Sample Reference				WS6.03
Sample Number				None Supplied
Depth (m)				0.60
Date Sampled				28/07/2021
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10

TPH Total C5 - C44	mg/kg	10	NONE	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 21-91147
Project / Site name: Dunsbury Park

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1962992	WS6.03	None Supplied	0.6	Brown clay and sand with gravel.

Analytical Report Number : 21-91147

Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE



Analytical Report Number : 21-91147
Project / Site name: Dunsbury Park

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

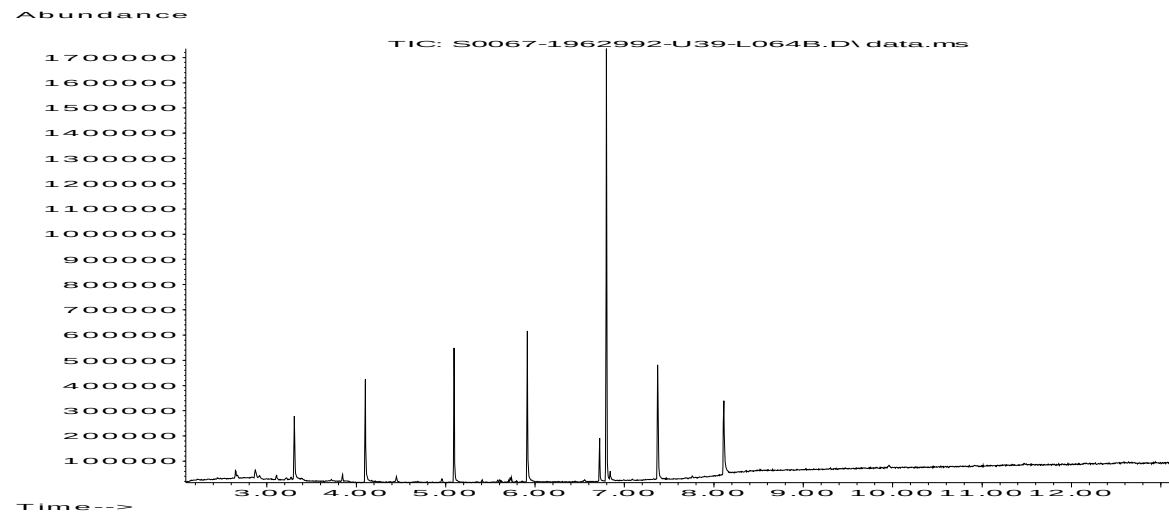
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

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

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

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.



Sample Deviation Report



Analytical Report Number : 21-91147

Project / Site name: Dunsbury Park

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS6.03	None Supplied	S	1962992	c	Free cyanide in soil	L080-PL	c

Yacklin Panza
Hydrock Consultants Ltd
Suite 8
White Building
1-4 Cumberland Place
Southampton
Hampshire
SO15 2NP

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

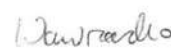
t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

e: Group Southampton cc engineer

Analytical Report Number : 21-91291

Project / Site name:	Dunsbury Park	Samples received on:	29/07/2021
Your job number:	19453-GELO	Samples instructed on/ Analysis started on:	05/08/2021
Your order number:	PO08919	Analysis completed by:	13/08/2021
Report Issue Number:	1	Report issued on:	13/08/2021
Samples Analysed:	1 bulk sample - 17 soil samples		

Signed:



Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 21-91291

Project / Site name: Dunsbury Park

Your Order No: PO08919

Lab Sample Number				1963727	1963728	1963730	1963731	1963732
Sample Reference				TP1.01	TP1.04	TP4.03	TP4.06	TP7.03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.45	0.05	0.30	0.50
Date Sampled				23/07/2021	23/07/2021	22/07/2021	23/07/2021	22/07/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	2.1	13	6.7	17	12
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.0	1.2	1.2

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

pH - Automated	pH Units	N/A	MCERTS	9.4	10.2	9.9	9.5	6.8
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.080	0.26	0.31	0.22	0.11
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	0.0012	0.0044	0.0033	0.0029	0.0026

Total Phenols

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

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

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.8	8.2	7.8	8.6	9.6
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.22	0.50	0.42	0.45	0.58
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	1.6	0.4	0.6	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.8	0.8	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	7.3	36	20	21	26
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	7.3	36	20	21	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8.1	150	5.6	8.7	23
Lead (aqua regia extractable)	mg/kg	1	MCERTS	28	52	15	18	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.8	34	8.8	9.3	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	9.4	35	30	32	37
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	130	320	50	70	83

Analytical Report Number: 21-91291
Project / Site name: Dunsbury Park
Your Order No: PO08919

Lab Sample Number				1963727	1963728	1963730	1963731	1963732
Sample Reference				TP1.01	TP1.04	TP4.03	TP4.06	TP7.03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.45	0.05	0.30	0.50
Date Sampled				23/07/2021	23/07/2021	22/07/2021	23/07/2021	22/07/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	-	-	< 10	< 10	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	-	-	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	-	-	< 10	< 10	< 10

TPH Total C5 - C44	mg/kg	10	NONE	-	-	< 10	< 10	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-91291
Project / Site name: Dunsbury Park
Your Order No: PO08919

Lab Sample Number				1963733	1963734	1963735	1963736	1963737
Sample Reference				TP7.07	TP7.08	TP7.09	WS1.01	WS1.02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.60	1.00	0.50	1.50
Date Sampled				21/07/2021	21/07/2021	21/07/2021	26/07/2021	26/07/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	11	12	9.5	15
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0	0.92	1.0

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

pH - Automated	pH Units	N/A	MCERTS	8.8	7.4	7.1	11.1	12.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.30	0.0066	0.013	0.13	0.031
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	0.0068	0.0032	0.0017	0.0034	0.0049

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.74
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.19
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.91
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.82
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.48
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.44
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.51
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.20
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.45
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.24
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.30

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	5.28
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.2	9.3	6.8	6.9	8.4
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.43	0.44	0.34	0.42	0.70
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	< 0.2	< 0.2	0.4	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.7	< 0.2	< 0.2	< 0.2	0.6
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	24	24	18	22	36
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	24	18	22	36
Copper (aqua regia extractable)	mg/kg	1	MCERTS	92	6.2	4.8	11	88
Lead (aqua regia extractable)	mg/kg	1	MCERTS	33	7.2	7.0	13	90
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	13	9.6	7.6	8.5	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	34	38	28	32	46
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	240	35	24	64	220

Analytical Report Number: 21-91291
Project / Site name: Dunsbury Park
Your Order No: PO08919

Lab Sample Number				1963733	1963734	1963735	1963736	1963737
Sample Reference				TP7.07	TP7.08	TP7.09	WS1.01	WS1.02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.60	1.00	0.50	1.50
Date Sampled				21/07/2021	21/07/2021	21/07/2021	26/07/2021	26/07/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	-	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	-	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	< 10	-	< 10	< 10	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	-	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	-	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	-	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	-	< 10	< 10	13
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	-	< 10	< 10	27
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	-	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	-	< 10	< 10	40
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	-	< 10	< 10	40

TPH Total C5 - C44	mg/kg	10	NONE	< 10	-	< 10	< 10	40
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U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-91291
Project / Site name: Dunsbury Park
Your Order No: PO08919

Lab Sample Number				1963738	1963739	1963740	1963741	1963742
Sample Reference				WS4.01	WS4.03	WS4.04	WS4.06	WS7.02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.40	0.90	0.50	0.70
Date Sampled				28/07/2021	28/07/2021	28/07/2021	29/07/2021	29/07/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	13	13	13	14
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0	1.0	1.0

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

pH - Automated	pH Units	N/A	MCERTS	10.1	10.3	9.8	12.2	6.8
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.90	0.24	0.15	0.0082	0.0062
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	0.0055	0.0015	0.0018	0.0027	0.0030

Total Phenols

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

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

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	7.8	7.4	6.0	9.6
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.73	0.53	0.49	0.42	0.55
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	< 0.2	0.2	0.2	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	27	26	23	23	29
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	27	26	23	23	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.6	5.5	6.2	6.6	7.5
Lead (aqua regia extractable)	mg/kg	1	MCERTS	8.6	6.3	6.7	7.2	9.2
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21	11	9.4	8.3	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	39	37	33	34	41
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	59	37	34	41	43

Analytical Report Number: 21-91291

Project / Site name: Dunsbury Park

Your Order No: PO08919

Lab Sample Number				1963738	1963739	1963740	1963741	1963742
Sample Reference				WS4.01	WS4.03	WS4.04	WS4.06	WS7.02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.40	0.90	0.50	0.70
Date Sampled				28/07/2021	28/07/2021	28/07/2021	29/07/2021	29/07/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	< 8.0	-	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	< 8.0	-	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	-	< 10	-	< 10	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	< 8.4	-	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	-	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	-	< 10	-	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	< 10	-	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	< 10	-	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	< 8.4	-	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	-	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	-	< 10	-	< 10	< 10

TPH Total C5 - C44	mg/kg	10	NONE	-	< 10	-	< 10	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-91291
Project / Site name: Dunsbury Park
Your Order No: P008919

Lab Sample Number				1963743	1963744
Sample Reference				WS7.03	WS7.04
Sample Number				None Supplied	None Supplied
Depth (m)				0.40	0.20
Date Sampled				29/07/2021	29/07/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	15
Total mass of sample received	kg	0.001	NONE	1.2	1.2

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

pH - Automated	pH Units	N/A	MCERTS	5.7	5.6
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0044	0.013
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	0.014	0.013

Total Phenols

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

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

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.8	6.9
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.26	0.29
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	13	15
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.9	9.6
Lead (aqua regia extractable)	mg/kg	1	MCERTS	15	17
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	4.8	5.9
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	24	27
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	30	36

Analytical Report Number: 21-91291
 Project / Site name: Dunsbury Park
 Your Order No: P008919

Lab Sample Number				1963743	1963744
Sample Reference				WS7.03	WS7.04
Sample Number				None Supplied	None Supplied
Depth (m)				0.40	0.20
Date Sampled				29/07/2021	29/07/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Monoaromatics & Oxygenates					
Benzene	µg/kg	1	MCERTS	-	< 1.0
Toluene	µg/kg	1	MCERTS	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0
o-xylene	µg/kg	1	MCERTS	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	-	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	-	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	-	< 10

TPH Total C5 - C44	mg/kg	10	NONE	-	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 21-91291
 Project / Site name: Dunsbury Park

Your Order No: PO08919

Lab Sample Number				1963729
Sample Reference				TP1.04
Sample Number				None Supplied
Depth (m)				0.50
Date Sampled				23/07/2021
Time Taken				None Supplied
Analytical Parameter (Bulk Analysis)	Units	Limit of detection	Accreditation Status	

Asbestos Identification	Type	N/A	ISO 17025	No Asbestos Detected
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U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 21-91291

Project / Site name: Dunsbury Park

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1963727	TP1.01	None Supplied	0.2	Light brown sand with gravel.
1963728	TP1.04	None Supplied	0.45	Light brown sandy clay with rubble.
1963730	TP4.03	None Supplied	0.05	Light brown sandy clay with gravel.
1963731	TP4.06	None Supplied	0.3	Brown clay and sand with gravel.
1963732	TP7.03	None Supplied	0.5	Brown sandy clay with gravel.
1963733	TP7.07	None Supplied	1	Brown clay and sand with gravel.
1963734	TP7.08	None Supplied	0.6	Brown sandy clay with gravel.
1963735	TP7.09	None Supplied	1	Light brown sandy clay with gravel.
1963736	WS1.01	None Supplied	0.5	Brown sand with gravel.
1963737	WS1.02	None Supplied	1.5	Brown clay and sand with gravel and rubble.
1963738	WS4.01	None Supplied	0.2	Grey clay and sand with gravel.
1963739	WS4.03	None Supplied	0.4	Light brown sandy clay with gravel.
1963740	WS4.04	None Supplied	0.9	Brown sandy clay with gravel.
1963741	WS4.06	None Supplied	0.5	Light brown sand with gravel.
1963742	WS7.02	None Supplied	0.7	Light brown sandy clay with gravel.
1963743	WS7.03	None Supplied	0.4	Brown loam and clay with gravel and vegetation.
1963744	WS7.04	None Supplied	0.2	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 21-91291

Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

Analytical Report Number : 21-91291
Project / Site name: Dunsbury Park

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

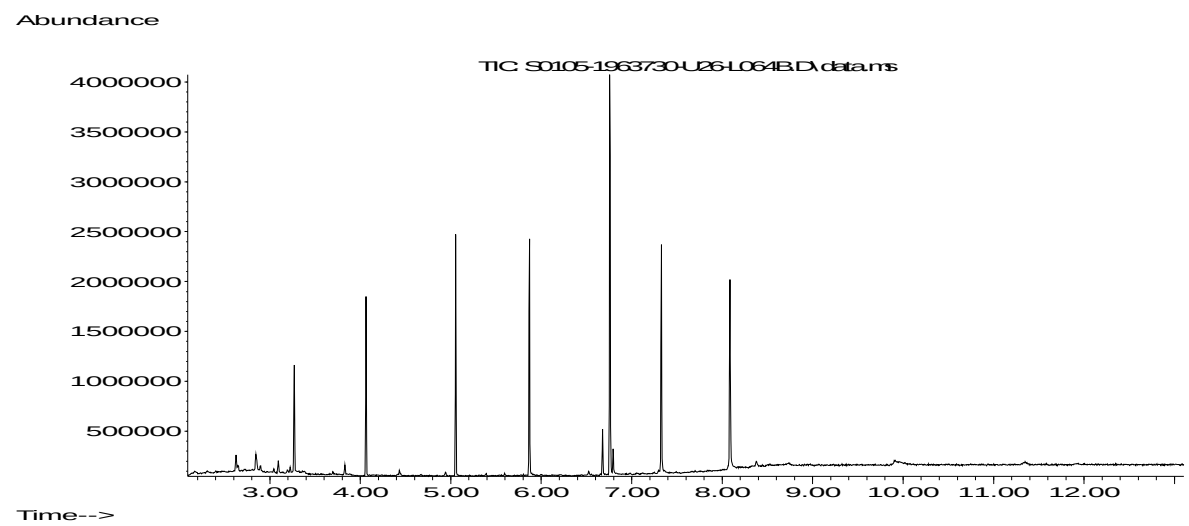
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE

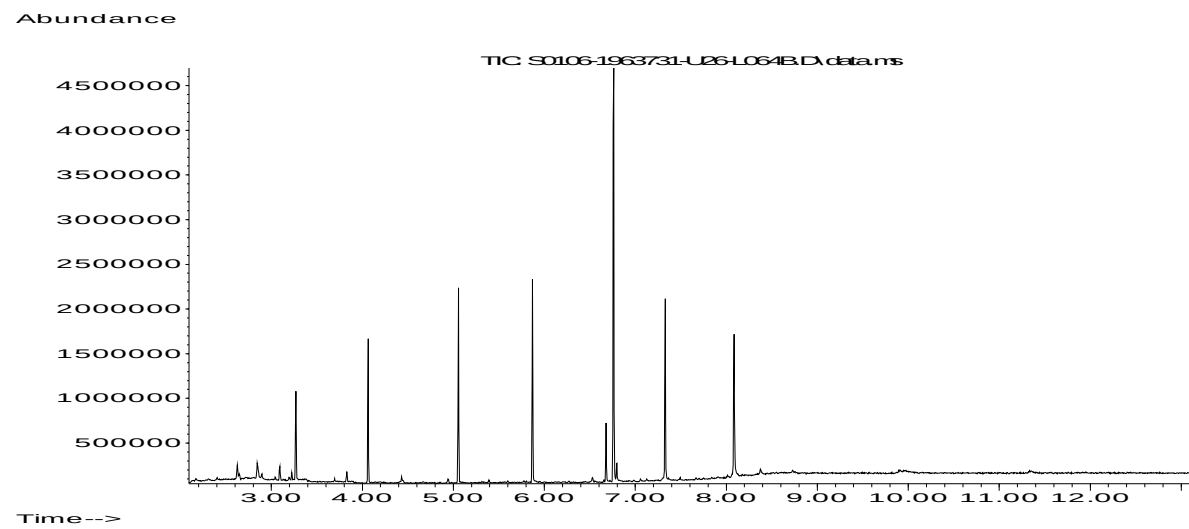
For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

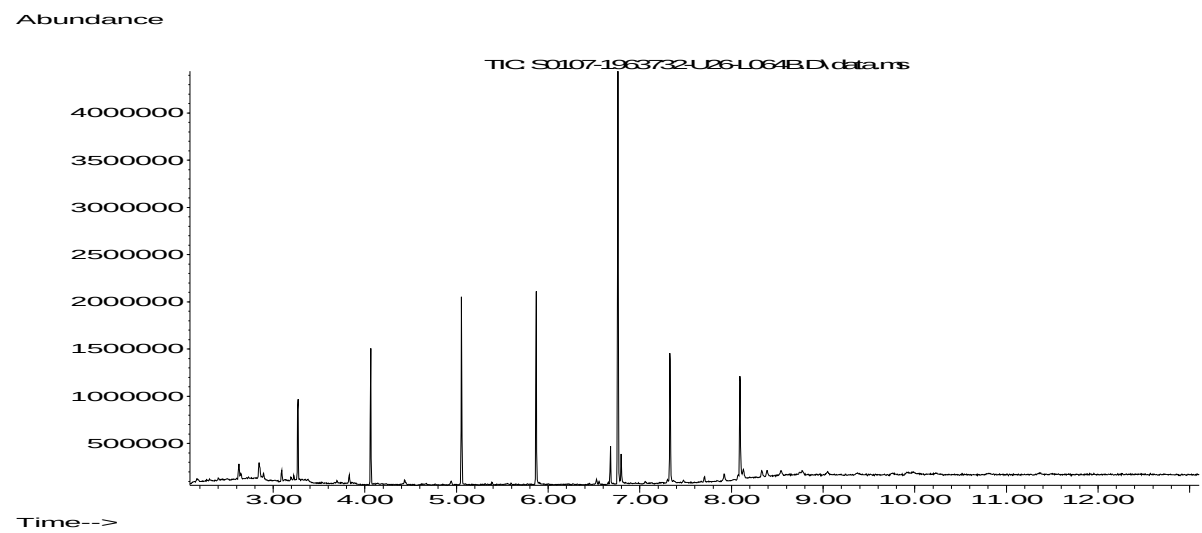
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

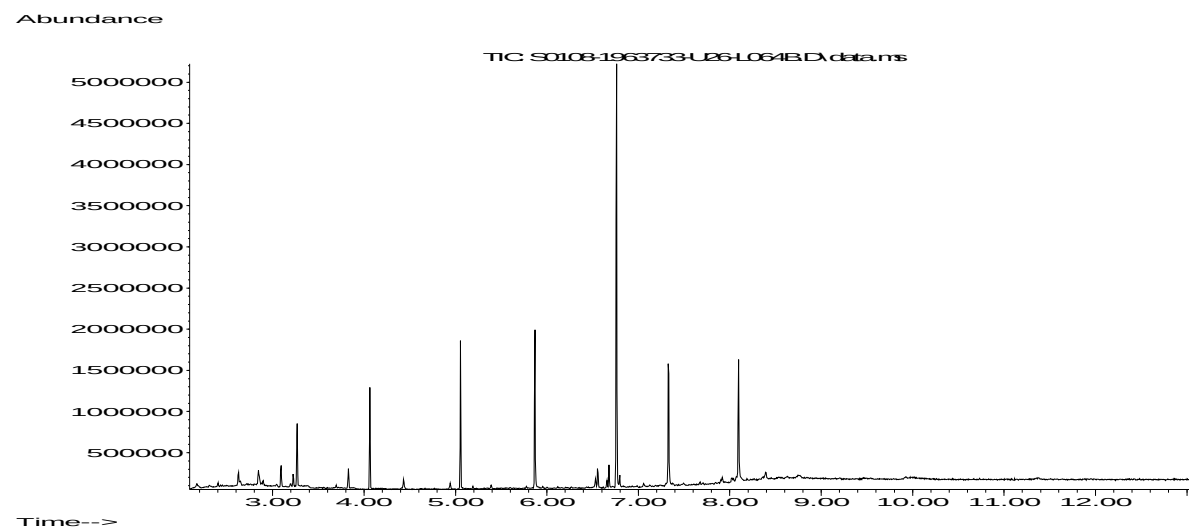
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

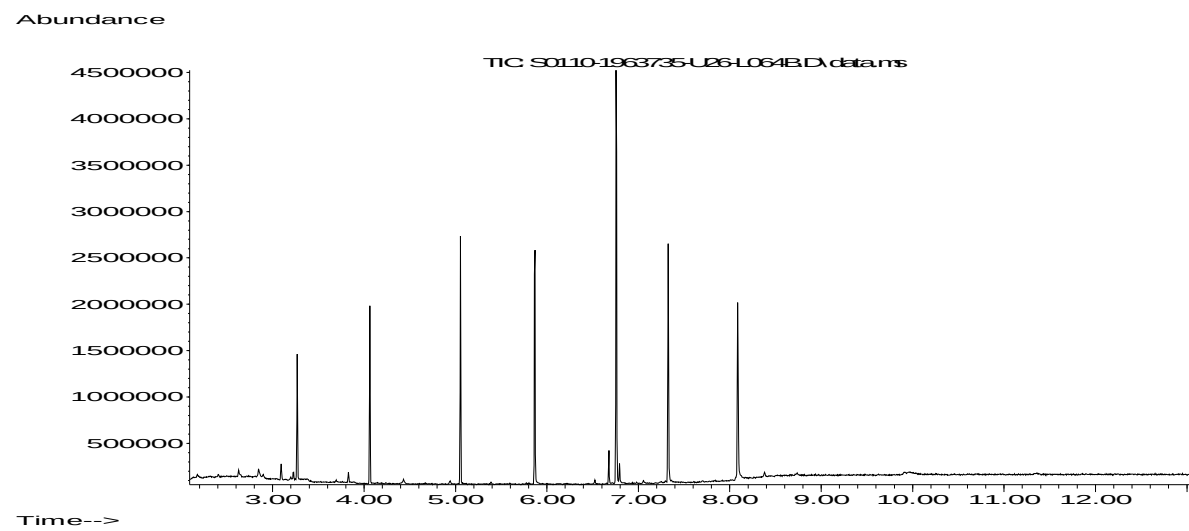
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

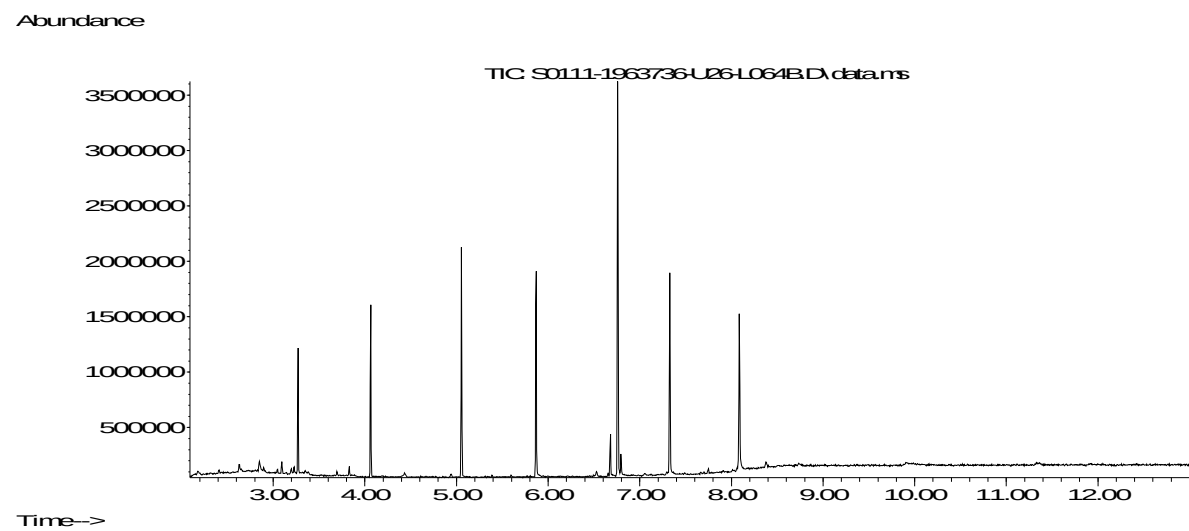


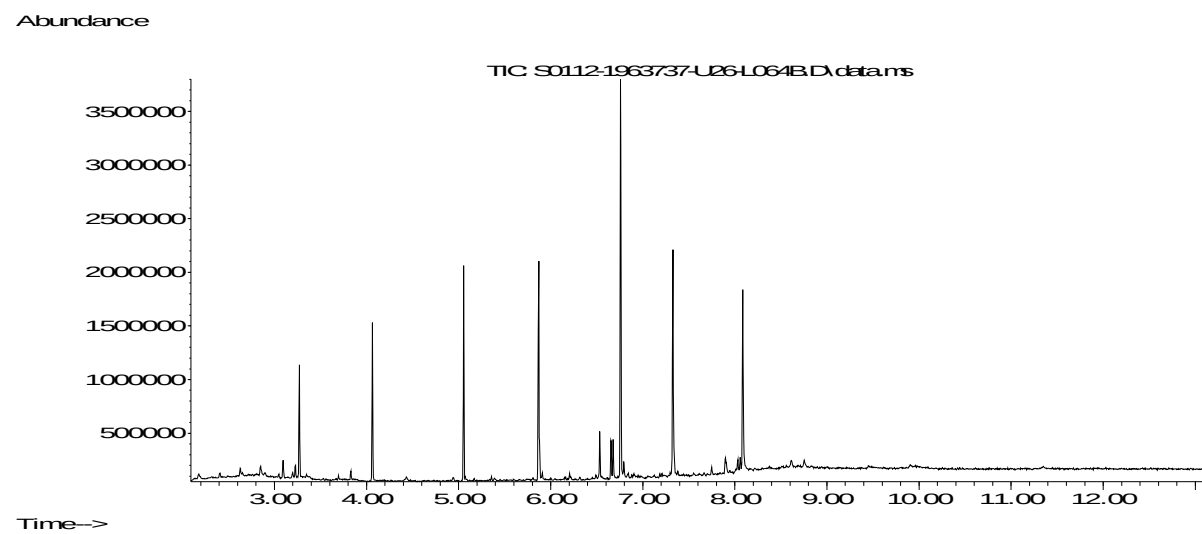


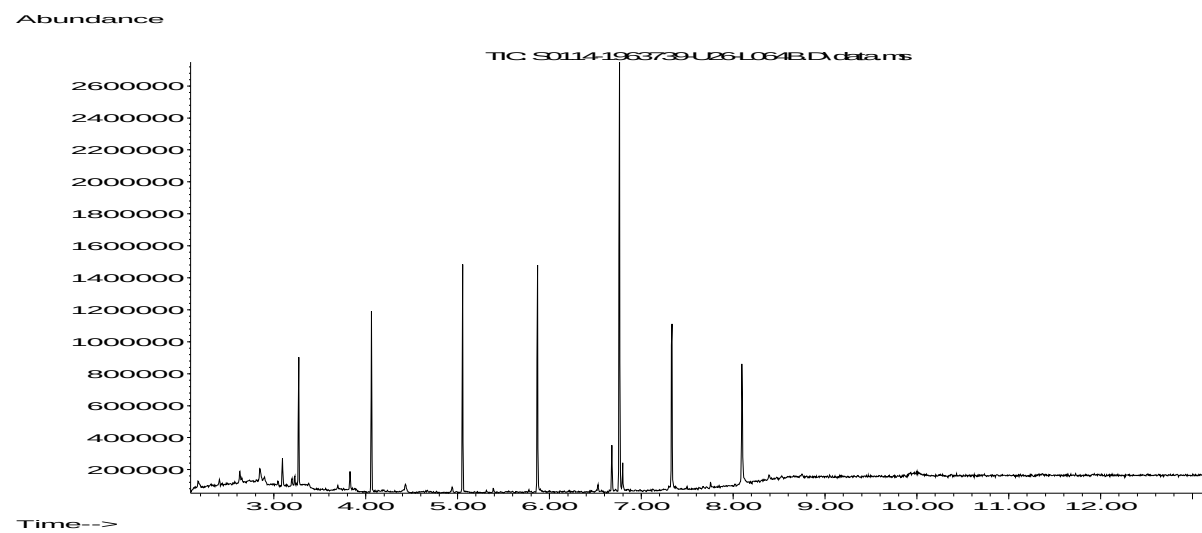


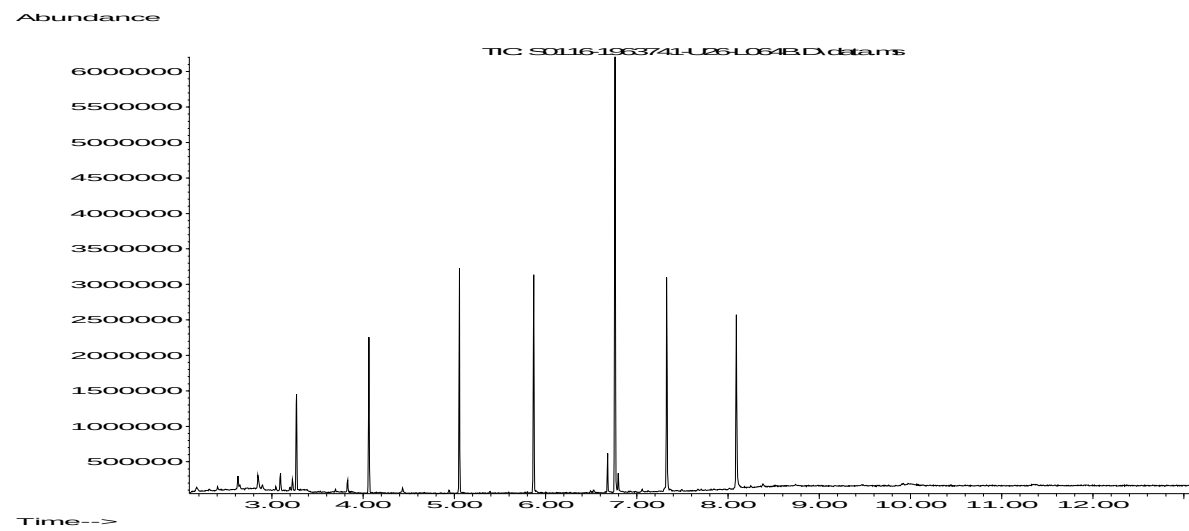


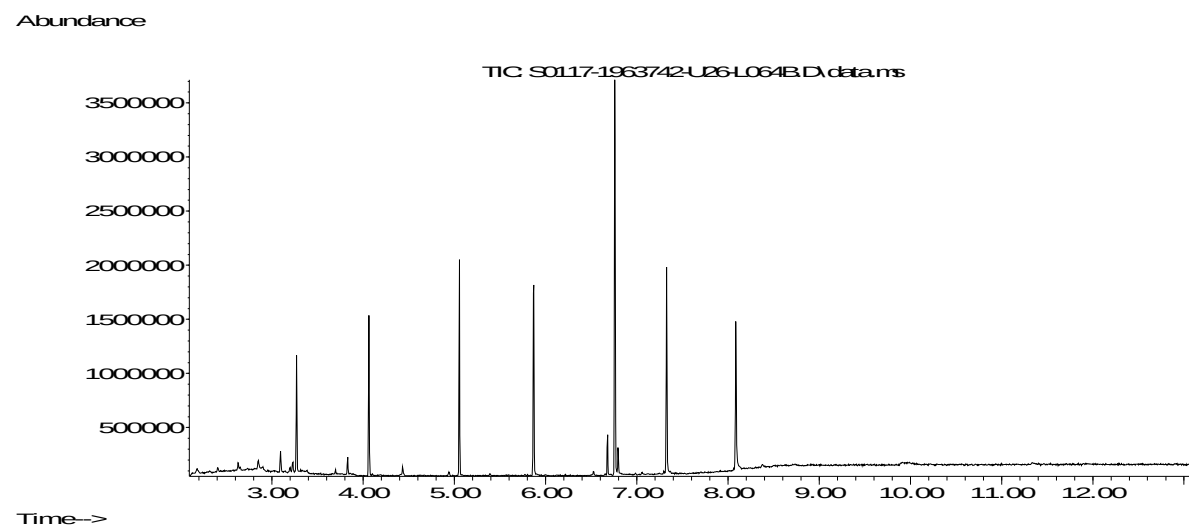


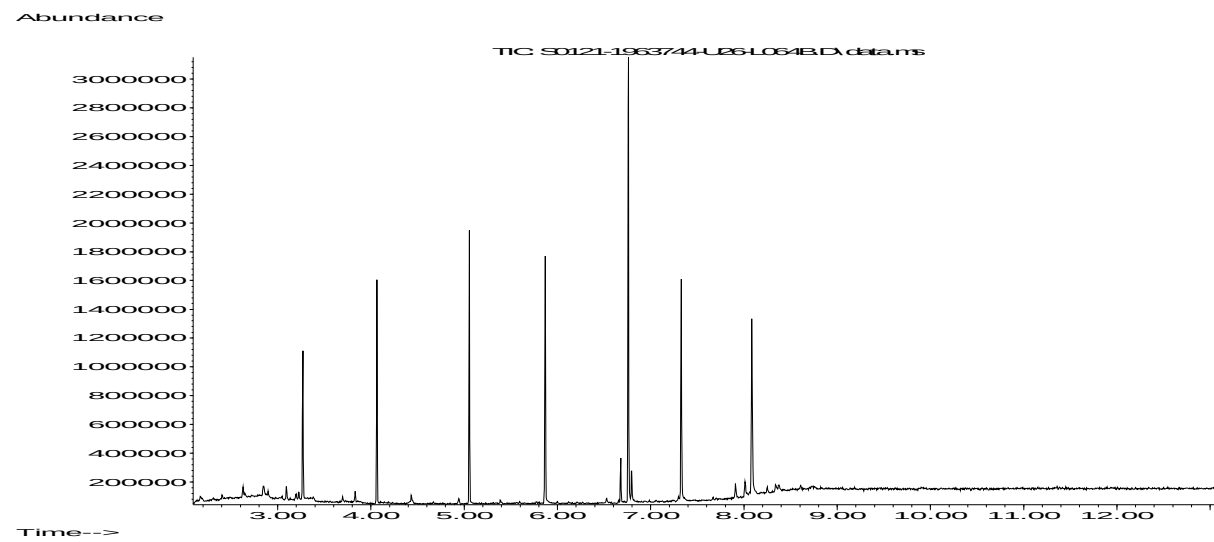












Sample Deviation Report



Analytical Report Number : 21-91291

Project / Site name: Dunsbury Park

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP1.01	None Supplied	S	1963727	c	Free cyanide in soil	L080-PL	c
TP1.04	None Supplied	S	1963728	c	Free cyanide in soil	L080-PL	c
TP4.03	None Supplied	S	1963730	c	Free cyanide in soil	L080-PL	c
TP4.03	None Supplied	S	1963730	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP4.03	None Supplied	S	1963730	c	TPH in (Soil)	L076-PL	c
TP4.06	None Supplied	S	1963731	c	Free cyanide in soil	L080-PL	c
TP7.03	None Supplied	S	1963732	c	Free cyanide in soil	L080-PL	c
TP7.03	None Supplied	S	1963732	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP7.03	None Supplied	S	1963732	c	TPH in (Soil)	L076-PL	c
TP7.07	None Supplied	S	1963733	c	Free cyanide in soil	L080-PL	c
TP7.07	None Supplied	S	1963733	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP7.07	None Supplied	S	1963733	c	TPH in (Soil)	L076-PL	c
TP7.08	None Supplied	S	1963734	c	Free cyanide in soil	L080-PL	c
TP7.09	None Supplied	S	1963735	c	Free cyanide in soil	L080-PL	c
TP7.09	None Supplied	S	1963735	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP7.09	None Supplied	S	1963735	c	TPH in (Soil)	L076-PL	c
WS1.01	None Supplied	S	1963736	c	Free cyanide in soil	L080-PL	c
WS1.02	None Supplied	S	1963737	c	Free cyanide in soil	L080-PL	c
WS4.01	None Supplied	S	1963738	c	Free cyanide in soil	L080-PL	c
WS4.03	None Supplied	S	1963739	c	Free cyanide in soil	L080-PL	c
WS4.04	None Supplied	S	1963740	c	Free cyanide in soil	L080-PL	c
WS4.06	None Supplied	S	1963741	c	Free cyanide in soil	L080-PL	c
WS7.02	None Supplied	S	1963742	c	Free cyanide in soil	L080-PL	c
WS7.03	None Supplied	S	1963743	c	Free cyanide in soil	L080-PL	c
WS7.04	None Supplied	S	1963744	c	Free cyanide in soil	L080-PL	c

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e: Group Southampton cc engineer

Analytical Report Number : 21-91299

Project / Site name:	Dunsbury Park	Samples received on:	29/07/2021
Your job number:	19453-GELO	Samples instructed on/ Analysis started on:	05/08/2021
Your order number:	PO08919	Analysis completed by:	12/08/2021
Report Issue Number:	1	Report issued on:	12/08/2021
Samples Analysed:	3 10:1 WAC Samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Waste Acceptance Criteria Analytical Results								
Report No:	21-91299							
					Client: HYDROCK			
Location	Dunsbury Park							
Lab Reference (Sample Number)	1963768 / 1963769				Landfill Waste Acceptance Criteria			
					Limits			
Sampling Date	21/07/2021				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	TP7.07							
Depth (m)	1.00							
Solid Waste Analysis								
TOC (%)**	0.5				3%	5%	6%	
Loss on Ignition (%) **	2.8				--	--	10%	
BTEX (µg/kg) **	< 10				6000	--	--	
Sum of PCBs (mg/kg) **	< 0.007				1	--	--	
Mineral Oil (mg/kg)	< 10				500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--	
pH (units)**	8.4				--	>6	--	
Acid Neutralisation Capacity (mol / kg)	7.8				--	To be evaluated	To be evaluated	
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test			
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	0.0069			0.0606	0.5	2	25	
Barium *	0.0216			0.190	20	100	300	
Cadmium *	0.0011			0.0099	0.04	1	5	
Chromium *	0.0082			0.072	0.5	10	70	
Copper *	0.11			0.95	2	50	100	
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2	
Molybdenum *	0.0063			0.0554	0.5	10	30	
Nickel *	0.0096			0.084	0.4	10	40	
Lead *	0.017			0.15	0.5	10	50	
Antimony *	0.010			0.090	0.06	0.7	5	
Selenium *	< 0.0040			< 0.040	0.1	0.5	7	
Zinc *	0.055			0.49	4	50	200	
Chloride *	31			270	800	15000	25000	
Fluoride	0.27			2.4	10	150	500	
Sulphate *	76			670	1000	20000	50000	
TDS*	150			1300	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-	
DOC	38.2			336	500	800	1000	
Leach Test Information								
Stone Content (%)	< 0.1							
Sample Mass (kg)	1.0							
Dry Matter (%)	89							
Moisture (%)	11							
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					** = UKAS accredited (liquid eluate analysis only)			
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCFRTS accredited			

*= UKAS accredited (liquid eluate analysis only)

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results								
Report No:	21-91299							
					Client: HYDROCK			
Location	Dunsbury Park							
Lab Reference (Sample Number)	1963770 / 1963771				Landfill Waste Acceptance Criteria			
					Limits			
Sampling Date	26/07/2021				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	WS1.01							
Depth (m)	0.50							
Solid Waste Analysis								
TOC (%)**	0.1				3%	5%	6%	
Loss on Ignition (%) **	2.3				--	--	10%	
BTEX (µg/kg) **	< 10				6000	--	--	
Sum of PCBs (mg/kg) **	< 0.007				1	--	--	
Mineral Oil (mg/kg)	< 10				500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--	
pH (units)**	11.7				--	>6	--	
Acid Neutralisation Capacity (mol / kg)	140				--	To be evaluated	To be evaluated	
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test			
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	0.0042			0.0366	0.5	2	25	
Barium *	0.0505			0.435	20	100	300	
Cadmium *	< 0.0001			< 0.0008	0.04	1	5	
Chromium *	0.0025			0.021	0.5	10	70	
Copper *	0.057			0.49	2	50	100	
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2	
Molybdenum *	0.0310			0.267	0.5	10	30	
Nickel *	0.015			0.13	0.4	10	40	
Lead *	0.0036			0.031	0.5	10	50	
Antimony *	< 0.0017			< 0.017	0.06	0.7	5	
Selenium *	< 0.0040			< 0.040	0.1	0.5	7	
Zinc *	0.0084			0.072	4	50	200	
Chloride *	4.0			35	800	15000	25000	
Fluoride	0.14			1.2	10	150	500	
Sulphate *	13			110	1000	20000	50000	
TDS*	570			4900	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-	
DOC	12.6			109	500	800	1000	
Leach Test Information								
Stone Content (%)	< 0.1							
Sample Mass (kg)	1.0							
Dry Matter (%)	91							
Moisture (%)	9.5							
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					** = UKAS accredited (liquid eluate analysis only)			
Stated limits are for guidance only and I2 cannot be held responsible for any discrepancies with current legislation					** = MCFRTS accredited			

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
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Waste Acceptance Criteria Analytical Results								
Report No:	21-91299							
					Client: HYDROCK			
Location	Dunsbury Park							
Lab Reference (Sample Number)	1963772 / 1963773				Landfill Waste Acceptance Criteria			
					Limits			
Sampling Date	28/07/2021				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	WS4.03							
Depth (m)	0.40							
Solid Waste Analysis								
TOC (%)**	< 0.1				3%	5%	6%	
Loss on Ignition (%) **	2.1				--	--	10%	
BTEX (µg/kg) **	< 10				6000	--	--	
Sum of PCBs (mg/kg) **	< 0.007				1	--	--	
Mineral Oil (mg/kg)	< 10				500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--	
pH (units)**	10.0				--	>6	--	
Acid Neutralisation Capacity (mol / kg)	29				--	To be evaluated	To be evaluated	
Eluate Analysis								
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test			
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	< 0.0010			< 0.0100	0.5	2	25	
Barium *	0.0128			0.109	20	100	300	
Cadmium *	< 0.0001			< 0.0008	0.04	1	5	
Chromium *	0.0071			0.060	0.5	10	70	
Copper *	0.015			0.13	2	50	100	
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2	
Molybdenum *	< 0.0004			< 0.0040	0.5	10	30	
Nickel *	0.012			0.098	0.4	10	40	
Lead *	0.0023			0.019	0.5	10	50	
Antimony *	< 0.0017			< 0.017	0.06	0.7	5	
Selenium *	< 0.0040			< 0.040	0.1	0.5	7	
Zinc *	0.0090			0.077	4	50	200	
Chloride *	1.6			14	800	15000	25000	
Fluoride	0.21			1.8	10	150	500	
Sulphate *	31			260	1000	20000	50000	
TDS*	290			2400	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-	
DOC	9.79			83.0	500	800	1000	
Leach Test Information								
Stone Content (%)	< 0.1							
Sample Mass (kg)	1.0							
Dry Matter (%)	87							
Moisture (%)	13							
Results are expressed on a dry weight basis, after correction for moisture content where applicable.								
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = UKAS accredited (liquid eluate analysis only)			
					** = MCERTS accredited			

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



Analytical Report Number : 21-91299

Project / Site name: Dunsbury Park

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1963768	TP7.07	None Supplied	1	Brown clay and sand with gravel.
1963770	WS1.01	None Supplied	0.5	Brown sand with gravel.
1963772	WS4.03	None Supplied	0.4	Light brown sandy clay with gravel.

Analytical Report Number : 21-91299

Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025

Analytical Report Number : 21-91299

Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

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

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

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

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report



Analytical Report Number : 21-91299

Project / Site name: Dunsbury Park

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP7.07	None Supplied	S	1963768	c	BTEX in soil (Monoaromatics)	L073B-PL	c
TP7.07	None Supplied	S	1963768	c	Total BTEX in soil (Poland)	L073-PL	c

**Yacklin Panza**

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Analytical Report Number : 21-95123

Project / Site name:	Dunsbury Park	Samples received on:	25/08/2021
Your job number:	19453-GELO	Samples instructed on/ Analysis started on:	25/08/2021
Your order number:	PO09395	Analysis completed by:	02/09/2021
Report Issue Number:	1	Report issued on:	02/09/2021
Samples Analysed:	7 soil samples		

Signed:

Izabela Wójcik

Izabela Wójcik
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 21-95123
Project / Site name: Dunsbury Park
Your Order No: P009395

Lab Sample Number				1985519	1985520	1985521	1985522	1985523
Sample Reference				BH5.01	BH5.02	BH5.05	BH1.01	BH4.01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.05	0.05	0.20	1.00	0.50
Date Sampled				09/08/2021	10/08/2021	13/08/2021	23/08/2021	23/08/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	4.7	13	15	19
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.2	1.2	1.2

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

pH - Automated	pH Units	N/A	MCERTS	8.9	9.6	10.6	9.8	6.5
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.044	0.055	0.29	0.24	0.045
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0061	0.0033	0.0052	0.0061	0.0028

Total Phenols

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

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

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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Analytical Report Number: 21-95123
Project / Site name: Dunsbury Park
Your Order No: P009395

Lab Sample Number				1985519	1985520	1985521	1985522	1985523
Sample Reference				BH5.01	BH5.02	BH5.05	BH1.01	BH4.01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.05	0.05	0.20	1.00	0.50
Date Sampled				09/08/2021	10/08/2021	13/08/2021	23/08/2021	23/08/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	11	8.3	8.1	6.9
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.44	0.21	0.63	0.57	0.76
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.2	0.2	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5	0.9	< 0.2	0.4	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	18	9.5	28	26	25
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	9.6	29	26	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.1	3.9	12	64	8.7
Lead (aqua regia extractable)	mg/kg	1	MCERTS	35	22	14	24	8.1
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	11	6.0	12	16	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	28	12	42	39	31
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	79	100	66	150	49

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0

Analytical Report Number: 21-95123
Project / Site name: Dunsbury Park
Your Order No: P009395

Lab Sample Number				1985519	1985520	1985521	1985522	1985523
Sample Reference				BH5.01	BH5.02	BH5.05	BH1.01	BH4.01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.05	0.05	0.20	1.00	0.50
Date Sampled				09/08/2021	10/08/2021	13/08/2021	23/08/2021	23/08/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	-	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	-	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	-	< 10	< 10	< 10	< 10
TPH Total C5 - C44	mg/kg	10	NONE	-	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-95123
Project / Site name: Dunsbury Park
Your Order No: P009395

Lab Sample Number				1985524	1985525
Sample Reference				BH4.02	BH6.01
Sample Number				None Supplied	None Supplied
Depth (m)				0.50	0.40
Date Sampled				24/08/2021	17/08/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	15
Total mass of sample received	kg	0.001	NONE	1.2	1.2

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

pH - Automated	pH Units	N/A	MCERTS	11.1	7.7
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.22	0.0055
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0031	0.0070

Total Phenols

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

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

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80
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Analytical Report Number: 21-95123
 Project / Site name: Dunsbury Park
 Your Order No: P009395

Lab Sample Number				1985524	1985525
Sample Reference				BH4.02	BH6.01
Sample Number				None Supplied	None Supplied
Depth (m)				0.50	0.40
Date Sampled				24/08/2021	17/08/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.5	6.0
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.66	0.31
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	32	21
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	32	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	5.4
Lead (aqua regia extractable)	mg/kg	1	MCERTS	6.3	9.2
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	5.6
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	37	33
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	56	27

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0

Analytical Report Number: 21-95123
Project / Site name: Dunsbury Park
Your Order No: P009395

Lab Sample Number				1985524	1985525
Sample Reference				BH4.02	BH6.01
Sample Number				None Supplied	None Supplied
Depth (m)				0.50	0.40
Date Sampled				24/08/2021	17/08/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Petroleum Hydrocarbons					
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10
TPH Total C5 - C44	mg/kg	10	NONE	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 21-95123

Project / Site name: Dunsbury Park

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1985519	BH5.01	None Supplied	0.05	Brown clay and sand with gravel and vegetation.
1985520	BH5.02	None Supplied	0.05	Brown loam and sand with gravel and vegetation.
1985521	BH5.05	None Supplied	0.2	Brown loam and sand with gravel.
1985522	BH1.01	None Supplied	1	Brown clay and loam with gravel and vegetation.
1985523	BH4.01	None Supplied	0.5	Brown clay and loam.
1985524	BH4.02	None Supplied	0.5	Brown loam and sand with gravel.
1985525	BH6.01	None Supplied	0.4	Brown clay and loam with gravel and vegetation.

Analytical Report Number : 21-95123
Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L0738-PL	W	MCERTS
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS



Analytical Report Number : 21-95123
Project / Site name: Dunsbury Park

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

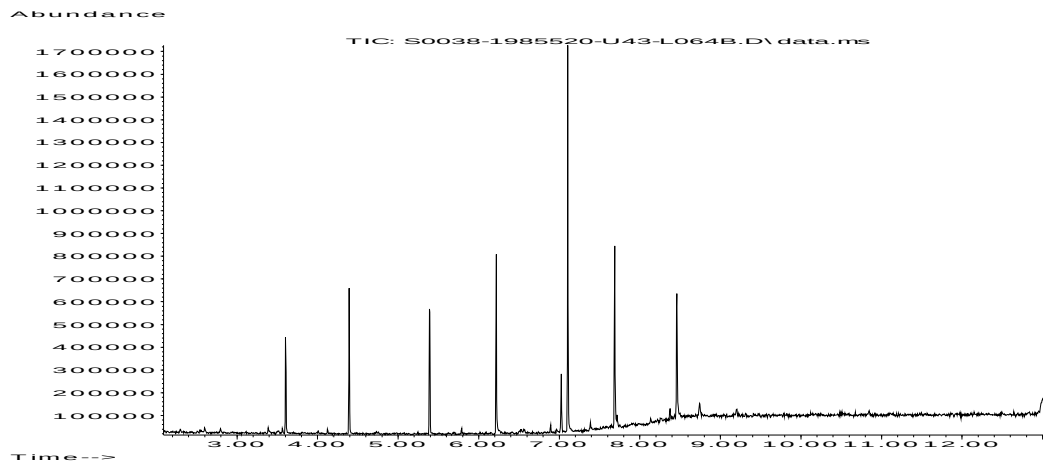
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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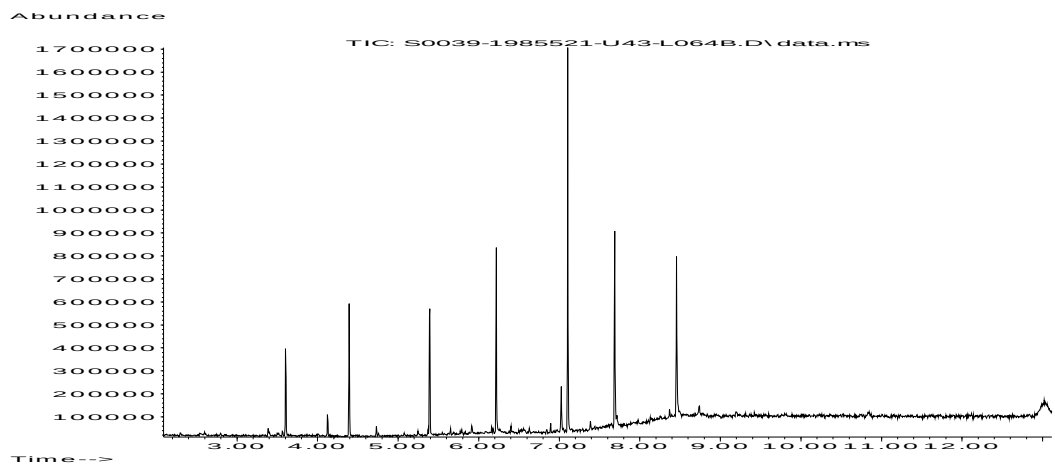
For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

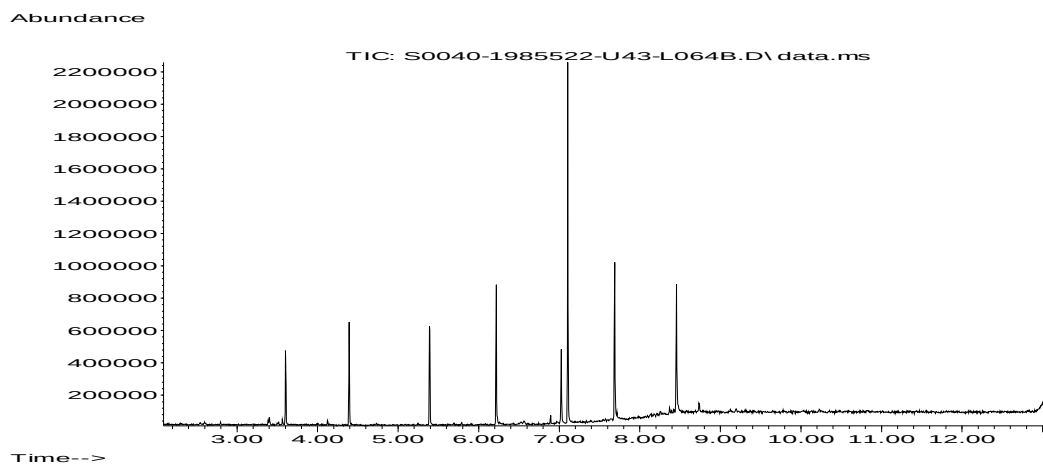
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

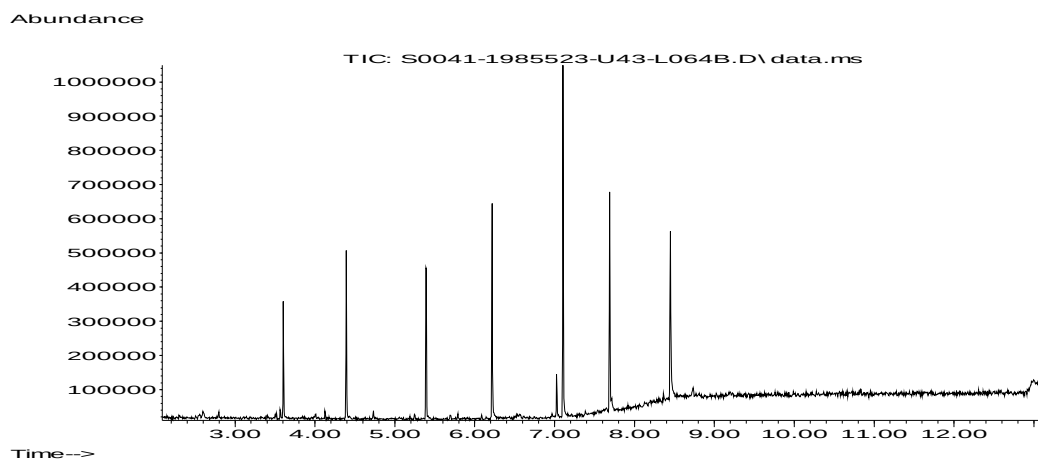
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

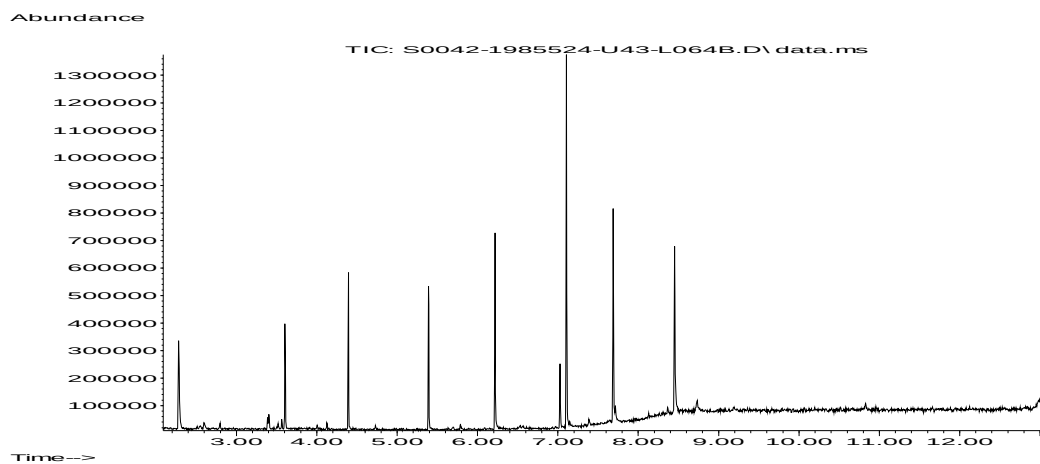
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

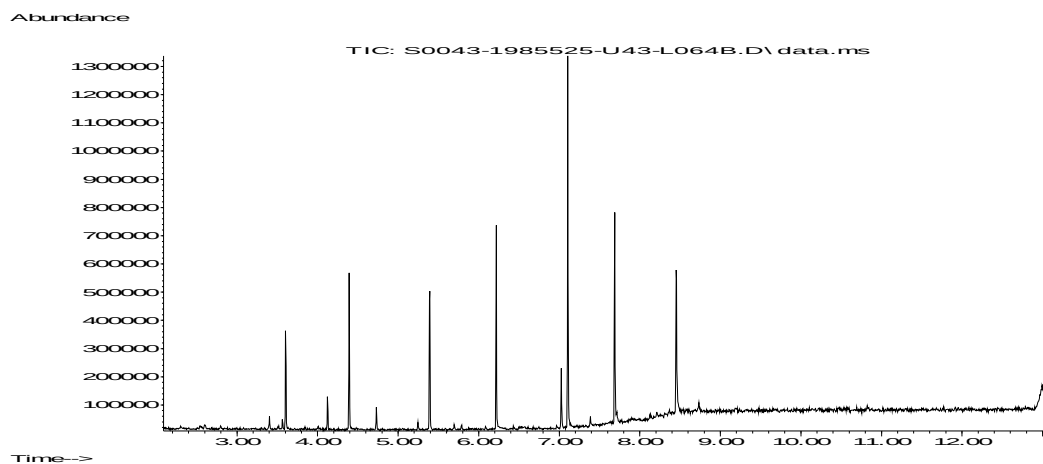












Analytical Report Number : 21-95123
Project / Site name: Dunsbury Park

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH1.01	None Supplied	S	1985522	c	Fraction Organic Carbon FOC Automated	L009	c
BH4.01	None Supplied	S	1985523	c	Fraction Organic Carbon FOC Automated	L009	c
BH4.02	None Supplied	S	1985524	c	Fraction Organic Carbon FOC Automated	L009	c
BH5.01	None Supplied	S	1985519	c	Free cyanide in soil	L080-PL	c
BH5.01	None Supplied	S	1985519	c	Fraction Organic Carbon FOC Automated	L009	c
BH5.01	None Supplied	S	1985519	c	Organic matter in soil	L023-PL	c
BH5.02	None Supplied	S	1985520	c	Free cyanide in soil	L080-PL	c
BH5.02	None Supplied	S	1985520	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
BH5.02	None Supplied	S	1985520	c	Fraction Organic Carbon FOC Automated	L009	c
BH5.02	None Supplied	S	1985520	c	Organic matter in soil	L023-PL	c
BH5.02	None Supplied	S	1985520	c	TPH in (Soil)	L076-PL	c
BH5.05	None Supplied	S	1985521	c	Free cyanide in soil	L080-PL	c
BH5.05	None Supplied	S	1985521	c	Fraction Organic Carbon FOC Automated	L009	c
BH6.01	None Supplied	S	1985525	c	Free cyanide in soil	L080-PL	c
BH6.01	None Supplied	S	1985525	c	Fraction Organic Carbon FOC Automated	L009	c

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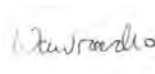
e: reception@i2analytical.com

e: Group Southampton cc engineer

Analytical Report Number : 21-95400

Replaces Analytical Report Number: 21-95400, issue no. 1
Client sampling date amended.

Project / Site name:	Dunsbury Park	Samples received on:	25/08/2021
Your job number:	19453-GELO	Samples instructed on/ Analysis started on:	26/08/2021
Your order number:	PO09395	Analysis completed by:	03/09/2021
Report Issue Number:	2	Report issued on:	03/09/2021
Samples Analysed:	1 soil sample		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 21-95400
Project / Site name: Dunsbury Park
Your Order No: P009395

Lab Sample Number					1987473
Sample Reference					BH6.02
Sample Number					None Supplied
Depth (m)					0.10
Date Sampled					19/08/2021
Time Taken					None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	
Moisture Content	%	0.01	NONE	11	
Total mass of sample received	kg	0.001	NONE	1.0	

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

pH - Automated	pH Units	N/A	MCERTS	7.9
Free Cyanide	mg/kg	1	MCERTS	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.030
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.015

Total Phenols

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

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

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.7
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.25
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2
Chromium (III)	mg/kg	1	NONE	15
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	7.8
Lead (aqua regia extractable)	mg/kg	1	MCERTS	15
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.0
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	25
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	36

Analytical Report Number: 21-95400
Project / Site name: Dunsbury Park
Your Order No: P009395

Lab Sample Number				1987473
Sample Reference				BH6.02
Sample Number				None Supplied
Depth (m)				0.10
Date Sampled				19/08/2021
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10

TPH Total C5 - C44	mg/kg	10	NONE	< 10
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 21-95400

Project / Site name: Dunsbury Park

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1987473	BH6.02	None Supplied	0.1	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 21-95400
Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L0738-PL	W	MCERTS
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS



Analytical Report Number : 21-95400
Project / Site name: Dunsbury Park

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

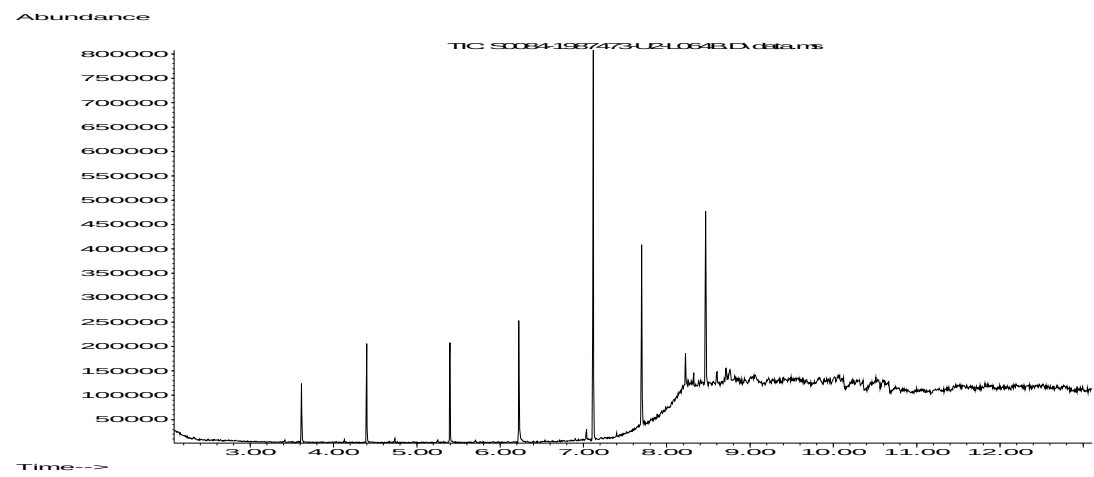
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

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

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

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.



Sample Deviation Report



Analytical Report Number : 21-95400
Project / Site name: Dunsbury Park

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH6.02	None Supplied	S	1987473	c	Free cyanide in soil	L080-PL	c

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e: Group Southampton cc engineer

Analytical Report Number : 21-98932

Project / Site name:	Dunsbury Park	Samples received on:	27/08/2021
Your job number:	19453-GELO ALL UNITS	Samples instructed on/ Analysis started on:	13/09/2021
Your order number:	PO09491	Analysis completed by:	21/09/2021
Report Issue Number:	1	Report issued on:	21/09/2021
Samples Analysed:	2 soil samples		

Signed:



Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 21-98932
Project / Site name: Dunsbury Park
Your Order No: PO09491

Lab Sample Number				2008292	2008293
Sample Reference				HP7.01	HP7.01
Sample Number				None Supplied	None Supplied
Depth (m)				0.20	0.80
Date Sampled				Deviating	Deviating
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	9.9	14
Total mass of sample received	kg	0.001	NONE	1.0	1.0

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

pH - Automated	pH Units	N/A	MCERTS	8.4	8.9
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.70	0.49
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0042	0.0057

Total Phenols

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

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

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.6	12
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.60	0.76
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	3.0
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.7	1.7
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	31	39
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	32	39
Copper (aqua regia extractable)	mg/kg	1	MCERTS	130	230
Lead (aqua regia extractable)	mg/kg	1	MCERTS	34	78
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	42
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	39	48
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	360	870

Analytical Report Number: 21-98932

Project / Site name: Dunsbury Park

Your Order No: P009491

Lab Sample Number				2008292	2008293
Sample Reference				HP7.01	HP7.01
Sample Number				None Supplied	None Supplied
Depth (m)				0.20	0.80
Date Sampled				Deviating	Deviating
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	12
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	12

TPH Total C5 - C44	mg/kg	10	NONE	< 10	12
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 21-98932

Project / Site name: Dunsbury Park

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2008292	HP7.01	None Supplied	0.2	Brown clay and sand.
2008293	HP7.01	None Supplied	0.8	Brown clay and sand.

Analytical Report Number : 21-98932

Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS



Analytical Report Number : 21-98932
Project / Site name: Dunsbury Park

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

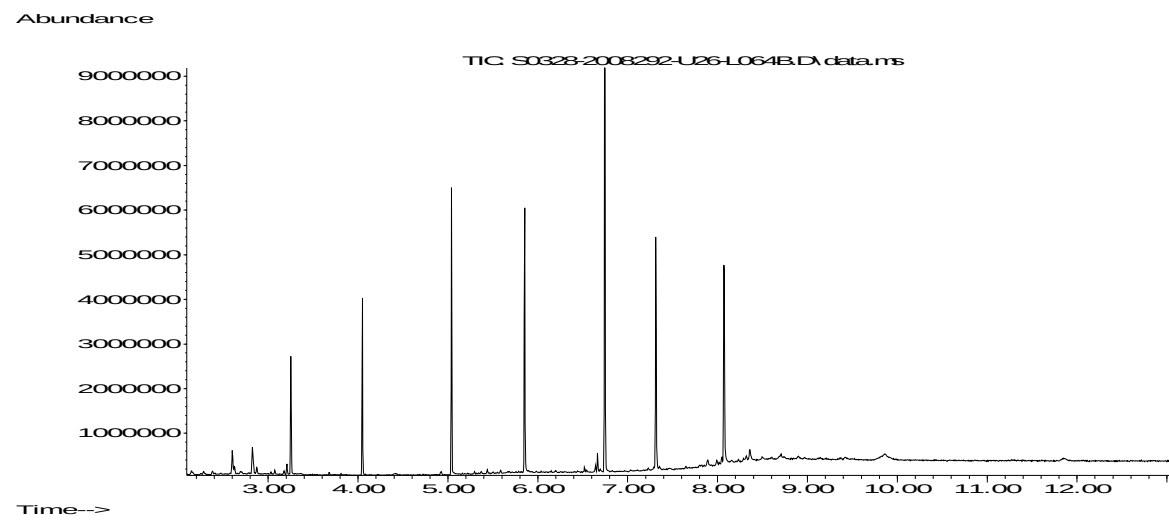
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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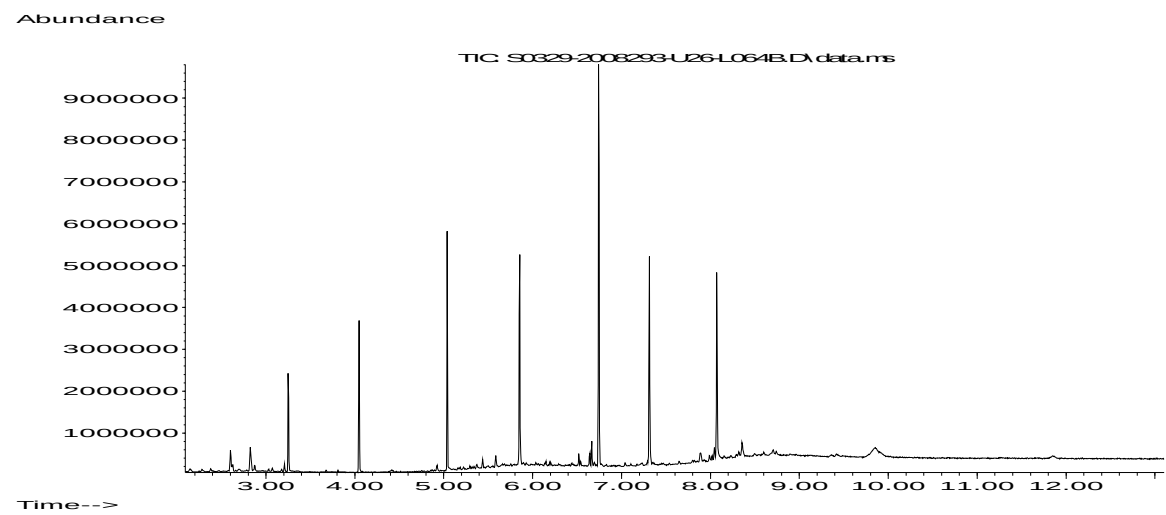
For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

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

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

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.





Sample Deviation Report



Analytical Report Number : 21-98932
Project / Site name: Dunsbury Park

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
HP7.01	None Supplied	S	2008292	a	None Supplied	None Supplied	None Supplied
HP7.01	None Supplied	S	2008293	a	None Supplied	None Supplied	None Supplied

Hydrock

16/03/2023, 12:53

Remedial Targets Methodology Data Table

Water body receptor(s): Groundwater and surface water Secondary receptor(s): 0 Data set: Groundwater Client: Portsmouth City Council Site: Dunsbury Park Job no: 19453-GELO Test Certificates(s): 21-10737, 21-11194 Dataset ALL ZONES										<div><div></div>PNEC calculated (inland EQS)</div>		123* Exceeds solubility value <1 Grey text and "<" sign if value <= LoD 999 Red text if value > DWS Red fill if value > Inland Waters EQS		Surface Water Representative Hardness as mg/l CaCO ₃ 10									
CAS / AGS Number	Chemical of Potential Concern (µg/l)	WFD Designation	Hazardous Substance Status	Solubility Limit (µg/l)	No. of samples	Limit of Detection	DWS	Inland Waters EQS	BH1.01	BH6.02	BH6.03	BH7.01	WS4.03	WS4.05	BH7.03	WS7.03	WS7.04	WS6.02	WS6.04	WS1.01			
P1374	m,p-Xylene		H	200000	12	1	500	30	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
1634-04-04	Methyl tertiary butyl ether (MTBE)		NP	48000000	12	1	15	n/a	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
71-55-6	1,1,1-Trichloroethane		NP	1300000	0		n/a	100															
79-00-5	1,1,2-Trichloroethane		NP	4490000	0		n/a	400															
96-12-8	1,2-Dibromo-3-chloropropane			1230000	0		0.1	n/a															
106-93-4	1,2-Dibromoethane		H	4300000	0		0.4	n/a															
95-50-1	1,2-Dichlorobenzene		H	133000	0		1000	20															
107-06-2	1,2-Dichloroethane (EDC)	P	NP	8680000	0		3	10															
156-59-2	cis 1,2-Dichloroethene (cis 1,2 DCE)		NP	7550000	0		50	n/a															
156-60-5	trans 1,2-Dichloroethene (trans 1,2 DCE)		NP	5250000	0		50	n/a															
78-87-5	1,2-Dichloropropane		H	2050000	0		40	n/a															
10061-01-5	cis 1,3-Dichloropropene		H	2700000	0		0.1	n/a															
10061-02-6	trans 1,3-Dichloropropene		H	2800000	0		0.1	n/a															
106-46-7	1,4-Dichlorobenzene		H	103000	0		300	20															
75-27-4	Bromodichloromethane			3000000	0		60	n/a															
75-01-4	Chloroethene (vinyl chloride)		H	2760000	0		0.5	n/a															
124-48-1	Dibromochloromethane			1050000	0		100	n/a															
25321-22-6	Dichlorobenzenes (1,2-, 1,3- & 1,4)				0		n/a	20															
75-09-2	Dichloromethane	P	NP	20100000	0		20	20															
87-68-3	Hexachlorobutadiene (HCBd)	PH	H	4800	0		0.1	0.6															
100-42-5	Styrene		H	290000	0		20	50															
25322-20-7	Tetrachloroethane (PCA)	SP			0		n/a	140															
127-18-4	Tetrachloroethene (PCE)	OP	NP	225000	0		10	10															
GRP02	Tetrachloroethene (PCE) and trichloroethene (TCE)				0		10	n/a															
56-23-5	Tetrachloromethane (Carbon Tetrachloride)	OP	H	846000	0		3	12															
75-25-2	Tribromomethane (bromoform)			3000000	0		100	n/a															
12002-48-1	Trichlorobenzenes	P	NP		0		n/a	0.4															
79-01-6	Trichloroethene	OP	H	1370000	0		10	10															
67-66-3	Trichloromethane (chloroform)	P	H	8950000	0		100	2.5															
GRP03	Trihalomethanes, sum of trichloromethane, tribromomethane, dibromochloromethane & bromodichloromethane				0		100	n/a															
88-06-2	2,4,6-Trichlorophenol		H	434000	0		200	n/a															
120-83-2	2,4-Dichlorophenol	SP	H	4500000	0		n/a	4.2															
95-57-8	2-Chlorophenol		H	22700000	0		n/a	50															
554-00-7	3,4-Dichloroaniline	SP			0		n/a	0.2															
108-43-0	3-Chlorophenol		H		0		n/a	50															
59-50-7	4-Chloro, 3-methylphenol		H		0		n/a	40															
106-48-9	4-Chlorophenol		H		0		n/a	50															
85-68-7	Benzyl butyl phthalate	SP			0		n/a	7.5															
117-81-7	Di(2-ethylhexylphthalate) (DEHP)	PH	NP		0		8	1.3															
84-74-2	Dibutyl phthalate		NP		0		n/a	8															
84-66-2	Diethyl phthalate (DEP)				0		n/a	200															
131-11-3	Dimethyl phthalate (DMP)				0		n/a	800															
117-84-0	Diethyl phthalates				0		n/a	20															
118-74-1	Hexachlorobenzene	PH	H	9.6	0		0.1	0.05															
104-40-5	Nonylphenol (4-Nonylphenol)	PH			0		n/a	0.3															
140-66-9	Octylphenol ((4-(1,1', 3,3'-tetramethylbutyl)-phenol))	P			0		n/a	0.1															
608-93-5	Pentachlorobenzene	PH	H	500	0		n/a	0.007															
123-91-1	1,4-dioxane				0		50	n/a															
79-06-1	Acrylamide		H		0		0.1	n/a															
92-52-4	Biphenyl (cyclochlorocyclohexane)				0		n/a	25															
32534-81-9	Brominated diphenylethers (Sum congeners 28,47,99,100,153,154)	PH	H		0		n/a	0.14															
85535-84-8	Chloroalkanes C10-C13	PH	H		0		n/a	0.4															
25567-68-4	Chloronitrotoluenes		H		0		n/a	10															
3252-43-5	Dibromoacetonitrile				0		70	n/a															
13425-80-4	Dichloroacetate				0		50	n/a															

Remedial Targets Methodology Data Table



Water body receptor(s): Groundwater and surface water Secondary receptor(s): 0 Data set: Groundwater Client: Portsmouth City Council Site: Dunsbury Park Job no: 19453-GELO Test Certificates(s): 21-10737,21-11194 Dataset ALL ZONES								<div><div></div>PNEC calculated (inland EQS)</div>		123* Exceeds solubility value <1 Grey text and "<" sign if value <= LoD 999 Red text if value > DWS Red fill if value > Inland Waters EQS		Surface Water Representative Hardness as mg/l CaCO ₃ 10											
CAS / AGS Number	Chemical of Potential Concern (µg/l)	WFD Designation	Hazardous Substance Status	Solubility Limit (µg/l)	No. of samples	Limit of Detection	DWS	Inland Waters EQS	BH1.01	BH6.02	BH6.03	BH7.01	WS4.03	WS4.05	BH7.03	WS7.03	WS7.04	WS6.02	WS6.04	WS1.01			
3018-12-0	Dichloroacetoneitrile				0		20	n/a															
GRP04	Dioxins and dioxin-like compounds	PH			0		n/a	n/a															
3194-55-6	Hexabromocyclododecanes (HBCDD)	PH	H		0		n/a	0.0016															
2163-68-0	Hydroxyatrazine				0		200	n/a															
101043-37-2	Microcystin-LR				0		1	n/a															
62-75-9	N-nitrosodimethylamine				0		0.1	n/a															
1763-23-1	Perfluorooctane sulfonic acid (PFOS) & derivatives	PH	H		0		0.3	0.00065															
1336-36-3	Polychlorinated Biphenyls (PCB)		H		0		n/a	n/a															
2893-78-9	Sodium dichloroisoxyanurate				0		50000	n/a															
126-73-8	Tributyl phosphate		H		0		n/a	50															
3380-34-5	Triclosan	SP			0		n/a	0.1															
7726-95-6	Bromine (Br)				0		n/a	2															
7782-50-5	Chlorine (total free available)	SP	NP		0		200	2															
14866-68-3	Chlorate				0		700	n/a															
14998-27-7	Chlorite				0		700	n/a															
60-00-4	EDTA (edetic acid)				0		600	400															
106-89-8	Epichlorohydrin		H		0		0.1	n/a															
569-64-2	Malachite green		H		0		n/a	0.5															
10599-90-3	Monochloramine				0		3000	n/a															
79-11-8	Monochloroacetate (Chloroacetic Acid)				0		20	n/a															
139-13-9	NTA (nitrilotriacetic acid)				0		200	1000															
76-03-9	Trichloroethanoic acid (trichloroacetate)				0		200	n/a															
7440-61-1	U (dissolved)				0		30	n/a															
36643-28-4	Tributyl tin compounds	PH	H		0		n/a	0.0002															
7783-06-4	Hydrogen Sulphide				0		n/a	0.25															
14797-73-0	Perchlorate				0		70	n/a															
GRP06	Total anions				0		n/a	250000															
93-76-5	2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)		H		0		0.1	n/a															
94-75-7	2,4-D (2,4-Dichlorophenoxyacetic acid)	SP			0		0.1	0.3															
94-82-6	2,4-DB (4-(2,4-dichlorophenoxy butyric acid)				0		0.1	n/a															
71751-41-2	Abamectin				0		0.1	0.01															
74070-46-5	Acinofen	P			0		0.1	0.12															
15972-60-8	Alachlor	P	H		0		0.1	0.3															
116-06-3	Aldicarb		NP		0		0.1	n/a															
309-00-2	Aldrin		H		0		0.03	n/a															
GRP07	Aldrin & dieldrin		H		0		0.03	n/a															
1912-24-9	Atrazine	P	H	70000	0		0.1	0.6															
35575-96-3	Azamethiphos				0		0.1	n/a															
2642-71-9	Azinphos ethyl		H		0		0.1	n/a															
86-50-0	Azinphos-methyl		H	95000	0		0.1	0.01															
25057-89-0	Bentazone		NP		0		0.1	500															
42576-02-3	Bifenox	P	H		0		0.1	0.012															
1689-84-5	Bromoxynil		H		0		0.1	100															
10605-21-7	Carbendazim	SP	H		0		0.1	0.15															
1563-66-2	Carbofuran		NP		0		0.1	n/a															
57-74-9	Chlordane		H		0		0.1	n/a															
470-90-6	Chlorofenvinphos	P	H		0		0.1	0.1															
101-21-3	Chloropropham		H		0		0.1	10															
2921-88-2	Chloropyrifos	P	H		0		0.1	0.03															
1897-45-6	Chlorothalonil	SP	H		0		0.1	0.035															
15545-48-9	Chlorotoluron		H		0		0.1	2															
GRP08	Cyclodiene pesticides, sum of Aldrin, Dieldrin, Endrin, Isodrin	OP	H		0		0.03	0.01															
56-72-4	Coumaphos		H		0		0.1	0.01															
21725-46-2	Cyanazine		H		0		0.1	n/a															
28159-98-0	Cybutryne	P			0		0.1	0.0025															
68359-37-5	Cyfluthrin				0		0.1	0.001															
52315-07-8	Cypermethrin	P	H		0		0.1	0.00008															
GRP09	DDT total (dichlorodiphenyltrichloroethane)	OP	H	5.73	0		0.1	0.025															
8065-48-3	Demeton		H		0		0.1	0.5															

Remedial Targets Methodology Data Table

Water body receptor(s): Groundwater and surface water Secondary receptor(s): 0 Data set: Groundwater Client: Portsmouth City Council Site: Dunsbury Park Job no: 19453-GELO Test Certificates(s): 21-10737,21-11194 Dataset ALL ZONES									<div><div></div>PNEC calculated (inland EQS)</div>		123*		Exceeds solubility value <1 Grey text and "<" sign if value <= LoD 999 Red text if value > DWS Red fill if value > Inland Waters EQS		Surface Water Representative Hardness as mg/l CaCO ₃ 10									
CAS / AGS Number	Chemical of Potential Concern (µg/l)	WFD Designation	Hazardous Substance Status	Solubility Limit (µg/l)	No. of samples	Limit of Detection	DWS	Strata / Zone Date sampled:	Unit 100 15/09/2021	Unit 600 15/09/2021	Unit 600 15/09/2021	Unit 700 15/09/2021	Unit 400 24/09/2021	Unit 400 24/09/2021	Unit 700 24/09/2021	Unit 700 24/09/2021	Unit 600 24/09/2021	Unit 600 24/09/2021	Unit 100 20/09/2021					
								Inland Waters EQS	BH1.01	BH6.02	BH6.03	BH7.01	WS4.03	WS4.05	BH7.03	WS7.03	WS7.04	WS6.02	WS6.04	WS1.01				
333-41-5	Diazinon (sheep dip)	SP	H		0		0.1	0.01																
120-36-5	Dichloroprop		H		0		0.1	n/a																
62-73-7	Dichlorvos	P	H	16000000	0		0.1	0.0006																
115-32-2	Dicofol	PH	H		0		0.1	0.0013																
60-57-1	Dieldrin		H	200	0		0.03	n/a																
35367-38-5	Diffubenzuron		H		0		0.1	0.001																
60-51-5	Dimethoate	SP	H		0		0.1	0.48																
330-54-1	Diuron	P	H		0		0.1	0.2																
117704-25-3	Doramectin				0		n/a	0.001																
115-29-7	Endosuffan	PH	H	280	0		0.1	0.005																
72-20-8	Endrin		H		0		0.1	n/a																
299-84-3	Fenchlorphos		H		0		0.1	0.03																
122-14-5	Fenitrothion		H	25300	0		0.1	0.01																
93-72-1	Fenoprop ((2,4,5-trichlorophenoxy)propionic acid)		H		0		0.1	n/a																
55-38-9	Fenthion		H		0		0.1	n/a																
370-50-3	Flucufuron				0		0.1	1																
50-00-0	Formaldehyde (methanal)		NP		0		0.1	5																
38641-94-0	Glyphosate	SP			0		0.1	196																
76-44-8	Heptachlor		H		0		0.03	0.0000002																
GRP10	Heptachlor & Heptachlor epoxide	PH	H		0		0.03	0.0000002																
1024-57-3	Heptachlor epoxide				0		0.03	0.0000002																
608-73-1	Hexachlorocyclohexane (includes lindane)	PH	H		0		0.1	0.02																
1689-83-4	Ioxynil		H		0		0.1	10																
465-73-6	Isodrin		H		0		0.1	n/a																
34123-69-6	Isoproturon	P	NP		0		0.1	0.3																
70288-86-7	Ivermectin				0		n/a	0.0001																
330-55-2	Linuron	SP	H		0		0.1	0.5																
121-75-5	Malathion		H	141000	0		0.1	0.01																
8018-01-07	Mancozeb		NP		0		0.1	2																
12427-38-2	Maneb		NP		0		0.1	3																
94-74-6	MCPA (4-(2-methyl-4-chlorophenoxy acetic acid))				0		0.1	12																
93-65-2	Mecoprop	SP	NP		0		0.1	18																
2032-65-7	Methiocarb	SP	NP		0		0.1	0.01																
72-43-5	Methoxychlor				0		0.1	n/a																
51218-45-2	Metolachlor				0		0.1	n/a																
7786-34-7	Mevinphos		H		0		0.1	0.02																
2212-67-1	Molinate				0		0.1	n/a																
1113-02-6	Omethoate		H		0		0.1	0.01																
50-29-3	para-para-DDT	OP	H		0		0.1	0.01																
56-38-2	Parathion		H		0		0.1	n/a																
298-00-0	Parathion-methyl		H		0		0.1	n/a																
GRP11	PCSDs (cyfluthrin, sulcofuron, flucufuron and permethrin)				0		n/a	0.05																
40487-42-1	Pendimethalin	SP	NP		0		0.1	0.3																
87-86-5	Pentachlorophenol	P	H	14000	0		0.1	0.4																
52645-53-1	Permethrin	SP	H		0		0.1	0.001																
GRP12	Pesticides (individual) (other than aldrin, dieldrin, heptachlor & heptachlor epoxide)				0		0.1	n/a																
GRP13	Pesticides (total)				0		0.5	n/a																
23103-98-2	Pirimicarb		NP		0		0.1	1																
29232-93-7	Pirimiphos - methyl		H		0		0.1	0.015																
67747-09-5	Prochloraz		H		0		0.1	4																
31218-83-4	Propetamphos		H		0		0.1	0.03																
23950-58-5	Propyzamide		H		0		0.1	100																
95737-68-1	Pyriproxyfen				0		0.1	n/a																
124495-18-7	Quinoxifen	PH			0		0.1	0.15																
122-34-9	Simazine	P	H		0		0.1	1																
3567-25-7	Sulcofuron				0		0.1	25																
117-18-0	Tecnazene (total)				0		0.1	1																
886-50-0	Tertbutryn	P	NP		0		0.1	0.065																
5915-41-3	Tertbutylazine		H		0		0.1	n/a																
148-79-8	Thiabendazole		NP		0		0.1	5																
2303-17-5	Triallate		H		0		0.1	0.25																
24017-47-8	Triazaphos		H		0		0.1	0.005																

Remedial Targets Methodology Data Table



<div>Water body receptor(s): Groundwater and surface water</div> <div>Secondary receptor(s): 0</div> <div>Data set: Groundwater</div> <div>Client: Portsmouth City Council</div> <div>Site: Dunsbury Park</div> <div>Job no: 19453-GELO</div> <div>Test Certificates(s): 21-10737,21-11194</div> <div>Dataset ALL ZONES</div>												<div><div></div><div>PNEC calculated (inland EQS)</div></div>		<div>123* Exceeds solubility value</div> <div><1 Grey text and "<" sign if value <= LoD</div> <div>999 Red text if value > DWS</div> <div>Red fill if value > Inland Waters EQS</div>											
												Surface Water Representative Hardness as mg/l CaCO ₃ 10													
												Strata / Zone	Unit 100	Unit 600	Unit 600	Unit 700	Unit 400	Unit 700	Unit 700	Unit 700	Unit 600	Unit 600	Unit 100		
												Date sampled:	15/09/2021	15/09/2021	15/09/2021	15/09/2021	24/09/2021	24/09/2021	24/09/2021	24/09/2021	24/09/2021	24/09/2021	20/09/2021		
CAS / AGS Number	Chemical of Potential Concern (µg/l)	WFD Designation	Hazardous Substance Status	Solubility Limit (µg/l)	No. of samples	Limit of Detection	DWS	Inland Waters EQS	BH1.01	BH6.02	BH6.03	BH7.01	WS4.03	WS4.05	BH7.03	WS7.03	WS7.04	WS6.02	WS6.04	WS1.01					
1582-09-8	Trifluralin	PH	H	1000	0		0.1	0.03																	
1262-21-1	Triphenyltin and derivatives		H		0		0.1	0.02																	

Summary of Remedial Targets Methodology Screening

Hydrock Scenario: Scenario D - DWS & EQS (inland)													2013/39/EU Annex I				
RTM Level: RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples													P = priority substance				
Water body receptor(s): Groundwater and surface water													PH = priority hazardous substances.				
Secondary receptor(s):													WFD Designation (2015 Directions)				
Data set: Groundwater													OP = Other substance identical to previous legislation				
Client: Portsmouth City Council											PNEC calculated (inland EQS)		SP = Specific Pollutant				
Site: Dunsbury Park													JAGDAG Hazardous Substances Determination (UK)				
Job no: 19453-GELO													H Hazardous substance				
Test Certificates(s): 21-10737,21-11194													NP Non-hazardous pollutant				
Dataset Unit 100													(blank) Not included in assessment				
CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95%-ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS	
P1133	Hardness as mg/l CaCO ₃			-	-	0.05	10	-	-	-	-	-					Representative hardness of receiving surface water environment used in some inland EQS
7440-22-4	Silver (Ag) (dissolved)			2	0	0.05	<0.05	<0.05	<0.05	<0.05	n/a	0.05	0	0	0	0	
7429-90-5	Aluminium (Al) (dissolved)			2	2	1	1.5	24	22.875	24	200	n/a	0	0	0	0	
7440-38-2	Arsenic (As) (dissolved)	SP	H	2	2	0.15	0.24	0.32	0.316	0.32	10	50	0	0	0	0	
7440-42-8	Boron (B) (dissolved)		NP	2	2	10	62	86	84.8	86	1000	2000	0	0	0	0	
7440-39-3	Barium (Ba) (dissolved)			2	2	0.06	67	72	71.75	72	1300	n/a	0	0	0	0	
7440-43-9	Cadmium (Cd) (dissolved)	PH	NP	2	1	0.02	<0.02	0.17	0.1625	0.17	5	0.08	0	1	0	1	EQS (inland) dependent on hardness of receiving surface water environment
7440-48-4	Cobalt (Co) (dissolved)		NP	2	2	0.2	0.6	6	5.73	6	n/a	3	0	1	0	1	
18540-29-9	Chromium (VI) (Cr) (dissolved)	SP	H	2	0	5	<5	<5	<5	<5	n/a	3.4	0	2	0	0	
16065-83-1	Chromium (III) (Cr) (dissolved)	SP		2	2	1	2	2.4	2.38	2.4	n/a	4.7	0	0	0	0	
7440-47-3	Chromium (Cr) (total) (dissolved)			2	2	0.2	2	2.4	2.38	2.4	50	n/a	0	0	0	0	
7440-50-8	Copper (Cu) (dissolved)	SP	NP	2	2	0.5	2.7	3.4	3.365	3.4	2000	1	0	2	0	2	Bioavailable EQS (inland)
7439-89-6	Iron (Fe) (dissolved)	SP		2	2	4	8	29	27.95	29	200	1000	0	0	0	0	
7439-97-6	Mercury (Hg) (dissolved)	PH	H	2	0	0.05	<0.05	<0.05	<0.05	<0.05	1	0.07	0	0	0	0	
P1286	Manganese (Mn) (dissolved)	SP		2	2	0.05	21	300	286.05	300	50	123	1	1	1	1	Bioavailable EQS (inland)
7440-23-5	Sodium (Na) (dissolved)			2	2	0.01	26	34	33.6	34	200000	n/a	0	0	0	0	
7440-02-0	Nickel (Ni) (dissolved)	P	NP	2	2	0.5	1.4	13	12.42	13	20	4	0	1	0	1	Bioavailable EQS (inland)
7439-92-1	Lead (Pb) (dissolved)	P	H	2	0	0.2	<0.2	<0.2	<0.2	<0.2	10	1.2	0	0	0	0	Bioavailable EQS (inland)
7440-36-0	Antimony (Sb) (dissolved)		NP	2	2	0.4	0.5	0.6	0.595	0.6	5	n/a	0	0	0	0	
7782-49-2	Selenium (Se) (dissolved)		NP	2	0	0.6	<0.6	<0.6	<0.6	<0.6	10	n/a	0	0	0	0	
7440-31-5	Tin (Sn) (dissolved)			2	1	0.2	<0.2	0.35	0.3425	0.35	n/a	25	0	0	0	0	
7440-62-2	Vanadium (V) (dissolved)			2	1	0.2	<0.2	0.6	0.58	0.6	n/a	20	0	0	0	0	EQS (inland) dependent on hardness of receiving surface water environment
7440-66-6	Zinc (Zn) (dissolved)	SP	NP	2	2	0.5	4.4	8.4	8.2	8.4	n/a	12.3	0	0	0	0	Bioavailable EQS (inland) + ambient background concentration (ABC)
P1095	Cyanide (free) (hydrogen cyanide)	SP	NP	2	0	1	<1	<1	<1	<1	n/a	1	0	0	0	0	
57-12-5	Cyanide (total)			2	0	1	<1	<1	<1	<1	50	n/a	0	0	0	0	
P1140	Ammonium (NH ₄ ⁺)		NP	2	2	15	82	220	213.1	220	500	n/a	0	0	0	0	
P1238	Ammoniacal Nitrogen (as N)		NP	2	2	15	64	170	164.7	170	n/a	300	0	0	0	0	
P1720	Ammonia (unionised) (NH ₃ as N) (free ammonia)	SP	NP	2	2	15	77	210	203.35	210	n/a	n/a	0	0	0	0	
15541-45-4	Bromate (BrO ₃ ⁻)			2	0	0.002	<0.002	<0.002	<0.002	<0.002	10	n/a	0	0	0	0	
16887-00-6	Chloride (Cl ⁻)			2	2	0.15	20	35	34.25	35	250000	250000	0	0	0	0	
16984-48-8	Fluoride (F ⁻)			2	2	50	120	370	357.5	370	1500	1000	0	0	0	0	EQS (inland) dependent on hardness of receiving surface water environment
P1348	Nitrate (NO ₃ ⁻)			2	2	0.05	2.12	15.9	15.211	15.9	5000	n/a	0	0	0	0	
P1349	Nitrite (NO ₂ ⁻)			2	1	5	<5	500	475.25	500	500	n/a	0	0	0	0	
14808-79-8	Sulfate (SO ₄ ²⁻)			2	2	45	22700	39000	38185	39000	250000	400000	0	0	0	0	
P1134	pH (min.) (su)			2	2	0	6.9	7.7	7.66	7.7	6.5	6	0	0	0	0	
P1134	pH (max.) (su)			2	2	0	6.9	7.7	7.66	7.7	9.5	9	0	0	0	0	
P1287	Electrical conductivity (µS/cm)			2	2	10	430	580	572.5	580	2500	n/a	0	0	0	0	
120-12-7	Anthracene	PH	H	2	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	0.1	0	0	0	0	
50-32-8	Benzo(a)pyrene	PH	H	2	0	0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.00017	0	2	0	0	Benzo(a)pyrene EQS used as marker substance for the group of benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene & indeno(1,2,3-cd)pyrene
206-44-0	Fluoranthene	P	H	2	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	0.0063	0	2	0	0	
91-20-3	Naphthalene	P	NP	2	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	2	0	0	0	0	
GRP01	PAHs = sum of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene	P	H	2	2	0.01	0.04	0.04	0.04	0.04	0.1	n/a	0	0	0	0	
P1877	Phenol	SP	NP	2	0	1	<1	<1	<1	<1	n/a	7.7	0	0	0	0	
P1407	Ali EC5-EC6			2	0	1	<1	<1	<1	<1	15000	10	0	0	0	0	n-hexane fall within this fraction
P1408	Ali >EC6-EC8			2	0	1	<1	<1	<1	<1	15000	10	0	0	0	0	n-heptane falls within this fraction
P1409	Ali >EC8-EC10			2	0	1	<1	<1	<1	<1	300	10	0	0	0	0	n-octane and n-nonane fall within this fraction
P1410	Ali >EC10-EC12			2	0	10	<10	<10	<10	<10	300	10	0	0	0	0	
P1411	Ali >EC12-EC16			2	0	10	<10	<10	<10	<10	300	10	0	0	0	0	
P1938	Ali >EC16-EC35			2	0	10	<10	<10	<10	<10	n/a	10	0	0	0	0	
P1415	Ali >EC35-EC44			2	0	10	<10	<10	<10	<10	n/a	10	0	0	0	0	
P1441	Aro EC5-EC7			2	0	1	<1	<1	<1	<1	1	10	0	0	0	0	Benzene wholly representative of this fraction
P1355	Aro >EC7-EC8			2	0	1	<1	<1	<1	<1	700	10	0	0	0	0	Toluene wholly representative of this fraction
P1356	Aro >EC8-EC10			2	0	1	<1	<1	<1	<1	300	10	0	0	0	0	Ethylbenzene / xylene / trimethylbenzene representative of this range
P1357	Aro >EC10-EC12			2	0	10	<10	<10	<10	<10	90	10	0	0	0	0	Naphthalene often forms a reasonable percentage of this fraction
P1358	Aro >EC12-EC16			2	0	10	<10	<10	<10	<10	90	10	0	0	0	0	2-methylnaphthalene, acenaphthylene, acenaphthene falls within this fraction
P1359	Aro >EC16-EC21			2	0	10	<10	<10	<10	<10	90	10	0	0	0	0	fluorene, anthracene, phenanthrene, pyrene falls within this range
P1360	Aro >EC21-EC35			2	0	10	<10	<10	<10	<10	90	10	0	0	0	0	Benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene fall within this fraction

Summary of Remedial Targets Methodology Screening

RTM Level: RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples Water body receptor(s): Groundwater and surface water Secondary receptor(s): Data set: Groundwater Client: Portsmouth City Council Site: Dunsbury Park Job no: 19453-GELO Test Certificates(s): 21-10737,21-11194 Dataset Unit 100											<div><div></div><div>PNEC calculated (inland EQS)</div></div>		P = priority substance PH = priority hazardous substances WFD Designation (2015 Directions) OP = Other substance identical to previous legislation SP = Specific Pollutant JAGDAG Hazardous Substances Determination (UK) H Hazardous substance NP Non-hazardous pollutant (blank) Not included in assessment				
CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS	
P1362	Aro >EC35-EC44			2	0	10	<10	<10	<10	<10	n/a	10					
71-43-2	Benzene	P	H	2	0	1	<1	<1	<1	<1	1	10	0	0	0	0	
108-88-3	Toluene	SP	H	2	0	1	<1	<1	<1	<1	700	74	0	0	0	0	
100-41-4	Ethylbenzene		H	2	0	1	<1	<1	<1	<1	300	20	0	0	0	0	Proposed EQS for Ethylbenzene in Water, R&D Technical Report P2-115/TR4, EA 2001
95-47-6	o-Xylene		H	2	0	1	<1	<1	<1	<1	500	30	0	0	0	0	DWS/EQS for total xylene
P1374	m,p-Xylene		H	2	0	1	<1	<1	<1	<1	500	30	0	0	0	0	DWS/EQS for total xylene
1634-04-04	Methyl tertiary butyl ether (MTBE)		NP	2	0	1	<1	<1	<1	<1	15	n/a	0		0		Non health based value - WHO odour threshold
71-55-6	1,1,1-Trichloroethane		NP	0							n/a	100					
79-00-5	1,1,2-Trichloroethane		NP	0							n/a	400					
96-12-8	1,2-Dibromo-3-chloropropane			0							0.1	n/a					
106-93-4	1,2-Dibromoethane		H	0							0.4	n/a					
95-50-1	1,2-Dichlorobenzene		H	0							1000	20					
107-06-2	1,2-Dichloroethane (EDC)	P	NP	0							3	10					
156-59-2	cis 1,2-Dichloroethene (cis 1,2 DCE)		NP	0							50	n/a					DWS is for combined isomers
156-60-5	trans 1,2-Dichloroethene (trans 1,2 DCE)		NP	0							50	n/a					DWS is for combined isomers
78-87-5	1,2-Dichloropropane		H	0							40	n/a					
10061-01-5	cis 1,3-Dichloropropene		H	0							0.1	n/a					DWS is for combined isomers
10061-02-6	trans 1,3-Dichloropropene		H	0							0.1	n/a					DWS is for combined isomers
106-46-7	1,4-Dichlorobenzene		H	0							300	20					
75-27-4	Bromodichloromethane			0							60	n/a					
75-01-4	Chloroethene (vinyl chloride)		H	0							0.5	n/a					
124-48-1	Dibromochloromethane			0							100	n/a					
25321-22-6	Dichlorobenzenes (1,2-, 1,3- & 1,4-)			0							n/a	20					
75-09-2	Dichloromethane	P	NP	0							20	20					
87-68-3	Hexachlorobutadiene (HCBD)	PH	H	0							0.1	0.6					
100-42-5	Styrene		H	0							20	50					
25322-20-7	Tetrachloroethane (PCA)	SP		0							n/a	140					
127-18-4	Tetrachloroethene (PCE)	OP	NP	0							10	10					UK DWS applies to sum of tetrachloroethene and trichloroethene
GRP02	Tetrachloroethene (PCE) and trichloroethene (TCE)			0							10	n/a					UK DWS applies to sum of tetrachloroethene and trichloroethene
56-23-5	Tetrachloromethane (Carbon Tetrachloride)	OP	H	0							3	12					
75-25-2	Tribromomethane (bromoform)			0							100	n/a					
12002-48-1	Trichlorobenzenes	P	NP	0							n/a	0.4					
79-01-6	Trichloroethene	OP	H	0							10	10					UK DWS applies to sum of tetrachloroethene and trichloroethene
67-66-3	Trichloromethane (chloroform)	P	H	0							100	2.5					
GRP03	Trihalomethanes, sum of trichloromethane, tribromomethane, dibromochloromethane & bromodichloromethane			0							100	n/a					
88-06-2	2,4,6-Trichlorophenol		H	0							200	n/a					
120-83-2	2,4-Dichlorophenol	SP	H	0							n/a	4.2					
95-57-8	2-Chlorophenol		H	0							n/a	50					
554-00-7	3,4-Dichloroaniline	SP		0							n/a	0.2					
108-43-0	3-Chlorophenol		H	0							n/a	50					
59-50-7	4-Chloro, 3-methylphenol		H	0							n/a	40					
106-48-9	4-Chlorophenol		H	0							n/a	50					
85-68-7	Benzyl butyl phthalate	SP		0							n/a	7.5					
117-81-7	Di(2-ethylhexylphthalate) (DEHP)	PH	NP	0							8	1.3					
84-74-2	Dibutyl phthalate		NP	0							n/a	8					
84-66-2	Diethyl phthalate (DEP)			0							n/a	200					
131-11-3	Dimethyl phthalate (DMP)			0							n/a	800					
117-84-0	Diethyl phthalates			0							n/a	20					
118-74-1	Hexachlorobenzene	PH	H	0							0.1	0.05					
104-40-5	Nonylphenol (4-Nonylphenol)	PH		0							n/a	0.3					
140-66-9	Octylphenol ((4-(1,1', 3,3'-tetramethylbutyl)-phenol))	P		0							n/a	0.1					
608-93-5	Pentachlorobenzene	PH	H	0							n/a	0.007					
123-91-1	1,4-dioxane			0							50	n/a					
79-06-1	Acrylamide		H	0							0.1	n/a					
92-52-4	Biphenyl (cyclochlorocyclohexane)			0							n/a	25					

Summary of Remedial Targets Methodology Screening

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				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS		
32534-81-9	Brominated diphenylethers (Sum congeners 28,47,99,100,153,154)	PH	H	0							n/a	0.14						
85535-84-8	Chloroalkanes C10-C13	PH	H	0							n/a	0.4						
25567-68-4	Chloronitrotoluenes		H	0							n/a	10						
3252-43-5	Dibromoacetone			0							70	n/a						
13425-80-4	Dichloroacetate			0							50	n/a						
3018-12-0	Dichloroacetone			0							20	n/a						
GRP04	Dioxins and dioxin-like compounds	PH		0							n/a	n/a						
3194-55-6	Hexabromocyclododecanes (HBCDD)	PH	H	0							n/a	0.0016						
2163-68-0	Hydroxyatrazine			0							200	n/a						
101043-37-2	Microcystin-LR			0							1	n/a						
62-75-9	N-nitrosodimethylamine			0							0.1	n/a						
1763-23-1	Perfluorooctane sulfonic acid (PFOS) & derivatives	PH	H	0							0.3	0.00065						DWS represents DWI (2009) Tier 2 action value (commence monitoring).
1336-36-3	Polychlorinated Biphenyls (PCB)		H	0							n/a	n/a						
2893-78-9	Sodium dichloroisocyanurate			0							50000	n/a						
126-73-8	Tributyl phosphate		H	0							n/a	50						
3380-34-5	Triclosan	SP		0							n/a	0.1						
7726-95-6	Bromine (Br)			0							n/a	2						
7782-50-5	Chlorine (total free available)	SP	NP	0							200	2						
14866-68-3	Chlorate			0							700	n/a						
14998-27-7	Chlorite			0							700	n/a						
60-00-4	EDTA (edetic acid)			0							600	400						
106-89-8	Epichlorohydrin		H	0							0.1	n/a						
569-64-2	Malachite green		H	0							n/a	0.5						
10599-90-3	Monochloramine			0							3000	n/a						
79-11-8	Monochloroacetate (Chloroacetic Acid)			0							20	n/a						
139-13-9	NTA (nitrilotriacetic acid)			0							200	1000						
76-03-9	Trichloroethanoic acid (trichloroacetate)			0							200	n/a						
7440-61-1	U (dissolved)			0							30	n/a						
36643-28-4	Tributyl tin compounds	PH	H	0							n/a	0.0002						
7783-06-4	Hydrogen Sulphide			0							n/a	0.25						
14797-73-0	Perchlorate			0							70	n/a						
GRP06	Total anions			0							n/a	250000						
93-76-5	2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)		H	0							0.1	n/a						
94-75-7	2,4-D (2,4-Dichlorophenoxyacetic acid)	SP		0							0.1	0.3						
94-82-6	2,4-DB (4-(2,4-dichlorophenoxy)butyric acid)			0							0.1	n/a						
71751-41-2	Abamectin			0							0.1	0.01						
74070-46-5	Acinofen	P		0							0.1	0.12						
15972-60-8	Alachlor	P	H	0							0.1	0.3						
116-06-3	Aldicarb		NP	0							0.1	n/a						
309-00-2	Aldrin		H	0							0.03	n/a						
GRP07	Aldrin & dieldrin		H	0							0.03	n/a						
1912-24-9	Atrazine	P	H	0							0.1	0.6						
35575-96-3	Azamectin			0							0.1	n/a						
2642-71-9	Azinphos ethyl		H	0							0.1	n/a						
86-50-0	Azinphos-methyl		H	0							0.1	0.01						
25057-89-0	Bentazone		NP	0							0.1	500						
42576-02-3	Bifenox	P	H	0							0.1	0.012						
1689-84-5	Bromoxynil		H	0							0.1	100						
10605-21-7	Carbendazim	SP	H	0							0.1	0.15						
1563-66-2	Carbofuran		NP	0							0.1	n/a						
57-74-9	Chlordane		H	0							0.1	n/a						
470-90-6	Chlorfenvinphos	P	H	0							0.1	0.1						
101-21-3	Chlorpropham		H	0							0.1	10						
2921-88-2	Chlorpyrifos	P	H	0							0.1	0.03						
1897-45-6	Chlorothalonil	SP	H	0							0.1	0.035						
15545-48-9	Chlorotoluron		H	0							0.1	2						
GRP08	Cyclodiene pesticides, sum of Aldrin, Dieldrin, Endrin, Isodrin	OP	H	0							0.03	0.01						
56-72-4	Coumaphos		H	0							0.1	0.01						

Summary of Remedial Targets Methodology Screening

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				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS	
21725-46-2	Cyanazine		H	0							0.1	n/a					
28159-98-0	Cybutryne	P		0							0.1	0.0025					
68359-37-5	Cyfluthrin			0							0.1	0.001					
52315-07-8	Cypermethrin	P	H	0							0.1	0.00008					
GRP09	DDT total (dichlorodiphenyltrichloroethane)	OP	H														
				0													
8065-48-3	Demeton		H	0							0.1	0.025					
333-41-5	Diazinon (sheep dip)	SP	H	0							0.1	0.01					
120-36-5	Dichloroprop		H	0							0.1	n/a					
62-73-7	Dichlorvos	P	H	0							0.1	0.0006					
115-32-2	Dicofol	PH	H	0							0.1	0.0013					
60-57-1	Dieldrin		H	0							0.03	n/a					
35367-38-5	Diffubenzuron		H	0							0.1	0.001					
60-51-5	Dimethoate	SP	H	0							0.1	0.48					
330-54-1	Diuron	P	H	0							0.1	0.2					
117704-25-3	Doramectin			0							n/a	0.001					
115-29-7	Endosulfan	PH	H	0							0.1	0.005					
72-20-8	Endrin		H	0							0.1	n/a					
299-84-3	Fenchlorphos		H	0							0.1	0.03					
122-14-5	Fenitrothion		H	0							0.1	0.01					
93-72-1	Fenoprop ((2,4,5-trichlorophenoxy)propionic acid)		H														
				0							0.1	n/a					
55-38-9	Fenthion		H	0							0.1	n/a					
370-50-3	Flucufuron			0							0.1	1					
50-00-0	Formaldehyde (methanal)		NP	0							0.1	5					
38641-94-0	Glyphosate	SP		0							0.1	196					
76-44-8	Heptachlor		H	0							0.03	2E-07					
GRP10	Heptachlor & Heptachlor epoxide	PH	H														
				0							0.03	2E-07					
1024-57-3	Heptachlor epoxide			0							0.03	2E-07					
608-73-1	Hexachlorocyclohexane (includes lindane)	PH	H	0							0.1	0.02					
1689-83-4	Ioxynil		H	0							0.1	10					
465-73-6	Isodrin		H	0							0.1	n/a					
34123-69-6	Isoproturon	P	NP	0							0.1	0.3					
70288-86-7	Ivermectin			0							n/a	0.0001					
330-55-2	Linuron	SP	H	0							0.1	0.5					
121-75-5	Malathion		H	0							0.1	0.01					
8018-01-07	Mancozeb		NP	0							0.1	2					
12427-38-2	Maneb		NP	0							0.1	3					
94-74-6	MCPA (4-(2-methyl-4-chlorophenoxy acetic acid))			0							0.1	12					EQS inland dependant on pH. Default 12µg/l as conservative approach
93-65-2	Mecoprop	SP	NP	0							0.1	18					
2032-65-7	Methiocarb	SP	NP	0							0.1	0.01					
72-43-5	Methoxychlor			0							0.1	n/a					
51218-45-2	Metolachlor			0							0.1	n/a					
7786-34-7	Mevinphos		H	0							0.1	0.02					
2212-67-1	Molinate			0							0.1	n/a					
1113-02-6	Omethoate		H	0							0.1	0.01					
50-29-3	para-para-DDT	OP	H	0							0.1	0.01					
56-38-2	Parathion		H	0							0.1	n/a					
298-00-0	Parathion-methyl		H	0							0.1	n/a					
GRP11	PCSDs (cyfluthrin, sulcofuron, flucufuron and permethrin)			0							n/a	0.05					
40487-42-1	Pendimethalin	SP	NP	0							0.1	0.3					
87-86-5	Pentachlorophenol	P	H	0							0.1	0.4					
52645-53-1	Permethrin	SP	H	0							0.1	0.001					
GRP12	Pesticides (individual) (other than aldrin, dieldrin, heptachlor & heptachlor epoxide)			0							0.1	n/a					
GRP13	Pesticides (total)			0							0.5	n/a					
23103-98-2	Pirimicarb		NP	0							0.1	1					
29232-93-7	Pirimiphos - methyl		H	0							0.1	0.015					
67747-09-5	Prochloraz		H	0							0.1	4					
31218-83-4	Propetamphos		H	0							0.1	0.03					
23950-58-5	Propyzamide		H	0							0.1	100					
95737-68-1	Pyriproxyfen			0							0.1	n/a					

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124495-18-7	Quinoxifen	PH		0							0.1	0.15					
122-34-9	Simazine	P	H	0							0.1	1					
3567-25-7	Sulcofuron			0							0.1	25					
117-18-0	Tecnazene (total)			0							0.1	1					
886-50-0	Tertbutryn	P	NP	0							0.1	0.065					
5915-41-3	Tertbutylazine		H	0							0.1	n/a					
148-79-8	Thiabendazole		NP	0							0.1	5					
2303-17-5	Triallate		H	0							0.1	0.25					
24017-47-8	Triazaphos		H	0							0.1	0.005					
1582-09-8	Trifluralin	PH	H	0							0.1	0.03					
1262-21-1	Triphenyltin and derivatives		H	0							0.1	0.02					

Summary of Remedial Targets Methodology Screening

Hydrock Scenario: Scenario D - DWS & EQS (inland) RTM Level: RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples Water body receptor(s): Groundwater and surface water Secondary receptor(s): Data set: Groundwater Client: Portsmouth City Council Site: Dunsbury Park Job no: 19453-GELO Test Certificates(s): 21-10737,21-11194 Dataset Unit 400											<div></div> <div>PNEC calculated (inland EQS)</div>		2013/39/EU Annex I P = priority substance PH = priority hazardous substances. WFD Designation (2015 Directions) OP = Other substance identical to previous legislation SP = Specific Pollutant JAGDAG Hazardous Substances Determination (UK) H Hazardous substance NP Non-hazardous pollutant (blank) Not included in assessment				
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P1133	Hardness as mg/l CaCO ₃			-	-	-	10	-	-	-	-	-					Representative hardness of receiving surface water environment used in some inland EQS
7440-22-4	Silver (Ag) (dissolved)			2	0	0.05	<0.05	<0.05	<0.05	n/a	0.05			0		0	
7429-90-5	Aluminium (Al) (dissolved)			2	2	1	2.4	3.5	3.445	3.5	200	n/a	0		0	0	
7440-38-2	Arsenic (As) (dissolved)	SP	H	2	2	0.15	0.59	2.72	2.6135	2.72	10	50	0	0	0	0	
7440-42-8	Boron (B) (dissolved)		NP	2	2	10	31	41	40.5	41	1000	2000	0	0	0	0	
7440-39-3	Barium (Ba) (dissolved)			2	2	0.06	33	45	44.4	45	1300	n/a	0	0	0	0	
7440-43-9	Cadmium (Cd) (dissolved)	PH	NP	2	0	0.02	<0.02	<0.02	<0.02	<0.02	5	0.08	0	0	0	0	EQS (inland) dependent on hardness of receiving surface water environment
7440-48-4	Cobalt (Co) (dissolved)		NP	2	2	0.2	0.8	3.5	3.365	3.5	n/a	3		1		1	
18540-29-9	Chromium (VI) (Cr) (dissolved)	SP	H	2	0	5	<5	<5	<5	<5	n/a	3.4		2		0	
16065-83-1	Chromium (III) (Cr) (dissolved)	SP		2	2	1	1.8	1.9	1.895	1.9	n/a	4.7				0	
7440-47-3	Chromium (Cr) (total) (dissolved)			2	2	0.2	1.8	1.9	1.895	1.9	50	n/a	0		0		
7440-50-8	Copper (Cu) (dissolved)	SP	NP	2	2	0.5	1.1	3	2.905	3	2000	1	0	2	0	2	Bioavailable EQS (inland)
7439-89-6	Iron (Fe) (dissolved)	SP		2	2	4	31	35	34.8	35	200	1000	0	0	0	0	
7439-97-6	Mercury (Hg) (dissolved)	PH	H	2	0	0.05	<0.05	<0.05	<0.05	<0.05	1	0.07	0	0	0	0	
P1286	Manganese (Mn) (dissolved)	SP		2	2	0.05	360	570	559.5	570	50	123	2	2	2	2	Bioavailable EQS (inland)
7440-23-5	Sodium (Na) (dissolved)			2	2	0.01	13	39	37.7	39	200000	n/a	0		0		
7440-02-0	Nickel (Ni) (dissolved)	P	NP	2	2	0.5	4.3	4.4	4.395	4.4	20	4	0	2	0	2	Bioavailable EQS (inland)
7439-92-1	Lead (Pb) (dissolved)	P	H	2	0	0.2	<0.2	<0.2	<0.2	<0.2	10	1.2	0	0	0	0	Bioavailable EQS (inland)
7440-36-0	Antimony (Sb) (dissolved)		NP	2	1	0.4	<0.4	0.5	0.495	0.5	5	n/a	0			0	
7782-49-2	Selenium (Se) (dissolved)		NP	2	2	0.6	0.7	0.9	0.89	0.9	10	n/a	0			0	
7440-31-5	Tin (Sn) (dissolved)			2	1	0.2	<0.2	0.58	0.561	0.58	n/a	25			0	0	
7440-62-2	Vanadium (V) (dissolved)			2	0	0.2	<0.2	<0.2	<0.2	<0.2	n/a	20			0		EQS (inland) dependent on hardness of receiving surface water environment
7440-66-6	Zinc (Zn) (dissolved)	SP	NP	2	2	0.5	3.4	3.8	3.78	3.8	n/a	12.3			0	0	Bioavailable EQS (inland) + ambient background concentration (ABC)
P1095	Cyanide (free) (hydrogen cyanide)	SP	NP	2	0	1	<1	<1	<1	<1	n/a	1			0	0	
57-12-5	Cyanide (total)			2	0	1	<1	<1	<1	<1	50	n/a	0			0	
P1140	Ammonium (NH ₄ ⁺)		NP	2	2	15	34	84	81.5	84	500	n/a	0			0	
P1238	Ammoniacal Nitrogen (as N)		NP	2	2	15	27	65	63.1	65	n/a	300			0	0	
P1720	Ammonia (unionised) (NH ₃ as N) (free ammonia)	SP	NP	2	2	15	32	79	76.65	79	n/a	n/a					
15541-45-4	Bromate (BrO ₃ ⁻)			2	0	0.002	<0.002	<0.002	<0.002	<0.002	10	n/a	0		0	0	
16887-00-6	Chloride (Cl ⁻)			2	2	0.15	16	30	29.3	30	250000	250000	0	0	0	0	
16984-48-8	Fluoride (F ⁻)			2	2	50	180	180	180	180	1500	1000	0	0	0	0	EQS (inland) dependent on hardness of receiving surface water environment
P1348	Nitrate (NO ₃ ⁻)			2	2	0.05	0.41	0.47	0.467	0.47	5000	n/a	0		0		
P1349	Nitrite (NO ₂ ⁻)			2	0	5	<5	<5	<5	<5	500	n/a	0		0		
14808-79-8	Sulfate (SO ₄ ²⁻)			2	2	45	83200	210000	203660	210000	250000	400000	0	0	0	0	
P1134	pH (min.) (su)			2	2	0	7.1	7.3	7.29	7.3	6.5	6	0	0	0	0	
P1134	pH (max.) (su)			2	2	0	7.1	7.3	7.29	7.3	9.5	9	0	0	0	0	
P1287	Electrical conductivity (µS/cm)			0							2500	n/a					
120-12-7	Anthracene	PH	H	2	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	0.1			0	0	
50-32-8	Benzo(a)pyrene	PH	H	2	0	0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.00017	0	2	0	0	Benzo(a)pyrene EQS used as marker substance for the group of benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene & indeno(1,2,3-cd)pyrene
206-44-0	Fluoranthene	P	H	2	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	0.0063	2		0	0	
91-20-3	Naphthalene	P	NP	2	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	2			0	0	
GRP01	PAHs = sum of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene	P	H	2	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	2			0	0	
P1877	Phenol	SP	NP	2	0	1	<1	<1	<1	<1	n/a	7.7			0	0	
P1407	Alil EC5-EC6			2	0	1	<1	<1	<1	<1	15000	10	0	0	0	0	n-hexane fall within this fraction
P1408	Alil >EC6-EC8			2	0	1	<1	<1	<1	<1	15000	10	0	0	0	0	n-heptane falls within this fraction
P1409	Alil >EC8-EC10			2	0	1	<1	<1	<1	<1	300	10	0	0	0	0	n-octane and n-nonane fall within this fraction
P1410	Alil >EC10-EC12			2	0	10	<10	<10	<10	<10	300	10	0	0	0	0	
P1411	Alil >EC12-EC16			2	0	10	<10	<10	<10	<10	300	10	0	0	0	0	
P1938	Alil >EC16-EC35			2	0	10	<10	<10	<10	<10	n/a	10			0	0	
P1415	Alil >EC35-EC44			2	0	10	<10	<10	<10	<10	n/a	10			0	0	
P1441	Aro EC5-EC7			2	0	1	<1	<1	<1	<1	1	10	0	0	0	0	Benzene wholly representative of this fraction
P1355	Aro >EC7-EC8			2	0	1	<1	<1	<1	<1	700	10	0	0	0	0	Toluene wholly representative of this fraction
P1356	Aro >EC8-EC10			2	0	1	<1	<1	<1	<1	300	10	0	0	0	0	Ethylbenzene / xylene / trimethylbenzene representative of this range
P1357	Aro >EC10-EC12			2	0	10	<10	<10	<10	<10	90	10	0	0	0	0	Naphthalene often forms a reasonable percentage of this fraction
P1358	Aro >EC12-EC16			2	0	10	<10	<10	<10	<10	90	10	0	0	0	0	2-methylnaphthalene, acenaphthylene, acenaphthene falls within this fraction
P1359	Aro >EC16-EC21			2	0	10	<10	<10	<10	<10	90	10	0	0	0	0	fluorene, anthracene, phenanthrene, pyrene falls within this range
P1360	Aro >EC21-EC35			2	0	10	<10	<10	<10	<10	90	10	0	0	0	0	Benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene fall within this fraction

Summary of Remedial Targets Methodology Screening

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CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes	
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS		
P1362	Aro >EC35-EC44			2	0	10	<10	<10	<10	<10	n/a	10	0	0	0	0		
71-43-2	Benzene	P	H	2	0	1	<1	<1	<1	<1	1	10	0	0	0	0		
108-88-3	Toluene	SP	H	2	0	1	<1	<1	<1	<1	700	74	0	0	0	0		
100-41-4	Ethylbenzene		H	2	0	1	<1	<1	<1	<1	300	20	0	0	0	0	Proposed EQS for Ethylbenzene in Water, R&D Technical Report P2-115/TR4, EA 2001	
95-47-6	o-Xylene		H	2	0	1	<1	<1	<1	<1	500	30	0	0	0	0	DWS/EQS for total xylene	
P1374	m,p-Xylene		H	2	0	1	<1	<1	<1	<1	500	30	0	0	0	0	DWS/EQS for total xylene	
1634-04-04	Methyl tertiary butyl ether (MTBE)		NP	2	0	1	<1	<1	<1	<1	15	n/a	0		0		Non health based value - WHO odour threshold	
71-55-6	1,1,1-Trichloroethane		NP	0							n/a	100						
79-00-5	1,1,2-Trichloroethane		NP	0							n/a	400						
96-12-8	1,2-Dibromo-3-chloropropane			0							0.1	n/a						
106-93-4	1,2-Dibromoethane		H	0							0.4	n/a						
95-50-1	1,2-Dichlorobenzene		H	0							1000	20						
107-06-2	1,2-Dichloroethane (EDC)	P	NP	0							3	10						
156-59-2	cis 1,2-Dichloroethene (cis 1,2 DCE)		NP	0							50	n/a					DWS is for combined isomers	
156-60-5	trans 1,2-Dichloroethene (trans 1,2 DCE)		NP	0							50	n/a					DWS is for combined isomers	
78-87-5	1,2-Dichloropropane		H	0							40	n/a						
10061-01-5	cis 1,3-Dichloropropene		H	0							0.1	n/a					DWS is for combined isomers	
10061-02-6	trans 1,3-Dichloropropene		H	0							0.1	n/a					DWS is for combined isomers	
106-46-7	1,4-Dichlorobenzene		H	0							300	20						
75-27-4	Bromodichloromethane			0							60	n/a						
75-01-4	Chloroethene (vinyl chloride)		H	0							0.5	n/a						
124-48-1	Dibromochloromethane			0							100	n/a						
25321-22-6	Dichlorobenzenes (1,2-, 1,3- & 1,4-)			0							n/a	20						
75-09-2	Dichloromethane	P	NP	0							20	20						
87-68-3	Hexachlorobutadiene (HCBD)	PH	H	0							0.1	0.6						
100-42-5	Styrene		H	0							20	50						
25322-20-7	Tetrachloroethane (PCA)	SP		0							n/a	140						
127-18-4	Tetrachloroethene (PCE)	OP	NP	0							10	10					UK DWS applies to sum of tetrachloroethene and trichloroethene	
GRP02	Tetrachloroethene (PCE) and trichloroethene (TCE)			0							10	n/a					UK DWS applies to sum of tetrachloroethene and trichloroethene	
56-23-5	Tetrachloromethane (Carbon Tetrachloride)	OP	H	0							3	12						
75-25-2	Tribromomethane (bromoform)			0							100	n/a						
12002-48-1	Trichlorobenzenes	P	NP	0							n/a	0.4						
79-01-6	Trichloroethene	OP	H	0							10	10					UK DWS applies to sum of tetrachloroethene and trichloroethene	
67-66-3	Trichloromethane (chloroform)	P	H	0							100	2.5						
GRP03	Trihalomethanes, sum of trichloromethane, tribromomethane, dibromochloromethane & bromodichloromethane			0							100	n/a						
88-06-2	2,4,6-Trichlorophenol		H	0							200	n/a						
120-83-2	2,4-Dichlorophenol	SP	H	0							n/a	4.2						
95-57-8	2-Chlorophenol		H	0							n/a	50						
554-00-7	3,4-Dichloroaniline	SP		0							n/a	0.2						
108-43-0	3-Chlorophenol		H	0							n/a	50						
59-50-7	4-Chloro, 3-methylphenol		H	0							n/a	40						
106-48-9	4-Chlorophenol		H	0							n/a	50						
85-68-7	Benzyl butyl phthalate	SP		0							n/a	7.5						
117-81-7	Di(2-ethylhexylphthalate) (DEHP)	PH	NP	0							8	1.3						
84-74-2	Dibutyl phthalate		NP	0							n/a	8						
84-66-2	Diethyl phthalate (DEP)			0							n/a	200						
131-11-3	Dimethyl phthalate (DMP)			0							n/a	800						
117-84-0	Diethyl phthalates			0							n/a	20						
118-74-1	Hexachlorobenzene	PH	H	0							0.1	0.05						
104-40-5	Nonylphenol (4-Nonylphenol)	PH		0							n/a	0.3						
140-66-9	Octylphenol ((4-(1,1', 3,3'-tetramethylbutyl)-phenol))	P		0							n/a	0.1						
608-93-5	Pentachlorobenzene	PH	H	0							n/a	0.007						
123-91-1	1,4-dioxane			0							50	n/a						
79-06-1	Acrylamide		H	0							0.1	n/a						
92-52-4	Biphenyl (cyclochlorocyclohexane)			0							n/a	25						

Summary of Remedial Targets Methodology Screening



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CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes	
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS		
32534-81-9	Brominated diphenylethers (Sum congeners 28,47,99,100,153,154)	PH	H	0							n/a	0.14						
85535-84-8	Chloroalkanes C10-C13	PH	H	0							n/a	0.4						
25567-68-4	Chloronitrotoluenes		H	0							n/a	10						
3252-43-5	Dibromoacetnitrile			0							70	n/a						
13425-80-4	Dichloroacetate			0							50	n/a						
3018-12-0	Dichloroacetnitrile			0							20	n/a						
GRP04	Dioxins and dioxin-like compounds	PH		0							n/a	n/a						
3194-55-6	Hexabromocyclododecanes (HBCDD)	PH	H	0							n/a	0.0016						
2163-68-0	Hydroxyatrazine			0							200	n/a						
101043-37-2	Microcystin-LR			0							1	n/a						
62-75-9	N-nitrosodimethylamine			0							0.1	n/a						
1763-23-1	Perfluorooctane sulfonic acid (PFOS) & derivatives	PH	H	0							0.3	0.00065						DWS represents DWI (2009) Tier 2 action value (commence monitoring).
1336-36-3	Polychlorinated Biphenyls (PCB)		H	0							n/a	n/a						
2893-78-9	Sodium dichloroisoxyanurate			0							50000	n/a						
126-73-8	Tributyl phosphate		H	0							n/a	50						
3380-34-5	Triclosan	SP		0							n/a	0.1						
7726-95-6	Bromine (Br)			0							n/a	2						
7782-50-5	Chlorine (total free available)	SP	NP	0							200	2						
14866-68-3	Chlorate			0							700	n/a						
14998-27-7	Chlorite			0							700	n/a						
60-00-4	EDTA (edetic acid)			0							600	400						
106-89-8	Epichlorohydrin		H	0							0.1	n/a						
569-64-2	Malachite green		H	0							n/a	0.5						
10599-90-3	Monochloramine			0							3000	n/a						
79-11-8	Monochloroacetate (Chloroacetic Acid)			0							20	n/a						
139-13-9	NTA (nitrilotriacetic acid)			0							200	1000						
76-03-9	Trichloroethanoic acid (trichloroacetate)			0							200	n/a						
7440-61-1	U (dissolved)			0							30	n/a						
36643-28-4	Tributyl tin compounds	PH	H	0							n/a	0.0002						
7783-06-4	Hydrogen Sulphide			0							n/a	0.25						
14797-73-0	Perchlorate			0							70	n/a						
GRP06	Total anions			0							n/a	250000						
93-76-5	2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)		H	0							0.1	n/a						
94-75-7	2,4-D (2,4-Dichlorophenoxyacetic acid)	SP		0							0.1	0.3						
94-82-6	2,4-DB (4-(2,4-dichlorophenoxy butyric acid)			0							0.1	n/a						
71751-41-2	Abamectin			0							0.1	0.01						
74070-46-5	Acinofen	P		0							0.1	0.12						
15972-60-8	Alachlor	P	H	0							0.1	0.3						
116-06-3	Aldicarb		NP	0							0.1	n/a						
309-00-2	Aldrin		H	0							0.03	n/a						
GRP07	Aldrin & dieldrin		H	0							0.03	n/a						
1912-24-9	Atrazine	P	H	0							0.1	0.6						
35575-96-3	Azamethiphos			0							0.1	n/a						
2642-71-9	Azinphos ethyl		H	0							0.1	n/a						
86-50-0	Azinphos-methyl		H	0							0.1	0.01						
25057-89-0	Bentazone		NP	0							0.1	500						
42576-02-3	Bifenox	P	H	0							0.1	0.012						
1689-84-5	Bromoxynil		H	0							0.1	100						
10605-21-7	Carbendazim	SP	H	0							0.1	0.15						
1563-66-2	Carbofuran		NP	0							0.1	n/a						
57-74-9	Chlordane		H	0							0.1	n/a						
470-90-6	Chlorofenvinphos	P	H	0							0.1	0.1						
101-21-3	Chloroproprham		H	0							0.1	10						
2921-88-2	Chloropyrifos	P	H	0							0.1	0.03						
1897-45-6	Chlorothalonil	SP	H	0							0.1	0.035						
15545-48-9	Chlorotoluron		H	0							0.1	2						
GRP08	Cyclodiene pesticides, sum of Aldrin, Dieldrin, Endrin, Isodrin	OP	H	0							0.03	0.01						
56-72-4	Coumaphos		H	0							0.1	0.01						

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21725-46-2	Cyanazine		H	0						0.1	n/a					
28159-98-0	Cybutryne	P		0						0.1	0.0025					
68359-37-5	Cyfluthrin			0						0.1	0.001					
52315-07-8	Cypermethrin	P	H	0						0.1	0.00008					
GRP09	DDT total (dichlorodiphenyltrichloroethane)	OP	H													
				0						0.1	0.025					
8065-48-3	Dermeton		H	0						0.1	0.5					
333-41-5	Diazinon (sheep dip)	SP	H	0						0.1	0.01					
120-36-5	Dichloroprop		H	0						0.1	n/a					
62-73-7	Dichlorvos	P	H	0						0.1	0.0006					
115-32-2	Dicofol	PH	H	0						0.1	0.0013					
60-57-1	Dieldrin		H	0						0.03	n/a					
35367-38-5	Diffubenzuron		H	0						0.1	0.001					
60-51-5	Dimethoate	SP	H	0						0.1	0.48					
330-54-1	Diuron	P	H	0						0.1	0.2					
117704-25-3	Doramectin			0						n/a	0.001					
115-29-7	Endosulfan	PH	H	0						0.1	0.005					
72-20-8	Endrin		H	0						0.1	n/a					
299-84-3	Fenchlorphos		H	0						0.1	0.03					
122-14-5	Fenitrothion		H	0						0.1	0.01					
93-72-1	Fenoprop ((2,4,5-trichlorophenoxy)propionic acid)		H													
				0						0.1	n/a					
55-38-9	Fenthion		H	0						0.1	n/a					
370-50-3	Flucifuron			0						0.1	1					
50-00-0	Formaldehyde (methanal)		NP	0						0.1	5					
38641-94-0	Glyphosate	SP		0						0.1	196					
76-44-8	Heptachlor		H	0						0.03	2E-07					
GRP10	Heptachlor & Heptachlor epoxide	PH	H													
				0						0.03	2E-07					
1024-57-3	Heptachlor epoxide			0						0.03	2E-07					
608-73-1	Hexachlorocyclohexane (includes lindane)	PH	H	0						0.1	0.02					
1689-83-4	Ioxynil		H	0						0.1	10					
465-73-6	Isodrin		H	0						0.1	n/a					
34123-69-6	Isoproturon	P	NP	0						0.1	0.3					
70288-86-7	Ivermectin			0						n/a	0.0001					
330-55-2	Linuron	SP	H	0						0.1	0.5					
121-75-5	Malathion		H	0						0.1	0.01					
8018-01-07	Mancozeb		NP	0						0.1	2					
12427-38-2	Maneb		NP	0						0.1	3					
94-74-6	MCPA (4-(2-methyl-4-chlorophenoxy acetic acid))			0						0.1	12					EQS inland dependant on pH. Default 12µg/l as conservative approach
93-65-2	Mecoprop	SP	NP	0						0.1	18					
2032-65-7	Methiocarb	SP	NP	0						0.1	0.01					
72-43-5	Methoxychlor			0						0.1	n/a					
51218-45-2	Metolachlor			0						0.1	n/a					
7786-34-7	Mevinphos		H	0						0.1	0.02					
2212-67-1	Molinate			0						0.1	n/a					
1113-02-6	Omethoate		H	0						0.1	0.01					
50-29-3	para-para-DDT	OP	H	0						0.1	0.01					
56-38-2	Parathion		H	0						0.1	n/a					
298-00-0	Parathion-methyl		H	0						0.1	n/a					
GRP11	PCSDs (cyfluthrin, sulcofuron, flucofuron and permethrin)			0						n/a	0.05					
40487-42-1	Pendimethalin	SP	NP	0						0.1	0.3					
87-86-5	Pentachlorophenol	P	H	0						0.1	0.4					
52645-53-1	Permethrin	SP	H	0						0.1	0.001					
GRP12	Pesticides (individual) (other than aldrin, dieldrin, heptachlor & heptachlor epoxide)			0						0.1	n/a					
GRP13	Pesticides (total)			0						0.5	n/a					
23103-98-2	Pirimicarb		NP	0						0.1	1					
28232-93-7	Pirimiphos - methyl		H	0						0.1	0.015					
67747-09-5	Prochloraz		H	0						0.1	4					
31218-83-4	Propetamphos		H	0						0.1	0.03					
23950-58-5	Propyzamide		H	0						0.1	100					
95737-68-1	Pyriproxyfen			0						0.1	n/a					

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CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS	
124495-18-7	Quinoxifen	PH		0							0.1	0.15					
122-34-9	Simazine	P	H	0							0.1	1					
3567-25-7	Sulcofuron			0							0.1	25					
117-18-0	Tecnazene (total)			0							0.1	1					
886-50-0	Tertbutryn	P	NP	0							0.1	0.065					
5915-41-3	Tertbutylazine		H	0							0.1	n/a					
148-79-8	Thiabendazole		NP	0							0.1	5					
2303-17-5	Triallate		H	0							0.1	0.25					
24017-47-8	Triazaphos		H	0							0.1	0.005					
1582-09-8	Trifluralin	PH	H	0							0.1	0.03					
1262-21-1	Triphenyltin and derivatives		H	0							0.1	0.02					

Summary of Remedial Targets Methodology Screening

Hydrock Scenario: Scenario D - DWS & EQS (inland)										2013/39/EU Annex I									
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Water body receptor(s): Groundwater and surface water										PH = priority hazardous substances.									
Secondary receptor(s):										WFD Designation (2015 Directions)									
Data set: Groundwater										OP = Other substance identical to previous legislation									
Client: Portsmouth										<div></div> <div>PNEC calculated (inland EQS)</div>									
City Council																			
Site: Dunsbury										SP = Specific Pollutant									
Park										JAGDAG Hazardous Substances Determination (UK)									
Job no: 19453-GELO										H Hazardous substance									
Test Certificates(s): 21-10737,21-11194										NP Non-hazardous pollutant									
Dataset Unit 600										(blank) Not included in assessment									

CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes
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P1133	Hardness as mg/l CaCO ₃			-	-	-	10	-	-	-	-	-					Representative hardness of receiving surface water environment used in some inland EQS
7440-22-4	Silver (Ag) (dissolved)			4	0	0.05	<0.05	<0.05	<0.05	n/a	0.05		0		0		
7429-90-5	Aluminium (Al) (dissolved)			4	4	1	1.9	5.4	5.04	5.4	200	n/a	0		0		
7440-38-2	Arsenic (As) (dissolved)	SP	H	4	4	0.15	0.76	2.55	2.5335	2.55	10	50	0	0	0	0	
7440-42-8	Boron (B) (dissolved)		NP	4	4	10	33	660	577.5	660	1000	2000	0	0	0	0	
7440-39-3	Barium (Ba) (dissolved)			4	4	0.06	17	44	42.5	44	1300	n/a	0	0	0	0	
7440-43-9	Cadmium (Cd) (dissolved)	PH	NP	4	0	0.02	<0.02	<0.02	<0.02	<0.02	5	0.08	0	0	0	0	EQS (inland) dependent on hardness of receiving surface water environment
7440-48-4	Cobalt (Co) (dissolved)		NP	4	4	0.2	0.3	3.8	3.29	3.8	n/a	3		1		1	
18540-29-9	Chromium (VI) (Cr) (dissolved)	SP	H	4	0	5	<5	<5	<5	<5	n/a	3.4		4		0	
16065-83-1	Chromium (III) (Cr) (dissolved)	SP		4	4	1	2	3.6	3.405	3.6	n/a	4.7		0		0	
7440-47-3	Chromium (Cr) (total) (dissolved)			4	4	0.2	2	3.6	3.405	3.6	50	n/a	0		0		
7440-50-8	Copper (Cu) (dissolved)	SP	NP	4	4	0.5	0.8	4.8	4.545	4.8	2000	1	0	2	0	2	Bioavailable EQS (inland)
7439-89-6	Iron (Fe) (dissolved)	SP		4	4	4	16	130	128.5	130	200	1000	0	0	0	0	
7439-97-6	Mercury (Hg) (dissolved)	PH	H	4	0	0.05	<0.05	<0.05	<0.05	<0.05	1	0.07	0	0	0	0	
P1286	Manganese (Mn) (dissolved)	SP		4	4	0.05	40	310	301	310	50	123	3	3	3	3	Bioavailable EQS (inland)
7440-23-5	Sodium (Na) (dissolved)			4	4	0.01	23	270	244.2	270	200000	n/a	0		0		
7440-02-0	Nickel (Ni) (dissolved)	P	NP	4	4	0.5	1	6.1	5.38	6.1	20	4	0	1	0	1	Bioavailable EQS (inland)
7439-92-1	Lead (Pb) (dissolved)	P	H	4	0	0.2	<0.2	<0.2	<0.2	<0.2	10	1.2	0	0	0	0	Bioavailable EQS (inland)
7440-36-0	Antimony (Sb) (dissolved)		NP	4	3	0.4	<0.4	0.7	0.685	0.7	5	n/a	0	0	0	0	
7782-49-2	Selenium (Se) (dissolved)		NP	4	2	0.6	<0.6	2.6	2.345	2.6	10	n/a	0	0	0	0	
7440-31-5	Tin (Sn) (dissolved)			4	3	0.2	<0.2	0.5	0.497	0.5	n/a	25		0	0	0	
7440-62-2	Vanadium (V) (dissolved)			4	4	0.2	0.3	1.6	1.54	1.6	n/a	20		0	0	0	EQS (inland) dependent on hardness of receiving surface water environment
7440-66-6	Zinc (Zn) (dissolved)	SP	NP	4	4	0.5	1.7	4.3	4.045	4.3	n/a	12.3		0	0	0	Bioavailable EQS (inland) + ambient background concentration (ABC)
P1095	Cyanide (free) (hydrogen cyanide)	SP	NP	4	0	1	<1	<1	<1	<1	n/a	1		0	0	0	
57-12-5	Cyanide (total)			4	0	1	<1	<1	<1	<1	50	n/a	0	0	0	0	
P1140	Ammonium (NH ₄ ⁺)		NP	4	3	15	<15	140	137	140	500	n/a	0	0	0	0	
P1238	Ammoniacal Nitrogen (as N)		NP	4	3	15	<15	110	107.6	110	n/a	300		0	0	0	
P1720	Ammonia (unionised) (NH ₃ as N) (free ammonia)	SP	NP	4	3	15	<15	130	127	130	n/a	n/a					
15541-45-4	Bromate (BrO ₃ ⁻)			4	0	0.002	<0.002	<0.002	<0.002	<0.002	10	n/a	0	0	0	0	
16887-00-6	Chloride (Cl ⁻)			4	4	0.15	23	400	344.95	400	250000	250000	0	0	0	0	
16984-48-8	Fluoride (F ⁻)			4	4	50	140	410	405.5	410	1500	1000	0	0	0	0	EQS (inland) dependent on hardness of receiving surface water environment
P1348	Nitrate (NO ₃ ⁻)			4	4	0.05	0.26	1.39	1.36	1.39	50000	n/a	0	0	0	0	
P1349	Nitrite (NO ₂ ⁻)			4	1	5	<5	19	16.9	19	500	n/a	0	0	0	0	
14808-79-8	Sulfate (SO ₄ ²⁻) (su)			4	4	45	37900	184000	168655	184000	250000	400000	0	0	0	0	
P1134	pH (min.) (su)			4	4	0	7.5	7.8	7.8	7.8	6.5	6	0	0	0	0	
P1134	pH (max.) (su)			4	4	0	7.5	7.8	7.8	7.8	9.5	9	0	0	0	0	
P1287	Electrical conductivity (µS/cm)			2	2	10	510	1900	1830.5	1900	2500	n/a	0	0	0	0	
120-12-7	Anthracene	PH	H	4	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	0.1		0	0	0	
50-32-8	Benzo(a)pyrene	PH	H	4	0	0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.00017	0	4	0	0	Benzo(a)pyrene EQS used as marker substance for the group of benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene & indeno(1,2,3-cd)pyrene
206-44-0	Fluoranthene	P	H	4	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	0.0063		4	0	0	
91-20-3	Naphthalene	P	NP	4	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	2		0	0	0	
GRP01	PAHs = sum of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene	P	H	4	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	2		0	0	0	
P1877	Phenol	SP	NP	4	0	1	<1	<1	<1	<1	n/a	7.7		0	0	0	
P1407	Ali EC5-EC6			4	0	1	<1	<1	<1	<1	15000	10	0	0	0	0	n-hexane fall within this fraction
P1408	Ali >EC6-EC8			4	0	1	<1	<1	<1	<1	15000	10	0	0	0	0	n-heptane falls within this fraction
P1409	Ali >EC8-EC10			4	0	1	<1	<1	<1	<1	300	10	0	0	0	0	n-octane and n-nonane fall within this fraction
P1410	Ali >EC10-EC12			4	0	10	<10	<10	<10	<10	300	10	0	0	0	0	
P1411	Ali >EC12-EC16			4	0	10	<10	<10	<10	<10	300	10	0	0	0	0	
P1938	Ali >EC16-EC35			4	0	10	<10	<10	<10	<10	n/a	10		0	0	0	
P1415	Ali >EC35-EC44			4	0	10	<10	<10	<10	<10	n/a	10		0	0	0	
P1441	Aro EC5-EC7			4	0	1	<1	<1	<1	<1	1	10	0	0	0	0	Benzene wholly representative of this fraction
P1355	Aro >EC7-EC8			4	0	1	<1	<1	<1	<1	700	10	0	0	0	0	Toluene wholly representative of this fraction
P1356	Aro >EC8-EC10			4	0	1	<1	<1	<1	<1	300	10	0	0	0	0	Ethylbenzene / xylene / trimethylbenzene representative of this range
P1357	Aro >EC10-EC12			4	0	10	<10	<10	<10	<10	90	10	0	0	0	0	Naphthalene often forms a reasonable percentage of this fraction
P1358	Aro >EC12-EC16			4	0	10	<10	<10	<10	<10	90	10	0	0	0	0	2-methylnaphthalene, acenaphthylene, acenaphthene falls within this fraction
P1359	Aro >EC16-EC21			4	0	10	<10	<10	<10	<10	90	10	0	0	0	0	fluorene, anthracene, phenanthrene, pyrene falls within this range
P1360	Aro >EC21-EC35			4	0	10	<10	<10	<10	<10	90	10	0	0	0	0	Benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(cd)pyrene fall within this fraction

Summary of Remedial Targets Methodology Screening

RTM Level: RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples Water body receptor(s): Groundwater and surface water Secondary receptor(s): Data set: Groundwater Client: Portsmouth City Council Site: Dunsbury Park Job no: 19453-GELO Test Certificates(s): 21-10737,21-11194 Dataset Unit 600											<div></div> <div>PNEC calculated (inland EQS)</div>		<div>P = priority substance PH = priority hazardous substances WFD Designation (2015 Directions) OP = Other substance identical to previous legislation SP = Specific Pollutant JAGDAG Hazardous Substances Determination (UK) H Hazardous substance NP Non-hazardous pollutant (blank) Not included in assessment</div>					
CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes	
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS		
P1362	Aro >EC35-EC44			4	0	10	<10	<10	<10	<10	n/a	10						
71-43-2	Benzene	P	H	4	0	1	<1	<1	<1	<1	1	10	0	0	0	0		
108-88-3	Toluene	SP	H	4	0	1	<1	<1	<1	<1	700	74	0	0	0	0		
100-41-4	Ethylbenzene		H	4	0	1	<1	<1	<1	<1	300	20	0	0	0	0		Proposed EQS for Ethylbenzene in Water, R&D Technical Report P2-115/TR4, EA 2001
95-47-6	o-Xylene		H	4	0	1	<1	<1	<1	<1	500	30	0	0	0	0		DWS/EQS for total xylene
P1374	m,p-Xylene		H	4	0	1	<1	<1	<1	<1	500	30	0	0	0	0		DWS/EQS for total xylene
1634-04-04	Methyl tertiary butyl ether (MTBE)		NP	4	0	1	<1	<1	<1	<1	15	n/a	0		0			Non health based value - WHO odour threshold
71-55-6	1,1,1-Trichloroethane		NP	0							n/a	100						
79-00-5	1,1,2-Trichloroethane		NP	0							n/a	400						
96-12-8	1,2-Dibromo-3-chloropropane			0							0.1	n/a						
106-93-4	1,2-Dibromoethane		H	0							0.4	n/a						
95-50-1	1,2-Dichlorobenzene		H	0							1000	20						
107-06-2	1,2-Dichloroethane (EDC)	P	NP	0							3	10						
156-59-2	cis 1,2-Dichloroethene (cis 1,2 DCE)		NP	0							50	n/a						DWS is for combined isomers
156-60-5	trans 1,2-Dichloroethene (trans 1,2 DCE)		NP	0							50	n/a						DWS is for combined isomers
78-87-5	1,2-Dichloropropane		H	0							40	n/a						
10061-01-5	cis 1,3-Dichloropropene		H	0							0.1	n/a						DWS is for combined isomers
10061-02-6	trans 1,3-Dichloropropene		H	0							0.1	n/a						DWS is for combined isomers
106-46-7	1,4-Dichlorobenzene		H	0							300	20						
75-27-4	Bromodichloromethane			0							60	n/a						
75-01-4	Chloroethene (vinyl chloride)		H	0							0.5	n/a						
124-48-1	Dibromochloromethane			0							100	n/a						
25321-22-6	Dichlorobenzenes (1,2-, 1,3- & 1,4-)			0							n/a	20						
75-09-2	Dichloromethane	P	NP	0							20	20						
87-68-3	Hexachlorobutadiene (HCBD)	PH	H	0							0.1	0.6						
100-42-5	Styrene		H	0							20	50						
25322-20-7	Tetrachloroethane (PCA)	SP		0							n/a	140						
127-18-4	Tetrachloroethene (PCE)	OP	NP	0							10	10						UK DWS applies to sum of tetrachloroethene and trichloroethene
GRP02	Tetrachloroethene (PCE) and trichloroethene (TCE)			0							10	n/a						UK DWS applies to sum of tetrachloroethene and trichloroethene
56-23-5	Tetrachloromethane (Carbon Tetrachloride)	OP	H	0							3	12						
75-25-2	Tribromomethane (bromoform)			0							100	n/a						
12002-48-1	Trichlorobenzenes	P	NP	0							n/a	0.4						
79-01-6	Trichloroethene	OP	H	0							10	10						UK DWS applies to sum of tetrachloroethene and trichloroethene
67-66-3	Trichloromethane (chloroform)	P	H	0							100	2.5						
GRP03	Trihalomethanes, sum of trichloromethane, tribromomethane, dibromochloromethane & bromodichloromethane			0							100	n/a						
88-06-2	2,4,6-Trichlorophenol		H	0							200	n/a						
120-83-2	2,4-Dichlorophenol	SP	H	0							n/a	4.2						
95-57-8	2-Chlorophenol		H	0							n/a	50						
554-00-7	3,4-Dichloroaniline	SP		0							n/a	0.2						
108-43-0	3-Chlorophenol		H	0							n/a	50						
59-50-7	4-Chloro, 3-methylphenol		H	0							n/a	40						
106-48-9	4-Chlorophenol		H	0							n/a	50						
85-68-7	Benzyl butyl phthalate	SP		0							n/a	7.5						
117-81-7	Di(2-ethylhexylphthalate) (DEHP)	PH	NP	0							8	1.3						
84-74-2	Dibutyl phthalate		NP	0							n/a	8						
84-66-2	Diethyl phthalate (DEP)			0							n/a	200						
131-11-3	Dimethyl phthalate (DMP)			0							n/a	800						
117-84-0	Diethyl phthalates			0							n/a	20						
118-74-1	Hexachlorobenzene	PH	H	0							0.1	0.05						
104-40-5	Nonylphenol (4-Nonylphenol)	PH		0							n/a	0.3						
140-66-9	Octylphenol ((4-(1,1', 3,3'-tetramethylbutyl)-phenol))	P		0							n/a	0.1						
608-93-5	Pentachlorobenzene	PH	H	0							n/a	0.007						
123-91-1	1,4-dioxane			0							50	n/a						
79-06-1	Acrylamide		H	0							0.1	n/a						
92-52-4	Biphenyl (cyclochlorocyclohexane)			0							n/a	25						

Summary of Remedial Targets Methodology Screening



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Water body receptor(s): Groundwater and surface water																		
Secondary receptor(s):																		
Data set: Groundwater																		
Client: Portsmouth																		
City Council																		
Site: Dunsbury																		
Park																		
Job no: 19453-GELO																		
Test Certificates(s): 21-10737,21-11194																		
Dataset Unit 600																		
CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes	
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS		
32534-81-9	Brominated diphenylethers (Sum congeners 28,47,99,100,153,154)	PH	H	0							n/a	0.14						
85535-84-8	Chloroalkanes C10-C13	PH	H	0							n/a	0.4						
25567-68-4	Chloronitrotoluenes		H	0							n/a	10						
3252-43-5	Dibromoacetnitrile			0							70	n/a						
13425-80-4	Dichloroacetate			0							50	n/a						
3018-12-0	Dichloroacetnitrile			0							20	n/a						
GRP04	Dioxins and dioxin-like compounds	PH		0							n/a	n/a						
3194-55-6	Hexabromocyclododecanes (HBCDD)	PH	H	0							n/a	0.0016						
2163-68-0	Hydroxyatrazine			0							200	n/a						
101043-37-2	Microcystin-LR			0							1	n/a						
62-75-9	N-nitrosodimethylamine			0							0.1	n/a						
1763-23-1	Perfluorooctane sulfonic acid (PFOS) & derivatives	PH	H	0							0.3	0.00065						DWS represents DWI (2009) Tier 2 action value (commence monitoring).
1336-36-3	Polychlorinated Biphenyls (PCB)		H	0							n/a	n/a						
2893-78-9	Sodium dichloroisoxyanurate			0							50000	n/a						
126-73-8	Tributyl phosphate		H	0							n/a	50						
3380-34-5	Triclosan	SP		0							n/a	0.1						
7726-95-6	Bromine (Br)			0							n/a	2						
7782-50-5	Chlorine (total free available)	SP	NP	0							200	2						
14866-68-3	Chlorate			0							700	n/a						
14998-27-7	Chlorite			0							700	n/a						
60-00-4	EDTA (edetic acid)			0							600	400						
106-89-8	Epichlorohydrin		H	0							0.1	n/a						
569-64-2	Malachite green		H	0							n/a	0.5						
10599-90-3	Monochloramine			0							3000	n/a						
79-11-8	Monochloroacetate (Chloroacetic Acid)			0							20	n/a						
139-13-9	NTA (nitrilotriacetic acid)			0							200	1000						
76-03-9	Trichloroethanoic acid (trichloroacetate)			0							200	n/a						
7440-61-1	U (dissolved)			0							30	n/a						
36643-28-4	Tributyl tin compounds	PH	H	0							n/a	0.0002						
7783-06-4	Hydrogen Sulphide			0							n/a	0.25						
14797-73-0	Perchlorate			0							70	n/a						
GRP06	Total anions			0							n/a	250000						
93-76-5	2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)		H	0							0.1	n/a						
94-75-7	2,4-D (2,4-Dichlorophenoxyacetic acid)	SP		0							0.1	0.3						
94-82-6	2,4-DB (4-(2,4-dichlorophenoxy butyric acid)			0							0.1	n/a						
71751-41-2	Abamectin			0							0.1	0.01						
74070-46-5	Acinofen	P		0							0.1	0.12						
15972-60-8	Alachlor	P	H	0							0.1	0.3						
116-06-3	Aldicarb		NP	0							0.1	n/a						
309-00-2	Aldrin		H	0							0.03	n/a						
GRP07	Aldrin & dieldrin		H	0							0.03	n/a						
1912-24-9	Atrazine	P	H	0							0.1	0.6						
35575-96-3	Azamectiphos			0							0.1	n/a						
2642-71-9	Azinphos ethyl		H	0							0.1	n/a						
86-50-0	Azinphos-methyl		H	0							0.1	0.01						
25057-89-0	Bentazone		NP	0							0.1	500						
42576-02-3	Bifenox	P	H	0							0.1	0.012						
1689-84-5	Bromoxynil		H	0							0.1	100						
10605-21-7	Carbendazim	SP	H	0							0.1	0.15						
1563-66-2	Carbofuran		NP	0							0.1	n/a						
57-74-9	Chlordane		H	0							0.1	n/a						
470-90-6	Chlorofenvinphos	P	H	0							0.1	0.1						
101-21-3	Chloropropham		H	0							0.1	10						
2921-88-2	Chloropyrifos	P	H	0							0.1	0.03						
1897-45-6	Chlorothalonil	SP	H	0							0.1	0.035						
15545-48-9	Chlorotoluron		H	0							0.1	2						
GRP08	Cyclodiene pesticides, sum of Aldrin, Dieldrin, Endrin, Isodrin	OP	H	0							0.03	0.01						
56-72-4	Coumaphos		H	0							0.1	0.01						

Summary of Remedial Targets Methodology Screening

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				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS	
21725-46-2	Cyanazine		H	0							0.1	n/a					
28159-98-0	Cybutryne	P		0							0.1	0.0025					
68359-37-5	Cyfluthrin			0							0.1	0.001					
52315-07-8	Cypermethrin	P	H	0							0.1	0.00008					
GRP09	DDT total (dichlorodiphenyltrichloroethane)	OP	H														
				0							0.1	0.025					
8065-48-3	Demeton		H	0							0.1	0.5					
333-41-5	Diazinon (sheep dip)	SP	H	0							0.1	0.01					
120-36-5	Dichloroprop		H	0							0.1	n/a					
62-73-7	Dichlorvos	P	H	0							0.1	0.0006					
115-32-2	Dicofol	PH	H	0							0.1	0.0013					
60-57-1	Dieldrin		H	0							0.03	n/a					
35367-38-5	Diffubenzuron		H	0							0.1	0.001					
60-51-5	Dimethoate	SP	H	0							0.1	0.48					
330-54-1	Diuron	P	H	0							0.1	0.2					
117704-25-3	Doramectin			0							n/a	0.001					
115-29-7	Endosulfan	PH	H	0							0.1	0.005					
72-20-8	Endrin		H	0							0.1	n/a					
299-84-3	Fenchlorphos		H	0							0.1	0.03					
122-14-5	Fenitrothion		H	0							0.1	0.01					
93-72-1	Fenoprop ((2,4,5-trichlorophenoxy)propionic acid)		H														
				0							0.1	n/a					
55-38-9	Fenthion		H	0							0.1	n/a					
370-50-3	Flucufuron			0							0.1	1					
50-00-0	Formaldehyde (methanal)		NP	0							0.1	5					
38641-94-0	Glyphosate	SP		0							0.1	196					
76-44-8	Heptachlor		H	0							0.03	2E-07					
GRP10	Heptachlor & Heptachlor epoxide	PH	H														
				0							0.03	2E-07					
1024-57-3	Heptachlor epoxide			0							0.03	2E-07					
608-73-1	Hexachlorocyclohexane (includes lindane)	PH	H	0							0.1	0.02					
1689-83-4	Ioxynil		H	0							0.1	10					
465-73-6	Isodrin		H	0							0.1	n/a					
34123-69-6	Isoproturon	P	NP	0							0.1	0.3					
70288-86-7	Ivermectin			0							n/a	0.0001					
330-55-2	Linuron	SP	H	0							0.1	0.5					
121-75-5	Malathion		H	0							0.1	0.01					
8018-01-07	Mancozeb		NP	0							0.1	2					
12427-38-2	Maneb		NP	0							0.1	3					
94-74-6	MCPA (4-(2-methyl-4-chlorophenoxy acetic acid))			0							0.1	12					EQS inland dependant on pH. Default 12µg/l as conservative approach
93-65-2	Mecoprop	SP	NP	0							0.1	18					
2032-65-7	Methiocarb	SP	NP	0							0.1	0.01					
72-43-5	Methoxychlor			0							0.1	n/a					
51218-45-2	Metolachlor			0							0.1	n/a					
7786-34-7	Mevinphos		H	0							0.1	0.02					
2212-67-1	Molinate			0							0.1	n/a					
1113-02-6	Omethoate		H	0							0.1	0.01					
50-29-3	para-para-DDT	OP	H	0							0.1	0.01					
56-38-2	Parathion		H	0							0.1	n/a					
298-00-0	Parathion-methyl		H	0							0.1	n/a					
GRP11	PCSDs (cyfluthrin, sulcofuron, flucofuron and permethrin)			0							n/a	0.05					
40487-42-1	Pendimethalin	SP	NP	0							0.1	0.3					
87-86-5	Pentachlorophenol	P	H	0							0.1	0.4					
52645-53-1	Permethrin	SP	H	0							0.1	0.001					
GRP12	Pesticides (individual) (other than aldrin, dieldrin, heptachlor & heptachlor epoxide)			0							0.1	n/a					
GRP13	Pesticides (total)			0							0.5	n/a					
23103-98-2	Pirimicarb		NP	0							0.1	1					
29232-93-7	Pirimiphos - methyl		H	0							0.1	0.015					
67747-09-5	Prochloraz		H	0							0.1	4					
31218-83-4	Propetamphos		H	0							0.1	0.03					
23950-58-5	Propyzamide		H	0							0.1	100					
95737-68-1	Pyriproxyfen			0							0.1	n/a					

Summary of Remedial Targets Methodology Screening



RTM Level: RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples Water body receptor(s): Groundwater and surface water Secondary receptor(s): Data set: Groundwater Client: Portsmouth City Council Site: Dunsbury Park Job no: 19453-GELO Test Certificates(s): 21-10737,21-11194 Dataset Unit 600										<div><div></div><div>PNEC calculated (inland EQS)</div></div>		<div>P = priority substance PH = priority hazardous substances WFD Designation (2015 Directions) OP = Other substance identical to previous legislation SP = Specific Pollutant JAGDAG Hazardous Substances Determination (UK) H Hazardous substance NP Non-hazardous pollutant (blank) Not included in assessment</div>					
CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS	
124495-18-7	Quinoxifen	PH		0							0.1	0.15					
122-34-9	Simazine	P	H	0							0.1	1					
3567-25-7	Sulcofuron			0							0.1	25					
117-18-0	Tecnazene (total)			0							0.1	1					
886-50-0	Tertbutryn	P	NP	0							0.1	0.065					
5915-41-3	Tertbutylazine		H	0							0.1	n/a					
148-79-8	Thiabendazole		NP	0							0.1	5					
2303-17-5	Triallate		H	0							0.1	0.25					
24017-47-8	Triazaphos		H	0							0.1	0.005					
1582-09-8	Trifluralin	PH	H	0							0.1	0.03					
1262-21-1	Triphenyltin and derivatives		H	0							0.1	0.02					

Summary of Remedial Targets Methodology Screening

Hydrock Scenario: Scenario D - DWS & EQS (inland)											2013/39/EU Annex I	
RTM Level: RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples											P = priority substance	
Water body receptor(s): Groundwater and surface water											PH = priority hazardous substances.	
Secondary receptor(s):											WFD Designation (2015 Directions)	
Data set: Groundwater											OP = Other substance identical to previous legislation	
Client: Portsmouth											SP = Specific Pollutant	
City Council												
Site: Dunsbury												
Park												
Job no: 19453-GELO												
Test Certificates(s): 21-10737,21-11194											JAGDAG Hazardous Substances Determination (UK)	
Dataset Unit 700											H Hazardous substance	
											NP Non-hazardous pollutant	
											(blank) Not included in assessment	

CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS	
P1133	Hardness as mg/l CaCO ₃			-	-	-	10	-	-	-	-	-					Representative hardness of receiving surface water environment used in some inland EQS
7440-22-4	Silver (Ag) (dissolved)			4	0	0.05	<0.05	<0.05	<0.05	n/a	0.05		0		0		
7429-90-5	Aluminium (Al) (dissolved)			4	4	1	3.6	43	38.35	43	200	n/a	0		0		
7440-38-2	Arsenic (As) (dissolved)	SP	H	4	4	0.15	0.33	2.16	1.9425	2.16	10	50	0	0	0	0	
7440-42-8	Boron (B) (dissolved)		NP	4	4	10	42	710	617.6	710	1000	2000	0	0	0	0	
7440-39-3	Barium (Ba) (dissolved)			4	4	0.06	15	51	49.5	51	1300	n/a	0		0		
7440-43-9	Cadmium (Cd) (dissolved)	PH	NP	4	1	0.02	<0.02	0.16	0.139	0.16	5	0.08	0	1	0	1	EQS (inland) dependent on hardness of receiving surface water environment
7440-48-4	Cobalt (Co) (dissolved)		NP	4	4	0.2	0.6	10	9.16	10	n/a	3		2	2		
18540-29-9	Chromium (VI) (Cr) (dissolved)	SP	H	4	0	5	<5	<5	<5	<5	n/a	3.4		4	0		
16065-83-1	Chromium (III) (Cr) (dissolved)	SP		4	4	1	3.5	9.7	8.905	9.7	n/a	4.7		1	1		
7440-47-3	Chromium (Cr) (total) (dissolved)			4	4	0.2	3.5	9.7	8.905	9.7	50	n/a	0		0		
7440-50-8	Copper (Cu) (dissolved)	SP	NP	4	4	0.5	1.5	6.6	6.255	6.6	2000	1	0	4	0	4	Bioavailable EQS (inland)
7439-89-6	Iron (Fe) (dissolved)	SP		4	4	4	5.8	340	290.65	340	200	1000	1	0	1	0	
7439-97-6	Mercury (Hg) (dissolved)	PH	H	4	0	0.05	<0.05	<0.05	<0.05	<0.05	1	0.07	0	0	0	0	
P1286	Manganese (Mn) (dissolved)	SP		4	4	0.05	49	390	358.5	390	50	123	3	3	3	3	Bioavailable EQS (inland)
7440-23-5	Sodium (Na) (dissolved)			4	4	0.01	13	390	335.25	390	200000	n/a	0		0		
7440-02-0	Nickel (Ni) (dissolved)	P	NP	4	4	0.5	3.3	24	21.885	24	20	4	1	3	1	3	Bioavailable EQS (inland)
7439-92-1	Lead (Pb) (dissolved)	P	H	4	0	0.2	<0.2	<0.2	<0.2	<0.2	10	1.2	0	0	0	0	Bioavailable EQS (inland)
7440-36-0	Antimony (Sb) (dissolved)		NP	4	4	0.4	0.5	0.8	0.785	0.8	5	n/a	0		0		
7782-49-2	Selenium (Se) (dissolved)		NP	4	4	0.6	0.8	21	18.105	21	10	n/a	1		1		
7440-31-5	Tin (Sn) (dissolved)			4	3	0.2	<0.2	0.71	0.656	0.71	n/a	25		0	0		
7440-62-2	Vanadium (V) (dissolved)			4	2	0.2	<0.2	1.2	1.14	1.2	n/a	20		0	0		EQS (inland) dependent on hardness of receiving surface water environment
7440-66-6	Zinc (Zn) (dissolved)	SP	NP	4	4	0.5	3	31	27.67	31	n/a	12.3		1	1		Bioavailable EQS (inland) + ambient background concentration (ABC)
P1095	Cyanide (free) (hydrogen cyanide)	SP	NP	4	0	1	<1	<1	<1	<1	n/a	1		0	0	0	
57-12-5	Cyanide (total)			4	0	1	<1	<1	<1	<1	50	n/a	0		0		
P1140	Ammonium (NH ₄ ⁺)		NP	4	4	15	39	140	134	140	500	n/a	0		0		
P1238	Ammoniacal Nitrogen (as N)		NP	4	4	15	31	110	105.35	110	n/a	300		0	0	0	
P1720	Ammonia (unionised) (NH ₃ as N) (free ammonia)	SP	NP	4	4	15	37	130	124.9	130	n/a	n/a					
15541-45-4	Bromate (BrO ₃ ⁻)			4	0	0.002	<0.002	<0.002	<0.002	<0.002	10	n/a	0		0		
16887-00-6	Chloride (Cl ⁻)			4	4	0.15	14	430	371.95	430	250000	250000	0	0	0	0	
16984-48-8	Fluoride (F ⁻)			4	4	50	130	170	165.5	170	1500	1000	0	0	0	0	EQS (inland) dependent on hardness of receiving surface water environment
P1348	Nitrate (NO ₃ ⁻)			4	4	0.05	6.36	16.8	15.63	16.8	50000	n/a	0		0		
P1349	Nitrite (NO ₂ ⁻)			4	4	5	380	1600	1510	1600	500	n/a	3		3		
14808-79-8	Sulfate (SO ₄ ²⁻)			4	4	45	47200	177000	158010	177000	250000	400000	0	0	0	0	
P1134	pH (min.) (su)			4	4	0	6.5	7.6	7.555	7.6	6.5	6	0	0	0	0	
P1134	pH (max.) (su)			4	4	0	6.5	7.6	7.555	7.6	9.5	9	0	0	0	0	
P1287	Electrical conductivity (µS/cm)			1	1	10	710	710	710	710	2500	n/a	0	0	0	0	
120-12-7	Anthracene	PH	H	4	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	0.1		0	0	0	
50-32-8	Benzo(a)pyrene	PH	H	4	0	0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.00017	0	4	0	0	Benzo(a)pyrene EQS used as marker substance for the group of benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene & indeno(1,2,3-cd)pyrene
206-44-0	Fluoranthene	P	H	4	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	0.0063		4	0	0	
91-20-3	Naphthalene	P	NP	4	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	2		0	0	0	
GRP01	PAHs = sum of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene	P	H	4	0	0.01	<0.01	<0.01	<0.01	<0.01	n/a	2		0	0	0	
				4	4	0.01	0.04	0.04	0.04	0.04	0.1	n/a	0		0		
P1877	Phenol	SP	NP	4	0	1	<1	<1	<1	<1	n/a	7.7		0	0	0	
P1407	Alil EC5-EC6			4	0	1	<1	<1	<1	<1	15000	10	0	0	0	0	n-hexane fall within this fraction
P1408	Alil >EC6-EC8			4	0	1	<1	<1	<1	<1	15000	10	0	0	0	0	n-heptane falls within this fraction
P1409	Alil >EC8-EC10			4	0	1	<1	<1	<1	<1	300	10	0	0	0	0	n-octane and n-nonane fall within this fraction
P1410	Alil >EC10-EC12			4	0	10	<10	<10	<10	<10	300	10	0	0	0	0	
P1411	Alil >EC12-EC16			4	0	10	<10	<10	<10	<10	300	10	0	0	0	0	
P1938	Alil >EC16-EC35			4	0	10	<10	<10	<10	<10	n/a	10		0	0	0	
P1415	Alil >EC35-EC44			4	0	10	<10	<10	<10	<10	n/a	10		0	0	0	
P1441	Aro EC5-EC7			4	0	1	<1	<1	<1	<1	1	10	0	0	0	0	Benzene wholly representative of this fraction
P1355	Aro >EC7-EC8			4	0	1	<1	<1	<1	<1	700	10	0	0	0	0	Toluene wholly representative of this fraction
P1356	Aro >EC8-EC10			4	0	1	<1	<1	<1	<1	300	10	0	0	0	0	Ethylbenzene / xylene / trimethylbenzene representative of this range
P1357	Aro >EC10-EC12			4	0	10	<10	<10	<10	<10	90	10	0	0	0	0	Naphthalene often forms a reasonable percentage of this fraction
P1358	Aro >EC12-EC16			4	0	10	<10	<10	<10	<10	90	10	0	0	0	0	2-methylnaphthalene, acenaphthylene, acenaphthene falls within this fraction
P1359	Aro >EC16-EC21			4	0	10	<10	<10	<10	<10	90	10	0	0	0	0	fluorene, anthracene, phenanthrene, pyrene falls within this range
P1360	Aro >EC21-EC35			4	0	10	<10	<10	<10	<10	90	10	0	0	0	0	Benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(cd)pyrene fall within this fraction

Summary of Remedial Targets Methodology Screening



RTM Level: RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples Water body receptor(s): Groundwater and surface water Secondary receptor(s): Data set: Groundwater Client: Portsmouth City Council Site: Dunsbury Park Job no: 19453-GELO Test Certificates(s): 21-10737,21-11194 Dataset Unit 700											<div><div></div><div>PNEC calculated (inland EQS)</div></div>		P = priority substance PH = priority hazardous substances WFD Designation (2015 Directions) OP = Other substance identical to previous legislation SP = Specific Pollutant JAGDAG Hazardous Substances Determination (UK) H Hazardous substance NP Non-hazardous pollutant (blank) Not included in assessment				
CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS	
P1362	Aro >EC35-EC44			4	0	10	<10	<10	<10	<10	n/a	10	0	0	0	0	
71-43-2	Benzene	P	H	4	0	1	<1	<1	<1	<1	1	10	0	0	0	0	
108-88-3	Toluene	SP	H	4	0	1	<1	<1	<1	<1	700	74	0	0	0	0	
100-41-4	Ethylbenzene		H	4	0	1	<1	<1	<1	<1	300	20	0	0	0	0	Proposed EQS for Ethylbenzene in Water, R&D Technical Report P2-115/TR4, EA 2001
95-47-6	o-Xylene		H	4	0	1	<1	<1	<1	<1	500	30	0	0	0	0	DWS/EQS for total xylene
P1374	m,p-Xylene		H	4	0	1	<1	<1	<1	<1	500	30	0	0	0	0	DWS/EQS for total xylene
1634-04-04	Methyl tertiary butyl ether (MTBE)		NP	4	0	1	<1	<1	<1	<1	15	n/a	0		0		Non health based value - WHO odour threshold
71-55-6	1,1,1-Trichloroethane		NP	0							n/a	100					
79-00-5	1,1,2-Trichloroethane		NP	0							n/a	400					
96-12-8	1,2-Dibromo-3-chloropropane			0							0.1	n/a					
106-93-4	1,2-Dibromoethane		H	0							0.4	n/a					
95-50-1	1,2-Dichlorobenzene		H	0							1000	20					
107-06-2	1,2-Dichloroethane (EDC)	P	NP	0							3	10					
156-59-2	cis 1,2-Dichloroethene (cis 1,2 DCE)		NP	0							50	n/a					DWS is for combined isomers
156-60-5	trans 1,2-Dichloroethene (trans 1,2 DCE)		NP	0							50	n/a					DWS is for combined isomers
78-87-5	1,2-Dichloropropane		H	0							40	n/a					
10061-01-5	cis 1,3-Dichloropropene		H	0							0.1	n/a					DWS is for combined isomers
10061-02-6	trans 1,3-Dichloropropene		H	0							0.1	n/a					DWS is for combined isomers
106-46-7	1,4-Dichlorobenzene		H	0							300	20					
75-27-4	Bromodichloromethane			0							60	n/a					
75-01-4	Chloroethene (vinyl chloride)		H	0							0.5	n/a					
124-48-1	Dibromochloromethane			0							100	n/a					
25321-22-6	Dichlorobenzenes (1,2-, 1,3- & 1,4-)			0							n/a	20					
75-09-2	Dichloromethane	P	NP	0							20	20					
87-68-3	Hexachlorobutadiene (HCBD)	PH	H	0							0.1	0.6					
100-42-5	Styrene		H	0							20	50					
25322-20-7	Tetrachloroethane (PCA)	SP		0							n/a	140					
127-18-4	Tetrachloroethene (PCE)	OP	NP	0							10	10					UK DWS applies to sum of tetrachloroethene and trichloroethene
GRP02	Tetrachloroethene (PCE) and trichloroethene (TCE)			0							10	n/a					UK DWS applies to sum of tetrachloroethene and trichloroethene
56-23-5	Tetrachloromethane (Carbon Tetrachloride)	OP	H	0							3	12					
75-25-2	Tribromomethane (bromoform)			0							100	n/a					
12002-48-1	Trichlorobenzenes	P	NP	0							n/a	0.4					
79-01-6	Trichloroethene	OP	H	0							10	10					UK DWS applies to sum of tetrachloroethene and trichloroethene
67-66-3	Trichloromethane (chloroform)	P	H	0							100	2.5					
GRP03	Trihalomethanes, sum of trichloromethane, tribromomethane, dibromochloromethane & bromodichloromethane			0							100	n/a					
88-06-2	2,4,6-Trichlorophenol		H	0							200	n/a					
120-83-2	2,4-Dichlorophenol	SP	H	0							n/a	4.2					
95-57-8	2-Chlorophenol		H	0							n/a	50					
554-00-7	3,4-Dichloroaniline	SP		0							n/a	0.2					
108-43-0	3-Chlorophenol		H	0							n/a	50					
59-50-7	4-Chloro, 3-methylphenol		H	0							n/a	40					
106-48-9	4-Chlorophenol		H	0							n/a	50					
85-68-7	Benzyl butyl phthalate	SP		0							n/a	7.5					
117-81-7	Di(2-ethylhexylphthalate) (DEHP)	PH	NP	0							8	1.3					
84-74-2	Dibutyl phthalate		NP	0							n/a	8					
84-66-2	Diethyl phthalate (DEP)			0							n/a	200					
131-11-3	Dimethyl phthalate (DMP)			0							n/a	800					
117-84-0	Diethyl phthalates			0							n/a	20					
118-74-1	Hexachlorobenzene	PH	H	0							0.1	0.05					
104-40-5	Nonylphenol (4-Nonylphenol)	PH		0							n/a	0.3					
140-66-9	Octylphenol ((4-(1,1', 3,3'-tetramethylbutyl)-phenol))	P		0							n/a	0.1					
608-93-5	Pentachlorobenzene	PH	H	0							n/a	0.007					
123-91-1	1,4-dioxane			0							50	n/a					
79-06-1	Acrylamide		H	0							0.1	n/a					
92-52-4	Biphenyl (cyclochlorocyclohexane)			0							n/a	25					

Summary of Remedial Targets Methodology Screening



RTM Level: RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples												P = priority substance PH = priority hazardous substances WFD Designation (2015 Directions) OP = Other substance identical to previous legislation SP = Specific Pollutant JAGDAG Hazardous Substances Determination (UK) H Hazardous substance NP Non-hazardous pollutant (blank) Not included in assessment						
Water body receptor(s): Groundwater and surface water																		
Secondary receptor(s):																		
Data set: Groundwater																		
Client: Portsmouth																		
City Council																		
Site: Dunsbury																		
Park																		
Job no: 19453-GELO																		
Test Certificates(s): 21-10737,21-11194																		
Dataset Unit 700																		
CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes	
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS		
32534-81-9	Brominated diphenylethers (Sum congeners 28,47,99,100,153,154)	PH	H	0							n/a	0.14						
85535-84-8	Chloroalkanes C10-C13	PH	H	0							n/a	0.4						
25567-68-4	Chloronitrotoluenes		H	0							n/a	10						
3252-43-5	Dibromoacetatonitrile			0							70	n/a						
13425-80-4	Dichloroacetate			0							50	n/a						
3018-12-0	Dichloroacetatonitrile			0							20	n/a						
GRP04	Dioxins and dioxin-like compounds	PH		0							n/a	n/a						
3194-55-6	Hexabromocyclododecanes (HBCDD)	PH	H	0							n/a	0.0016						
2163-68-0	Hydroxyatrazine			0							200	n/a						
101043-37-2	Microcystin-LR			0							1	n/a						
62-75-9	N-nitrosodimethylamine			0							0.1	n/a						
1763-23-1	Perfluorooctane sulfonic acid (PFOS) & derivatives	PH	H	0							0.3	0.00065						DWS represents DWI (2009) Tier 2 action value (commence monitoring).
1336-36-3	Polychlorinated Biphenyls (PCB)		H	0							n/a	n/a						
2893-78-9	Sodium dichloroisoxyanurate			0							50000	n/a						
126-73-8	Tributyl phosphate		H	0							n/a	50						
3380-34-5	Triclosan	SP		0							n/a	0.1						
7726-95-6	Bromine (Br)			0							n/a	2						
7782-50-5	Chlorine (total free available)	SP	NP	0							200	2						
14866-68-3	Chlorate			0							700	n/a						
14998-27-7	Chlorite			0							700	n/a						
60-00-4	EDTA (edetic acid)			0							600	400						
106-89-8	Epichlorohydrin		H	0							0.1	n/a						
569-64-2	Malachite green		H	0							n/a	0.5						
10599-90-3	Monochloramine			0							3000	n/a						
79-11-8	Monochloroacetate (Chloroacetic Acid)			0							20	n/a						
139-13-9	NTA (nitrilotriacetic acid)			0							200	1000						
76-03-9	Trichloroethanoic acid (trichloroacetate)			0							200	n/a						
7440-61-1	U (dissolved)			0							30	n/a						
36643-28-4	Tributyl tin compounds	PH	H	0							n/a	0.0002						
7783-06-4	Hydrogen Sulphide			0							n/a	0.25						
14797-73-0	Perchlorate			0							70	n/a						
GRP06	Total anions			0							n/a	250000						
93-76-5	2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)		H	0							0.1	n/a						
94-75-7	2,4-D (2,4-Dichlorophenoxyacetic acid)	SP		0							0.1	0.3						
94-82-6	2,4-DB (4-(2,4-dichlorophenoxy butyric acid)			0							0.1	n/a						
71751-41-2	Abamectin			0							0.1	0.01						
74070-46-5	Acinofen	P		0							0.1	0.12						
15972-60-8	Alachlor	P	H	0							0.1	0.3						
116-06-3	Aldicarb		NP	0							0.1	n/a						
309-00-2	Aldrin		H	0							0.03	n/a						
GRP07	Aldrin & dieldrin		H	0							0.03	n/a						
1912-24-9	Atrazine	P	H	0							0.1	0.6						
35575-96-3	Azamethiphos			0							0.1	n/a						
2642-71-9	Azinphos ethyl		H	0							0.1	n/a						
86-50-0	Azinphos-methyl		H	0							0.1	0.01						
25057-89-0	Bentazone		NP	0							0.1	500						
42576-02-3	Bifenox	P	H	0							0.1	0.012						
1689-84-5	Bromoxynil		H	0							0.1	100						
10605-21-7	Carbendazim	SP	H	0							0.1	0.15						
1563-66-2	Carbofuran		NP	0							0.1	n/a						
57-74-9	Chlordane		H	0							0.1	n/a						
470-90-6	Chlorofenvinphos	P	H	0							0.1	0.1						
101-21-3	Chloroproprham		H	0							0.1	10						
2921-88-2	Chloropyrifos	P	H	0							0.1	0.03						
1897-45-6	Chlorothalonil	SP	H	0							0.1	0.035						
15545-48-9	Chlorotoluron		H	0							0.1	2						
GRP08	Cyclodiene pesticides, sum of Aldrin, Dieldrin, Endrin, Isodrin	OP	H	0							0.03	0.01						
56-72-4	Coumaphos		H	0							0.1	0.01						

Summary of Remedial Targets Methodology Screening

RTM Level: RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples Water body receptor(s): Groundwater and surface water Secondary receptor(s): Data set: Groundwater Client: Portsmouth City Council Site: Dunsbury Park Job no: 19453-GELO Test Certificates(s): 21-10737,21-11194 Dataset Unit 700										<div><div></div><div>PNEC calculated (inland EQS)</div></div>		<div>P = priority substance PH = priority hazardous substances WFD Designation (2015 Directions) OP = Other substance identical to previous legislation SP = Specific Pollutant JAGDAG Hazardous Substances Determination (UK) H Hazardous substance NP Non-hazardous pollutant (blank) Not included in assessment</div>						
CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes	
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS		
21725-46-2	Cyanazine		H	0							0.1	n/a						EQS compared to dissolved metals as an initial screen, with no adjustment for bioavailability or ABC.
28159-98-0	Cybutryne	P		0							0.1	0.0025						
68359-37-5	Cyfluthrin			0							0.1	0.001						
52315-07-8	Cypermethrin	P	H	0							0.1	0.00008						
GRP09	DDT total (dichlorodiphenyltrichloroethane)	OP	H															
				0														
8065-48-3	Demeton		H	0							0.1	0.025						
333-41-5	Diazinon (sheep dip)	SP	H	0							0.1	0.01						
120-36-5	Dichloroprop		H	0							0.1	n/a						
62-73-7	Dichlorvos	P	H	0							0.1	0.0006						
115-32-2	Dicofol	PH	H	0							0.1	0.0013						
60-57-1	Dieldrin		H	0							0.03	n/a						
35367-38-5	Diffubenzuron		H	0							0.1	0.001						
60-51-5	Dimethoate	SP	H	0							0.1	0.48						
330-54-1	Diuron	P	H	0							0.1	0.2						
117704-25-3	Doramectin			0							n/a	0.001						
115-29-7	Endosulfan	PH	H	0							0.1	0.005						
72-20-8	Endrin		H	0							0.1	n/a						
299-84-3	Fenchlorphos		H	0							0.1	0.03						
122-14-5	Fenitrothion		H	0							0.1	0.01						
93-72-1	Fenoprop ((2,4,5-trichlorophenoxy)propionic acid)		H															
				0							0.1	n/a						
55-38-9	Fenthion		H	0							0.1	n/a						
370-50-3	Flucufuron			0							0.1	1						
50-00-0	Formaldehyde (methanal)		NP	0							0.1	5						
38641-94-0	Glyphosate	SP		0							0.1	196						
76-44-8	Heptachlor		H	0							0.03	2E-07						
GRP10	Heptachlor & Heptachlor epoxide	PH	H															
				0							0.03	2E-07						
1024-57-3	Heptachlor epoxide			0							0.03	2E-07						
608-73-1	Hexachlorocyclohexane (includes lindane)	PH	H	0							0.1	0.02						
1689-83-4	Ioxynil		H	0							0.1	10						
465-73-6	Isodrin		H	0							0.1	n/a						
34123-69-6	Isoproturon	P	NP	0							0.1	0.3						
70288-86-7	Ivermectin			0							n/a	0.0001						
330-55-2	Linuron	SP	H	0							0.1	0.5						
121-75-5	Malathion		H	0							0.1	0.01						
8018-01-07	Mancozeb		NP	0							0.1	2						
12427-38-2	Maneb		NP	0							0.1	3						
94-74-6	MCPA (4-(2-methyl-4-chlorophenoxy acetic acid))			0							0.1	12						EQS inland dependant on pH. Default 12µg/l as conservative approach
93-65-2	Mecoprop	SP	NP	0							0.1	18						
2032-65-7	Methiocarb	SP	NP	0							0.1	0.01						
72-43-5	Methoxychlor			0							0.1	n/a						
51218-45-2	Metolachlor			0							0.1	n/a						
7786-34-7	Mevinphos		H	0							0.1	0.02						
2212-67-1	Molinate			0							0.1	n/a						
1113-02-6	Omethoate		H	0							0.1	0.01						
50-29-3	para-para-DDT	OP	H	0							0.1	0.01						
56-38-2	Parathion		H	0							0.1	n/a						
298-00-0	Parathion-methyl		H	0							0.1	n/a						
GRP11	PCSDs (cyfluthrin, sulcofuron, flucofuron and permethrin)																	
				0							n/a	0.05						
40487-42-1	Pendimethalin	SP	NP	0							0.1	0.3						
87-86-5	Pentachlorophenol	P	H	0							0.1	0.4						
52645-53-1	Permethrin	SP	H	0							0.1	0.001						
GRP12	Pesticides (individual) (other than aldrin, dieldrin, heptachlor & heptachlor epoxide)																	
				0							0.1	n/a						
GRP13	Pesticides (total)			0							0.5	n/a						
23103-98-2	Pirimicarb		NP	0							0.1	1						
29232-93-7	Pirimiphos - methyl		H	0							0.1	0.015						
67747-09-5	Prochloraz		H	0							0.1	4						
31218-83-4	Propetamphos		H	0							0.1	0.03						
23950-58-5	Propyzamide		H	0							0.1	100						
95737-68-1	Pyriproxyfen			0							0.1	n/a						

Summary of Remedial Targets Methodology Screening



RTM Level: RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples Water body receptor(s): Groundwater and surface water Secondary receptor(s): Data set: Groundwater Client: Portsmouth City Council Site: Dunsbury Park Job no: 19453-GELO Test Certificates(s): 21-10737,21-11194 Dataset Unit 700										<div><div></div><div>PNEC calculated (inland EQS)</div></div>		<div>P = priority substance PH = priority hazardous substances WFD Designation (2015 Directions) OP = Other substance identical to previous legislation SP = Specific Pollutant JAGDAG Hazardous Substances Determination (UK) H Hazardous substance NP Non-hazardous pollutant (blank) Not included in assessment</div>					
CAS / AGS Number	Chemicals of Potential Concern (concentrations in µg/l)	WFD Designation	Hazardous Substance Status	Summary of Sample Data						Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red)		No. Samples Exceeding Water Quality Target		No. Samples above LoD Exceeding Water Quality		Notes
				No. of Samples	No. of Samples > LoD	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		DWS	Inland Waters EQS	DWS	Inland Waters EQS	DWS	Inland Waters EQS	
124495-18-7	Quinoxifen	PH		0							0.1	0.15					
122-34-9	Simazine	P	H	0							0.1	1					
3567-25-7	Sulcofuron			0							0.1	25					
117-18-0	Tecnazene (total)			0							0.1	1					
886-50-0	Tertbutryn	P	NP	0							0.1	0.065					
5915-41-3	Tertbutylazine		H	0							0.1	n/a					
148-79-8	Thiabendazole		NP	0							0.1	5					
2303-17-5	Triallate		H	0							0.1	0.25					
24017-47-8	Triazaphos		H	0							0.1	0.005					
1582-09-8	Trifluralin	PH	H	0							0.1	0.03					
1262-21-1	Triphenyltin and derivatives		H	0							0.1	0.02					

Assessment of Chemicals of Potential Concern to Human Health



Soil Type: MG							MG	MG	MG	MG	NAT-LC						
Location & Depth							TP1.01	TP1.04	WS1.01	WS1.02	BH1.01						
All values in mg/kg unless otherwise stated							0.2	0.45	0.5	1.5	1						
Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC											
Arsenic	1	5	6.9	9.8	0	640	9.8	8.2	6.9	8.4	8.1						
Beryllium	0.06	5	0.22	0.7	0	390	0.22	0.5	0.42	0.7	0.57						
Boron	0.2	5	0.2	1.6	0	190000	0.3	1.6	0.4	0.2	0.2						
Cadmium	0.2	5	0.2	0.8	0	220	0.8	0.8	0.2	0.6	0.4						
Chromium (III)	1	5	7.3	36	0	8400	7.3	36	22	36	26						
Chromium (VI)	1.2	5	1.2	1.2	0	33	1.2	1.2	1.2	1.2	1.2						
Copper	1	5	8.1	150	0	69000	8.1	150	11	88	64						
Lead	1	5	13	90	0	2330	28	52	13	90	24						
Mercury, inorganic	0.3	5	0.3	0.3	0	3600	0.3	0.3	0.3	0.3	0.3						
Nickel	1	5	6.8	34	0	1700	6.8	34	8.5	21	16						
Selenium	1	5	1	1	0	13000	1	1	1	1	1						
Vanadium	1	5	9.4	46	0	9000	9.4	35	32	46	39						
Zinc	1	5	64	320	0	670000	130	320	64	220	150						
Cyanide (free)	1	5	1	1	0	16000	1	1	1	1	1						
Phenol (total)	1	5	1	1	0	760	1	1	1	1	1						
Acenaphthene	0.05	5	0.05	0.05	0	84000	0.05	0.05	0.05	0.05	0.05						
Acenaphthylene	0.05	5	0.05	0.05	0	83000	0.05	0.05	0.05	0.05	0.05						
Anthracene	0.05	5	0.05	0.19	0	520000	0.05	0.05	0.05	0.19	0.05						
Benz(a)anthracene	0.05	5	0.05	0.48	0	86	0.05	0.05	0.05	0.48	0.05						
Benzo(a)pyrene	0.05	5	0.05	0.45	0	14	0.05	0.05	0.05	0.45	0.05						
Benzo(b)fluoranthene	0.05	5	0.05	0.51	0	97	0.05	0.05	0.05	0.51	0.05						
Benzo(ghi)perylene	0.05	5	0.05	0.3	0	630	0.05	0.05	0.05	0.3	0.05						
Benzo(k)fluoranthene	0.05	5	0.05	0.2	0	140	0.05	0.05	0.05	0.2	0.05						
Chrysene	0.05	5	0.05	0.44	0	140	0.05	0.05	0.05	0.44	0.05						
Dibenz(a,h)anthracene	0.05	5	0.05	0.05	0	12	0.05	0.05	0.05	0.05	0.05						
Fluoranthene	0.05	5	0.05	0.91	0	23000	0.05	0.05	0.05	0.91	0.05						
Fluorene	0.05	5	0.05	0.05	0	63000	0.05	0.05	0.05	0.05	0.05						
Indeno(1,2,3,cd)pyrene	0.05	5	0.05	0.24	0	58	0.05	0.05	0.05	0.24	0.05						
Naphthalene	0.05	5	0.05	0.05	0	190	0.05	0.05	0.05	0.05	0.05						
Phenanthrene	0.05	5	0.05	0.74	0	22000	0.05	0.05	0.05	0.74	0.05						
Pyrene	0.05	5	0.05	0.82	0	54000	0.05	0.05	0.05	0.82	0.05						
Asbestos identified	Y/N						N	N	N	N	N						
FOC (dimensionless)	0.004	(mean)					0.0012	0.0044	0.0034	0.0049	0.0061						
SOM (calculated)	0.69%	(mean)					0.21%	0.76%	0.59%	0.84%	1.05%						
pH (su)	10.5	(mean)					9.4	10.2	11.1	12	9.8						

Risk parameter: Human health - commercial (1%SOM)

Data set: Made Ground

Client: Portsmouth City Council

Site: Dunsbury Park Unit 100

Job no.: 19453-GELO.

Lab. report no(s): 21-91291-1, 21-95123-1

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. Values in red are equal to, or greater than, the generic assessment criterion (GAC). MG denotes Made Ground LC denotes London Clay Formation NAT denotes natural ground

Assessment of Chemicals of Potential Concern to Plant Life



Soil Type: MG							MG	MG	MG	MG	NAT-LC						
All values in mg/kg unless otherwise stated							TP1.01	TP1.04	WS1.01	WS1.02	BH1.01						
Location & Depth							0.2	0.45	0.5	1.5	1						
Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC											
Arsenic	1	5	6.9	9.8	0	250	9.8	8.2	6.9	8.4	8.1						
Boron	0.2	5	0.2	1.6	0	3	0.3	1.6	0.4	0.2	0.2						
Chromium (III)	1	5	7.3	36	0	400	7.3	36	22	36	26						
Chromium (VI)	1.2	5	1.2	1.2	0	25	1.2	1.2	1.2	1.2	1.2						
Copper	1	5	8.1	150	0	200	8.1	150	11	88	64						
Nickel	1	5	6.8	34	0	110	6.8	34	8.5	21	16						
Zinc	1	5	64	320	1	300	130	320	64	220	150						
	Mean																
pH (su)	10.5						9.4	10.2	11.1	12	9.8						
<div><div><div>Risk parameter: Plant life pH >7</div><div>Data set: Made Ground</div><div>Client: Portsmouth City Council</div><div>Site: Dunsbury Park Unit 100</div><div>Job no.: 19453-GELO.</div><div>Lab. report no(s): 21-91291-1, 21-95123-1</div></div><div><div>Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.</div><div>Values in red are equal to, or greater than, the generic assessment criterion (GAC).</div><div>MG denotes Made Ground</div><div>NAT denotes natural ground</div><div>LC denotes London Clay Formation</div></div></div>																	

Assessment of Chemicals of Potential Concern to Human Health



Soil Type							MG	MG	NAT- LC								
All values in mg/kg unless otherwise stated							WS1.01	WS1.02	BH1.01								
Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	0.5	1.5	1								
Aliphatics EC5-EC6	0.001	3	0.001	0.001	0	300	0.001	0.001	0.001								
Aliphatics >EC6-EC8	0.001	3	0.001	0.001	0	140	0.001	0.001	0.001								
Aliphatics >EC8-EC10	0.001	3	0.001	0.001	0	78	0.001	0.001	0.001								
Aliphatics >EC10-EC12	1	3	1	1	0	48	1	1	1								
Aliphatics >EC12-EC16	2	3	2	2	0	24	2	2	2								
Aliphatics >EC16-EC35	10	3	10	10	0	1000000	10	10	10								
Aliphatics >EC35-EC44	8.4	3	8.4	8.4	0	1000000	8.4	8.4	8.4								
Aromatics EC5-EC7	0.001	3	0.001	0.001	0	1200	0.001	0.001	0.001								
Aromatics >EC7-EC8	0.001	3	0.001	0.001	0	870	0.001	0.001	0.001								
Aromatics >EC8-EC10	0.001	3	0.001	0.001	0	610	0.001	0.001	0.001								
Aromatics >EC10-EC12	1	3	1	1	0	360	1	1	1								
Aromatics >EC12-EC16	2	3	2	2	0	36000	2	2	2								
Aromatics >EC16-EC21	10	3	10	13	0	28000	10	13	10								
Aromatics >EC21-EC35	10	3	10	27	0	28000	10	27	10								
Aromatics >EC35-EC44	8.4	3	8.4	8.4	0	28000	8.4	8.4	8.4								
ADDITIVITY CHECK							HAZARD QUOTIENTS FOR EACH FRACTION										
Aliphatics EC5-EC6							0.000	0.000	0.000								
Aliphatics >EC6-EC8							0.000	0.000	0.000								
Considered additive	Aliphatics >EC8-EC10						0.000	0.000	0.000								
	Aliphatics >EC10-EC12						0.021	0.021	0.021								
	Aliphatics >EC12-EC16						0.083	0.083	0.083								
	Aliphatics >EC16-EC35						0.000	0.000	0.000								
Aliphatics >EC35-EC44							0.000	0.000	0.000								
Aromatics EC5-EC7							0.000	0.000	0.000								
Aromatics >EC7-EC8							0.000	0.000	0.000								
Considered additive	Aromatics >EC8-EC10						0.000	0.000	0.000								
	Aromatics >EC10-EC12						0.003	0.003	0.003								
	Aromatics >EC12-EC16						0.000	0.000	0.000								
Considered additive	Aromatics >EC16-EC21						0.000	0.000	0.000								
	Aromatics >EC21-EC35						0.000	0.001	0.000								
Aromatics >EC35-EC44							0.000	0.000	0.000								
Hazard Index for ali>C8-C16							0.104	0.104	0.104								
Hazard Index for aro>C8-C16							0.003	0.003	0.003								
Hazard Index for aro>C16-C35							0.001	0.001	0.001								
Hazard Index table - HI or HQ greater than 1 highlighted with yellow shading.																	
Risk parameter: Human health - commercial (1%SOM)							Legend: Main table values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.										
Data set: Made Ground							Main table alues in red are equal to, or greater than, the generic assessment criterion (GAC).										
Client: Portsmouth City Council							MG denotes Made Ground										
Site: Dunsbury Park Unit 100							NAT denotes natural ground										
Job no.: 19453-GELO																	
Lab. report no(s).: 21-91291-1, 21-95123-1																	

Assessment of Chemicals of Potential Concern to Human Health



Chemical of Potential Concern	Soil Type						MG	MG	MG	MG	MG	MG	MG	NAT - BSM				
	Location & Depth						TP4.03	TP4.06	WS4.01	WS4.03	WS4.06	BH4.01	BH4.02	WS4.04				
	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	0.05	0.3	0.2	0.4	0.5	0.5	0.5	0.9				
All values in mg/kg unless otherwise stated																		
Arsenic	1	8	6	11	0	640	7.8	8.6	11	7.8	6	6.9	6.5	7.4				
Beryllium	0.06	8	0.42	0.76	0	390	0.42	0.45	0.73	0.53	0.42	0.76	0.66	0.49				
Boron	0.2	8	0.2	0.6	0	190000	0.4	0.6	0.5	0.2	0.2	0.2	0.4	0.2				
Cadmium	0.2	8	0.2	0.2	0	220	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2				
Chromium (III)	1	8	20	32	0	8400	20	21	27	26	23	25	32	23				
Chromium (VI)	1.2	8	1.2	1.2	0	33	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2				
Copper	1	8	5.5	13	0	69000	5.6	8.7	9.6	5.5	6.6	8.7	13	6.2				
Lead	1	8	6.3	18	0	2330	15	18	8.6	6.3	7.2	8.1	6.3	6.7				
Mercury, inorganic	0.3	8	0.3	0.3	0	3600	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3				
Nickel	1	8	8.3	21	0	1700	8.8	9.3	21	11	8.3	16	12	9.4				
Selenium	1	8	1	1	0	13000	1	1	1	1	1	1	1	1				
Vanadium	1	8	30	39	0	9000	30	32	39	37	34	31	37	33				
Zinc	1	8	34	70	0	670000	50	70	59	37	41	49	56	34				
Cyanide (free)	1	8	1	1	0	16000	1	1	1	1	1	1	1	1				
Phenol (total)	1	8	1	1	0	760	1	1	1	1	1	1	1	1				
Acenaphthene	0.05	8	0.05	0.05	0	84000	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Acenaphthylene	0.05	8	0.05	0.05	0	83000	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Anthracene	0.05	8	0.05	0.05	0	520000	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Benz(a)anthracene	0.05	8	0.05	0.05	0	86	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Benzo(a)pyrene	0.05	8	0.05	0.05	0	14	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Benzo(b)fluoranthene	0.05	8	0.05	0.05	0	97	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Benzo(ghi)perylene	0.05	8	0.05	0.05	0	630	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Benzo(k)fluoranthene	0.05	8	0.05	0.05	0	140	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Chrysene	0.05	8	0.05	0.05	0	140	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Dibenz(a,h)anthracene	0.05	8	0.05	0.05	0	12	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Fluoranthene	0.05	8	0.05	0.05	0	23000	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Fluorene	0.05	8	0.05	0.05	0	63000	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Indeno(1,2,3,cd)pyrene	0.05	8	0.05	0.05	0	58	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Naphthalene	0.05	8	0.05	0.05	0	190	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Phenanthrene	0.05	8	0.05	0.05	0	22000	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Pyrene	0.05	8	0.05	0.05	0	54000	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Asbestos identified	Y/N						N	N	N	N	N	N	N	N				
FOC (dimensionless)	0.00295	(mean)					0.0033	0.0029	0.0055	0.0015	0.0027	0.0028	0.0031	0.0018				
SOM (calculated)	0.51%	(mean)					0.57%	0.50%	0.95%	0.26%	0.47%	0.48%	0.53%	0.31%				
pH (su)	9.9	(mean)					9.9	9.5	10.1	10.3	12.2	6.5	11.1	9.8				
<p>Risk parameter: Human health - commercial (1%SOM)</p> <p>Data set: Made Ground / Natural</p> <p>Client: Portsmouth City Council</p> <p>Site: Dunsbury Park Unit 400</p> <p>Job no.: 19453-GELO</p> <p>Lab. report no(s).: 21-91291-1, 21-95123-1</p> <p>Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. Values in red are equal to, or greater than, the generic assessment criterion (GAC). MG denotes Made Ground NAT denotes natural ground</p>																		

Assessment of Chemicals of Potential Concern to Plant Life



Soil Type: MG							MG	MG	MG	MG	MG	MG	MG	NAT - BSM				
All values in mg/kg unless otherwise stated							TP4.03	TP4.06	WS4.01	WS4.03	WS4.06	BH4.01	BH4.02	WS4.04				
Location & Depth							0.05	0.3	0.2	0.4	0.5	0.5	0.5	0.9				
Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC												
Arsenic	1	8	6	11	0	250	7.8	8.6	11	7.8	6	6.9	6.5	7.4				
Boron	0.2	8	0.2	0.6	0	3	0.4	0.6	0.5	0.2	0.2	0.2	0.4	0.2				
Chromium (III)	1	8	20	32	0	400	20	21	27	26	23	25	32	23				
Chromium (VI)	1.2	8	1.2	1.2	0	25	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2				
Copper	1	8	5.5	13	0	200	5.6	8.7	9.6	5.5	6.6	8.7	13	6.2				
Nickel	1	8	8.3	21	0	110	8.8	9.3	21	11	8.3	16	12	9.4				
Zinc	1	8	34	70	0	300	50	70	59	37	41	49	56	34				
	Mean																	
pH (su)	9.9						9.9	9.5	10.1	10.3	12.2	6.5	11.1	9.8				
<p>Risk parameter: Plant life pH >7</p> <p>Data set: Made Ground / Natural</p> <p>Client: Portsmouth City Council</p> <p>Site: Dunsbury Park Unit 400</p> <p>Job no.: 19453-GELO</p> <p>Lab. report no(s): 21-91291-1, 21-95123-1</p> <p>Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. Values in red are equal to, or greater than, the generic assessment criterion (GAC). MG denotes Made Ground NAT denotes natural ground</p>																		

Assessment of Chemicals of Potential Concern to Human Health

All values in mg/kg unless otherwise stated							Soil Type	MG	MG	MG	MG	MG	MG						
Location & Depth							TP4.03	TP4.06	WS4.03	WS4.06	BH4.01	BH4.02							
Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	0.05	0.3	0.4	0.5	0.5	0.5							
Aliphatics EC5-EC6	0.001	6	0.001	0.001	0	300	0.001	0.001	0.001	0.001	0.001	0.001							
Aliphatics >EC6-EC8	0.001	6	0.001	0.001	0	140	0.001	0.001	0.001	0.001	0.001	0.001							
Aliphatics >EC8-EC10	0.001	6	0.001	0.001	0	78	0.001	0.001	0.001	0.001	0.001	0.001							
Aliphatics >EC10-EC12	1	6	1	1	0	48	1	1	1	1	1	1							
Aliphatics >EC12-EC16	2	6	2	2	0	24	2	2	2	2	2	2							
Aliphatics >EC16-EC35	10	6	10	10	0	1000000	10	10	10	10	10	10							
Aliphatics >EC35-EC44	8.4	6	8.4	8.4	0	1000000	8.4	8.4	8.4	8.4	8.4	8.4							
Aromatics EC5-EC7	0.001	6	0.001	0.001	0	1200	0.001	0.001	0.001	0.001	0.001	0.001							
Aromatics >EC7-EC8	0.001	6	0.001	0.001	0	870	0.001	0.001	0.001	0.001	0.001	0.001							
Aromatics >EC8-EC10	0.001	6	0.001	0.001	0	610	0.001	0.001	0.001	0.001	0.001	0.001							
Aromatics >EC10-EC12	1	6	1	1	0	360	1	1	1	1	1	1							
Aromatics >EC12-EC16	2	6	2	2	0	36000	2	2	2	2	2	2							
Aromatics >EC16-EC21	10	6	10	10	0	28000	10	10	10	10	10	10							
Aromatics >EC21-EC35	10	6	10	10	0	28000	10	10	10	10	10	10							
Aromatics >EC35-EC44	8.4	6	8.4	8.4	0	28000	8.4	8.4	8.4	8.4	8.4	8.4							
ADDITIVITY CHECK							HAZARD QUOTIENTS FOR EACH FRACTION												
Aliphatics EC5-EC6							0.000	0.000	0.000	0.000	0.000	0.000							
Aliphatics >EC6-EC8							0.000	0.000	0.000	0.000	0.000	0.000							
Considered additive	Aliphatics >EC8-EC10						0.000	0.000	0.000	0.000	0.000	0.000							
	Aliphatics >EC10-EC12						0.021	0.021	0.021	0.021	0.021	0.021							
	Aliphatics >EC12-EC16						0.083	0.083	0.083	0.083	0.083	0.083							
	Aliphatics >EC16-EC35						0.000	0.000	0.000	0.000	0.000	0.000							
Aliphatics >EC35-EC44							0.000	0.000	0.000	0.000	0.000	0.000							
Aromatics EC5-EC7							0.000	0.000	0.000	0.000	0.000	0.000							
Aromatics >EC7-EC8							0.000	0.000	0.000	0.000	0.000	0.000							
Considered additive	Aromatics >EC8-EC10						0.000	0.000	0.000	0.000	0.000	0.000							
	Aromatics >EC10-EC12						0.003	0.003	0.003	0.003	0.003	0.003							
	Aromatics >EC12-EC16						0.000	0.000	0.000	0.000	0.000	0.000							
Considered additive	Aromatics >EC16-EC21						0.000	0.000	0.000	0.000	0.000	0.000							
	Aromatics >EC21-EC35						0.000	0.000	0.000	0.000	0.000	0.000							
Aromatics >EC35-EC44							0.000	0.000	0.000	0.000	0.000	0.000							
Hazard Index for ali>C8-C16							0.104	0.104	0.104	0.104	0.104	0.104							
Hazard Index for aro>C8-C16							0.003	0.003	0.003	0.003	0.003	0.003							
Hazard Index for aro>C16-C35							0.001	0.001	0.001	0.001	0.001	0.001							
Hazard Index table - HI or HQ greater than 1 highlighted with yellow shading.																			
Risk parameter: Human health - commercial (1%SOM)							Legend: Main table values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.												
Data set: Made Ground							Main table alues in red are equal to, or greater than, the generic assessment criterion (GAC).												
Client: Portsmouth City Council							MG denotes Made Ground												
Site: Dunsbury Park Unit 400							NAT denotes natural ground												
Job no.: 19453-GELO																			
Lab. report no(s).: 21-91291-1, 21-95123-1																			

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16/03/2023, 13:01

Assessment of Chemicals of Potential Concern to Plant Life



Soil Type							TS	TS	MG	HEAD	HEAD	HEAD	BSM	BSM	BSM	BSM		
All values in mg/kg unless otherwise stated							TP6.01	WS6.03	TP6.09	TP6.04	TP6.06	TP6.08	WS6.06	WS6.07	WS6.03	BH6.01		
Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	0.2	0.2	0.5	0.5	0.5	0.4	0.5	0.6	0.6	0.4		
Arsenic	1	10	5.1	11	0	250	5.1	6.5	9.2	7.3	10	5.8	7.1	8.8	11	6		
Boron	0.2	10	0.2	0.6	0	3	0.4	0.5	0.2	0.4	0.5	0.2	0.2	0.2	0.6	0.2		
Chromium (III)	1	10	15	48	0	400	15	20	48	19	22	16	33	23	34	21		
Chromium (VI)	1.2	10	1.2	1.2	0	25	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2		
Copper	1	10	4.2	13	0	200	8.1	11	7.6	7.1	8.5	4.2	13	4.6	9.8	5.4		
Nickel	1	10	5.5	19	0	110	6.4	7.6	19	5.5	7.7	6.4	13	12	15	5.6		
Zinc	1	10	26	44	0	300	33	39	40	26	35	28	33	33	44	27		
	Mean																	
pH (su)	7.3						7.1	6.7	7.4	7.1	7.7	6.7	7.6	7.3	7.8	7.7		
<p>Risk parameter: Plant life pH >7</p> <p>Data set: Made Ground and Natural</p> <p>Client: Portsmouth City Council</p> <p>Site: Dunsbury Park Unit 600-601</p> <p>Job no.: 19453-GELO</p> <p>Lab. report no(s): 21-90851-1, 21-91147-1, 21-95123-1</p> <p>Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. Values in red are equal to, or greater than, the generic assessment criterion (GAC).</p> <p>MG denotes Made Ground TS denotes Topsoil</p> <p>NAT denotes natural ground HEAD denotes Head Deposits</p> <p>BSM denotes Bognor Sand Member</p>																		

Assessment of Chemicals of Potential Concern to Human Health

All values in mg/kg unless otherwise stated						Soil Type	TS	HEAD	MG	BSM	BSM	BSM	BSM							
Location & Depth						TP6.01	TP6.04	TP6.09	WS6.06	WS6.07	WS6.03	BH6.01								
Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	0.2	0.5	0.5	0.5	0.6	0.6	0.4							
Aliphatics EC5-EC6	0.001	7	0.001	0.001	0	560	0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Aliphatics >EC6-EC8	0.001	7	0.001	0.001	0	320	0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Aliphatics >EC8-EC10	0.001	7	0.001	0.001	0	190	0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Aliphatics >EC10-EC12	1	7	1	1	0	120	1	1	1	1	1	1	1							
Aliphatics >EC12-EC16	2	7	2	2	0	59	2	2	2	2	2	2	2							
Aliphatics >EC16-EC35	10	7	10	10	0	1000000	10	10	10	10	10	10	10							
Aliphatics >EC35-EC44	8.4	7	8.4	8.4	0	1000000	8.4	8.4	8.4	8.4	8.4	8.4	8.4							
Aromatics EC5-EC7	0.001	7	0.001	0.001	0	2300	0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Aromatics >EC7-EC8	0.001	7	0.001	0.001	0	1900	0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Aromatics >EC8-EC10	0.001	7	0.001	0.001	0	1500	0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Aromatics >EC10-EC12	1	7	1	1	0	900	1	1	1	1	1	1	1							
Aromatics >EC12-EC16	2	7	2	2	0	37000	2	2	2	2	2	2	2							
Aromatics >EC16-EC21	10	7	10	10	0	28000	10	10	10	10	10	10	10							
Aromatics >EC21-EC35	10	7	10	11	0	28000	10	10	10	11	10	10	10							
Aromatics >EC35-EC44	8.4	7	8.4	8.4	0	28000	8.4	8.4	8.4	8.4	8.4	8.4	8.4							
ADDITIVITY CHECK							HAZARD QUOTIENTS FOR EACH FRACTION													
Aliphatics EC5-EC6							0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Aliphatics >EC6-EC8							0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Considered additive	Aliphatics >EC8-EC10						0.000	0.000	0.000	0.000	0.000	0.000	0.000							
	Aliphatics >EC10-EC12						0.008	0.008	0.008	0.008	0.008	0.008	0.008							
	Aliphatics >EC12-EC16						0.034	0.034	0.034	0.034	0.034	0.034	0.034							
	Aliphatics >EC16-EC35						0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Aliphatics >EC35-EC44							0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Aromatics EC5-EC7							0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Aromatics >EC7-EC8							0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Considered additive	Aromatics >EC8-EC10						0.000	0.000	0.000	0.000	0.000	0.000	0.000							
	Aromatics >EC10-EC12						0.001	0.001	0.001	0.001	0.001	0.001	0.001							
	Aromatics >EC12-EC16						0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Considered additive	Aromatics >EC16-EC21						0.000	0.000	0.000	0.000	0.000	0.000	0.000							
	Aromatics >EC21-EC35						0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Aromatics >EC35-EC44							0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Hazard Index for ali>C8-C16							0.042	0.042	0.042	0.042	0.042	0.042	0.042							
Hazard Index for aro>C8-C16							0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Hazard Index for aro>C16-C35							0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Hazard Index table - HI or HQ greater than 1 highlighted with yellow shading.																				
Risk parameter: Human health - commercial (2.5%SOM)										Legend: Main table values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.										
Data set: Natural										Main table alues in red are equal to, or greater than, the generic assessment criterion (GAC).										
Client: Portsmouth City Council										MG denotes Made Ground										
Site: Dunsbury Park Unit 600-601										NAT denotes natural ground										
Job no.: 19453-GELO																				
Lab. report no(s).: 21-90851-1, 21-91147-1, 21-95123-1																				

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16/03/2023, 13:03

Assessment of Chemicals of Potential Concern to Plant Life



Soil Type: MG							MG	MG	MG	MG	TS	HEAD	HEAD	BSM	BSM			
All values in mg/kg unless otherwise stated							Location & Depth		TP7.09	TP7.07	HP7.01	HP7.01	WS7.04	WS7.02	WS7.03	TP7.03	TP7.08	
Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC			1	1	0.2	0.8	0.2	0.7	0.4	0.5	0.6	
Arsenic	1	9	6.8	12	0	250			6.8	9.2	8.6	12	6.9	9.6	6.8	9.6	9.3	
Boron	0.2	9	0.2	3	1	3			0.2	0.6	0.6	3	0.2	0.2	0.2	0.5	0.2	
Chromium (III)	1	9	13	39	0	400			18	24	31	39	15	29	13	26	24	
Chromium (VI)	1.2	9	1.2	1.2	0	25			1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
Copper	1	9	4.8	230	1	200			4.8	92	130	230	9.6	7.5	9.9	23	6.2	
Nickel	1	9	4.8	42	0	110			7.6	13	19	42	5.9	14	4.8	15	9.6	
Zinc	1	9	24	870	2	300			24	240	360	870	36	43	30	83	35	
	Mean																	
pH (su)	7.3								7.1	8.8	8.4	8.9	5.6	6.8	5.7	6.8	7.4	
<p>Risk parameter: Plant life pH >7</p> <p>Data set: Made Ground and Natural</p> <p>Client: Portsmouth City Council</p> <p>Site: Dunsbury Park Unit 700</p> <p>Job no.: 19453-GELO</p> <p>Lab. report no(s): 21-91291-1, 21-98932-1</p> <p>Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate. Values in red are equal to, or greater than, the generic assessment criterion (GAC).</p> <p>MG denotes Made Ground TS denotes Topsoil</p> <p>NAT denotes natural ground HEAD denotes Head Deposits</p> <p>BSM denotes Bognor Sand Member</p>																		

Assessment of Chemicals of Potential Concern to Human Health

All values in mg/kg unless otherwise stated							Soil Type	TS	MG	MG	MG	MG	HEAD	BSM						
Location & Depth							WS7.04	TP7.07	TP7.09	HP7.01	HP7.01	WS7.02	TP7.03							
Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	0.2	1	1	0.2	0.8	0.7	0.5							
Aliphatics EC5-EC6	0.001	7	0.001	0.001	0	560	0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Aliphatics >EC6-EC8	0.001	7	0.001	0.001	0	320	0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Aliphatics >EC8-EC10	0.001	7	0.001	0.001	0	190	0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Aliphatics >EC10-EC12	1	7	1	1	0	120	1	1	1	1	1	1	1							
Aliphatics >EC12-EC16	2	7	2	2	0	59	2	2	2	2	2	2	2							
Aliphatics >EC16-EC35	10	7	10	10	0	1000000	10	10	10	10	10	10	10							
Aliphatics >EC35-EC44	8.4	7	8.4	8.4	0	1000000	8.4	8.4	8.4	8.4	8.4	8.4	8.4							
Aromatics EC5-EC7	0.001	7	0.001	0.001	0	2300	0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Aromatics >EC7-EC8	0.001	7	0.001	0.001	0	1900	0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Aromatics >EC8-EC10	0.001	7	0.001	0.001	0	1500	0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Aromatics >EC10-EC12	1	7	1	1	0	900	1	1	1	1	1	1	1							
Aromatics >EC12-EC16	2	7	2	2	0	37000	2	2	2	2	2	2	2							
Aromatics >EC16-EC21	10	7	10	10	0	28000	10	10	10	10	10	10	10							
Aromatics >EC21-EC35	10	7	10	10	0	28000	10	10	10	10	10	10	10							
Aromatics >EC35-EC44	8.4	7	8.4	8.4	0	28000	8.4	8.4	8.4	8.4	8.4	8.4	8.4							
ADDITIVITY CHECK							HAZARD QUOTIENTS FOR EACH FRACTION													
Aliphatics EC5-EC6							0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
Aliphatics >EC6-EC8							0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
Considered additive	Aliphatics >EC8-EC10						0.000	0.000	0.000	0.000	0.000	0.000	0.000							
	Aliphatics >EC10-EC12						0.008	0.008	0.008	0.008	0.008	0.008	0.008							
	Aliphatics >EC12-EC16						0.034	0.034	0.034	0.034	0.034	0.034	0.034							
Aliphatics >EC16-EC35							0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
Aliphatics >EC35-EC44							0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
Aromatics EC5-EC7							0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
Aromatics >EC7-EC8							0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
Considered additive	Aromatics >EC8-EC10						0.000	0.000	0.000	0.000	0.000	0.000	0.000							
	Aromatics >EC10-EC12						0.001	0.001	0.001	0.001	0.001	0.001	0.001							
	Aromatics >EC12-EC16						0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Considered additive	Aromatics >EC16-EC21						0.000	0.000	0.000	0.000	0.000	0.000	0.000							
	Aromatics >EC21-EC35						0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Aromatics >EC35-EC44							0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Hazard Index for ali>C8-C16							0.042	0.042	0.042	0.042	0.042	0.042	0.042							
Hazard Index for aro>C8-C16							0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Hazard Index for aro>C16-C35							0.001	0.001	0.001	0.001	0.001	0.001	0.001							
Hazard Index table - HI or HQ greater than 1 highlighted with yellow shading.																				
Risk parameter: Human health - commercial (2.5%SOM)										Legend: Main table values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.										
Data set: Made Ground and Natural										Main table alues in red are equal to, or greater than, the generic assessment criterion (GAC).										
Client: Portsmouth City Council										MG denotes Made Ground										
Site: Dunsbury Park Unit 700										NAT denotes natural ground										
Job no.: 19453-GELO																				
Lab. report no(s): 21-91291-1, 21-98932-1																				

Appendix G Waste Assessment



**Yacklin Panza**

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e: Group Southampton cc engineer

Analytical Report Number : 21-90858

Project / Site name:	Dunsbury Park	Samples received on:	29/07/2021
Your job number:	19453-GELO	Samples instructed on/ Analysis started on:	04/08/2021
Your order number:	PO08919	Analysis completed by:	10/08/2021
Report Issue Number:	1	Report issued on:	10/08/2021
Samples Analysed:	10:1 WAC sample		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



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Waste Acceptance Criteria Analytical Results								
Report No:	21-90858							
					Client: HYDROCK			
Location	Dunsbury Park							
Lab Reference (Sample Number)	1961647 / 1961648				Landfill Waste Acceptance Criteria			
					Limits			
Sampling Date	28/07/2021				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	WS6.06							
Depth (m)	0.50							
Solid Waste Analysis								
TOC (%)**	0.2				3%	5%	6%	
Loss on Ignition (%) **	0.9				--	--	10%	
BTEX (µg/kg) **	< 10				6000	--	--	
Sum of PCBs (mg/kg) **	< 0.007				1	--	--	
Mineral Oil (mg/kg)	< 10				500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--	
pH (units)**	6.9				--	>6	--	
Acid Neutralisation Capacity (mol / kg)	-0.22				--	To be evaluated	To be evaluated	
Eluate Analysis								
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test			
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	< 0.0010			< 0.0100	0.5	2	25	
Barium *	0.0046			0.0380	20	100	300	
Cadmium *	< 0.0001			< 0.0008	0.04	1	5	
Chromium *	0.0010			0.0083	0.5	10	70	
Copper *	0.0037			0.031	2	50	100	
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2	
Molybdenum *	0.0026			0.0213	0.5	10	30	
Nickel *	0.0038			0.032	0.4	10	40	
Lead *	< 0.0010			< 0.010	0.5	10	50	
Antimony *	< 0.0017			< 0.017	0.06	0.7	5	
Selenium *	< 0.0040			< 0.040	0.1	0.5	7	
Zinc *	0.0062			0.051	4	50	200	
Chloride *	1.5			12	800	15000	25000	
Fluoride	0.051			< 0.50	10	150	500	
Sulphate *	3.0			25	1000	20000	50000	
TDS*	14			120	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-	
DOC	11.6			95.5	500	800	1000	
Leach Test Information								
Stone Content (%)	< 0.1							
Sample Mass (kg)	1.2							
Dry Matter (%)	88							
Moisture (%)	12							
Results are expressed on a dry weight basis, after correction for moisture content where applicable.								
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited			
Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.								



Analytical Report Number : 21-90858

Project / Site name: Dunsbury Park

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1961647	WS6.06	None Supplied	0.5	Light brown clay and sand with gravel.

Analytical Report Number : 21-90858
Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025

Analytical Report Number : 21-90858
Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

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

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

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

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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e: Group Southampton cc engineer

Analytical Report Number : 21-91299

Project / Site name:	Dunsbury Park	Samples received on:	29/07/2021
Your job number:	19453-GELO	Samples instructed on/ Analysis started on:	05/08/2021
Your order number:	PO08919	Analysis completed by:	12/08/2021
Report Issue Number:	1	Report issued on:	12/08/2021
Samples Analysed:	3 10:1 WAC Samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Waste Acceptance Criteria Analytical Results								
Report No:	21-91299							
					Client: HYDROCK			
Location	Dunsbury Park							
Lab Reference (Sample Number)	1963768 / 1963769				Landfill Waste Acceptance Criteria			
					Limits			
Sampling Date	21/07/2021				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	TP7.07							
Depth (m)	1.00							
Solid Waste Analysis								
TOC (%)**	0.5				3%	5%	6%	
Loss on Ignition (%) **	2.8				--	--	10%	
BTEX (µg/kg) **	< 10				6000	--	--	
Sum of PCBs (mg/kg) **	< 0.007				1	--	--	
Mineral Oil (mg/kg)	< 10				500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--	
pH (units)**	8.4				--	>6	--	
Acid Neutralisation Capacity (mol / kg)	7.8				--	To be evaluated	To be evaluated	
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test			
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	0.0069			0.0606	0.5	2	25	
Barium *	0.0216			0.190	20	100	300	
Cadmium *	0.0011			0.0099	0.04	1	5	
Chromium *	0.0082			0.072	0.5	10	70	
Copper *	0.11			0.95	2	50	100	
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2	
Molybdenum *	0.0063			0.0554	0.5	10	30	
Nickel *	0.0096			0.084	0.4	10	40	
Lead *	0.017			0.15	0.5	10	50	
Antimony *	0.010			0.090	0.06	0.7	5	
Selenium *	< 0.0040			< 0.040	0.1	0.5	7	
Zinc *	0.055			0.49	4	50	200	
Chloride *	31			270	800	15000	25000	
Fluoride	0.27			2.4	10	150	500	
Sulphate *	76			670	1000	20000	50000	
TDS*	150			1300	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-	
DOC	38.2			336	500	800	1000	
Leach Test Information								
Stone Content (%)	< 0.1							
Sample Mass (kg)	1.0							
Dry Matter (%)	89							
Moisture (%)	11							
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					** = UKAS accredited (liquid eluate analysis only)			
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCFRTS accredited			

*= UKAS accredited (liquid eluate analysis only)

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results								
Report No:	21-91299							
					Client: HYDROCK			
Location	Dunsbury Park							
Lab Reference (Sample Number)	1963770 / 1963771				Landfill Waste Acceptance Criteria			
					Limits			
Sampling Date	26/07/2021				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	WS1.01							
Depth (m)	0.50							
Solid Waste Analysis								
TOC (%)**	0.1				3%	5%	6%	
Loss on Ignition (%) **	2.3				--	--	10%	
BTEX (µg/kg) **	< 10				6000	--	--	
Sum of PCBs (mg/kg) **	< 0.007				1	--	--	
Mineral Oil (mg/kg)	< 10				500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--	
pH (units)**	11.7				--	>6	--	
Acid Neutralisation Capacity (mol / kg)	140				--	To be evaluated	To be evaluated	
Eluate Analysis								
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test			
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	0.0042			0.0366	0.5	2	25	
Barium *	0.0505			0.435	20	100	300	
Cadmium *	< 0.0001			< 0.0008	0.04	1	5	
Chromium *	0.0025			0.021	0.5	10	70	
Copper *	0.057			0.49	2	50	100	
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2	
Molybdenum *	0.0310			0.267	0.5	10	30	
Nickel *	0.015			0.13	0.4	10	40	
Lead *	0.0036			0.031	0.5	10	50	
Antimony *	< 0.0017			< 0.017	0.06	0.7	5	
Selenium *	< 0.0040			< 0.040	0.1	0.5	7	
Zinc *	0.0084			0.072	4	50	200	
Chloride *	4.0			35	800	15000	25000	
Fluoride	0.14			1.2	10	150	500	
Sulphate *	13			110	1000	20000	50000	
TDS*	570			4900	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-	
DOC	12.6			109	500	800	1000	
Leach Test Information								
Stone Content (%)	< 0.1							
Sample Mass (kg)	1.0							
Dry Matter (%)	91							
Moisture (%)	9.5							
Results are expressed on a dry weight basis, after correction for moisture content where applicable.								
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = UKAS accredited (liquid eluate analysis only)			
					** = MCERTS accredited			

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results								
Report No:	21-91299							
					Client: HYDROCK			
Location	Dunsbury Park							
Lab Reference (Sample Number)	1963772 / 1963773				Landfill Waste Acceptance Criteria			
					Limits			
Sampling Date	28/07/2021				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	WS4.03							
Depth (m)	0.40							
Solid Waste Analysis								
TOC (%)**	< 0.1				3%	5%	6%	
Loss on Ignition (%) **	2.1				--	--	10%	
BTEX (µg/kg) **	< 10				6000	--	--	
Sum of PCBs (mg/kg) **	< 0.007				1	--	--	
Mineral Oil (mg/kg)	< 10				500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--	
pH (units)**	10.0				--	>6	--	
Acid Neutralisation Capacity (mol / kg)	29				--	To be evaluated	To be evaluated	
Eluate Analysis								
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test			
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	< 0.0010			< 0.0100	0.5	2	25	
Barium *	0.0128			0.109	20	100	300	
Cadmium *	< 0.0001			< 0.0008	0.04	1	5	
Chromium *	0.0071			0.060	0.5	10	70	
Copper *	0.015			0.13	2	50	100	
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2	
Molybdenum *	< 0.0004			< 0.0040	0.5	10	30	
Nickel *	0.012			0.098	0.4	10	40	
Lead *	0.0023			0.019	0.5	10	50	
Antimony *	< 0.0017			< 0.017	0.06	0.7	5	
Selenium *	< 0.0040			< 0.040	0.1	0.5	7	
Zinc *	0.0090			0.077	4	50	200	
Chloride *	1.6			14	800	15000	25000	
Fluoride	0.21			1.8	10	150	500	
Sulphate *	31			260	1000	20000	50000	
TDS*	290			2400	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-	
DOC	9.79			83.0	500	800	1000	
Leach Test Information								
Stone Content (%)	< 0.1							
Sample Mass (kg)	1.0							
Dry Matter (%)	87							
Moisture (%)	13							
Results are expressed on a dry weight basis, after correction for moisture content where applicable.								
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = UKAS accredited (liquid eluate analysis only)			
** = MCERTS accredited								

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



Analytical Report Number : 21-91299

Project / Site name: Dunsbury Park

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1963768	TP7.07	None Supplied	1	Brown clay and sand with gravel.
1963770	WS1.01	None Supplied	0.5	Brown sand with gravel.
1963772	WS4.03	None Supplied	0.4	Light brown sandy clay with gravel.

Analytical Report Number : 21-91299

Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025

Analytical Report Number : 21-91299

Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

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

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

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

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report



Analytical Report Number : 21-91299

Project / Site name: Dunsbury Park

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP7.07	None Supplied	S	1963768	c	BTEX in soil (Monoaromatics)	L073B-PL	c
TP7.07	None Supplied	S	1963768	c	Total BTEX in soil (Poland)	L073-PL	c

**Yacklin Panza**

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e: Group Southampton cc engineer

Analytical Report Number : 21-95125

Project / Site name:	Dunsbury Park	Samples received on:	25/08/2021
Your job number:	19453-GELO	Samples instructed on/ Analysis started on:	25/08/2021
Your order number:	PO09395	Analysis completed by:	02/09/2021
Report Issue Number:	1	Report issued on:	02/09/2021
Samples Analysed:	2 10:1 WAC samples		

Signed: *A. Czerwińska*

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Waste Acceptance Criteria Analytical Results							
Report No:		21-95125					
					Client: HYDROCK		
Location		Dunsbury Park					
Lab Reference (Sample Number)		1985527 / 1985528			Landfill Waste Acceptance Criteria		
Sampling Date		17/08/2021			Limits		
Sample ID		BH6.01					
Depth (m)		0.40			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Solid Waste Analysis							
TOC (%)**	0.4				3%	5%	6%
Loss on Ignition (%) **	1.9				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	6.6				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-1.4				--	To be evaluated	To be evaluated
Eluate Analysis							
	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0030			0.0253	0.5	2	25
Barium *	0.0068			0.0566	20	100	300
Cadmium *	0.0003			0.0021	0.04	1	5
Chromium *	0.0020			0.017	0.5	10	70
Copper *	0.0066			0.055	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0015			0.0125	0.5	10	30
Nickel *	0.0043			0.036	0.4	10	40
Lead *	0.0023			0.019	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0073			0.061	4	50	200
Chloride *	3.0			25	800	15000	25000
Fluoride	0.067			0.56	10	150	500
Sulphate *	2.8			24	1000	20000	50000
TDS*	27			220	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	17.1			142	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.2						
Dry Matter (%)	85						
Moisture (%)	15						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							
Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.							

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Waste Acceptance Criteria Analytical Results							
Report No:	21-95125						
					Client: HYDROCK		
Location	Dunsbury Park						
Lab Reference (Sample Number)	1985529 / 1985530				Landfill Waste Acceptance Criteria		
Sampling Date	19/08/2021				Limits		
Sample ID	BH7.03				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Depth (m)	0.30						
Solid Waste Analysis							
TOC (%)**	0.7				3%	5%	6%
Loss on Ignition (%) **	2.7				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	6.4				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-3.8				--	To be evaluated	To be evaluated
Eluate Analysis							
	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0042			0.0359	0.5	2	25
Barium *	0.0029			0.0246	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0012			0.010	0.5	10	70
Copper *	0.0046			0.039	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0011			0.0095	0.5	10	30
Nickel *	0.0049			0.042	0.4	10	40
Lead *	0.0023			0.019	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0055			0.047	4	50	200
Chloride *	1.8			15	800	15000	25000
Fluoride	0.093			0.79	10	150	500
Sulphate *	3.0			25	1000	20000	50000
TDS*	23			190	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	15.9			135	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.2						
Dry Matter (%)	86						
Moisture (%)	14						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.							
					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited		
Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.							
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.							



Analytical Report Number : 21-95125

Project / Site name: Dunsbury Park

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1985527	BH6.01	None Supplied	0.4	Brown clay and loam with gravel and vegetation.
1985529	BH7.03	None Supplied	0.3	Brown clay and loam with gravel and vegetation.

Analytical Report Number : 21-95125
Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025

Analytical Report Number : 21-95125
Project / Site name: Dunsbury Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

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

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

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

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Waste Classification Report

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

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



5IW2F-1AVZV-YRSJG

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

Job name

Dunsbury Park

Description/Comments

Project

19453

Site

Plots 1, 4, 6 and 7

Classified by

Name:

David Pethica

Date:

18 Aug 2022 12:15 GMT

Telephone:

02382 140 907

Company:

Hydrock Consultants Ltd

White Building

1-4 Cumberland Place

Southampton

SO15 2NP

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification:

CERTIFIED

Course

Hazardous Waste Classification

Date

08 Sep 2020

Next 3 year Refresher due by Sep 2023

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP1.01	0.2	Non Hazardous		3
2	TP1.04	0.45	Non Hazardous		5
3	WS1.01	0.5	Non Hazardous		7
4	WS1.02	1.5	Hazardous	HP 8	10
5	BH1.01	1	Non Hazardous		13
6	TP4.03	0.05	Non Hazardous		16
7	TP4.06	0.3	Non Hazardous		19
8	WS4.01	0.2	Non Hazardous		22
9	WS4.03	0.4	Non Hazardous		24
10	WS4.06	0.5	Hazardous	HP 8	27
11	BH4.01	0.5	Non Hazardous		30
12	BH4.02	0.5	Non Hazardous		33
13	WS4.04	0.9	Non Hazardous		36
14	TP6.01	0.2	Non Hazardous		38
15	WS6.03	0.2	Non Hazardous		41
16	TP6.09	0.5	Non Hazardous		43
17	TP6.04	0.5	Non Hazardous		46
18	TP6.06	0.5	Non Hazardous		49
19	TP6.08	0.4	Non Hazardous		51
20	WS6.06	0.5	Non Hazardous		53
21	WS6.07	0.6	Non Hazardous		56
22	WS6.03[2]	0.6	Non Hazardous		59
23	BH6.01	0.4	Non Hazardous		62
24	TP7.09	1	Non Hazardous		65
25	TP7.07	1	Non Hazardous		68
26	HP7.01	0.2	Non Hazardous		71
27	HP7.01[2]	0.8	Non Hazardous		74
28	WS7.04	0.2	Non Hazardous		77
29	WS7.02	0.7	Non Hazardous		80

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
30	WS7.03	0.4	Non Hazardous		83
31	TP7.03	0.5	Non Hazardous		85
32	TP7.08	0.6	Non Hazardous		88

Related documents

#	Name	Description
1	Hydrock Standard plus Cresol (ammended Lead)	waste stream template used to create this Job

Report

Created by: David Pethica

Created date: 18 Aug 2022 12:15 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	90
Appendix B: Rationale for selection of metal species	91
Appendix C: Version	92

Classification of sample: TP1.01

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP1.01	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.2 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

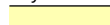
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		9.8 mg/kg	1.32	12.939 mg/kg	0.00129 %			
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.22 mg/kg	2.775	0.611 mg/kg	0.0000611 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.3 mg/kg	13.43	4.029 mg/kg	0.000403 %			
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	0.8 mg/kg	1.285	1.028 mg/kg	0.00008 %			
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		7.3 mg/kg	1.462	10.669 mg/kg	0.00107 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %			<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		8.1 mg/kg	1.126	9.12 mg/kg	0.000912 %			

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	28 mg/kg		28 mg/kg	0.0028 %			
	082-001-00-6										
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel {  nickel dihydroxide }				6.8 mg/kg	1.579	10.741 mg/kg	0.00107 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				9.4 pH		9.4 pH	9.4 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	zinc {  zinc oxide }				130 mg/kg	1.245	161.813 mg/kg	0.0162 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0245 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP1.04

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP1.04	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.45 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

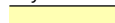
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		8.2 mg/kg	1.32	10.827 mg/kg	0.00108 %			
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.5 mg/kg	2.775	1.388 mg/kg	0.000139 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		1.6 mg/kg	13.43	21.488 mg/kg	0.00215 %			
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	0.8 mg/kg	1.285	1.028 mg/kg	0.00008 %			
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		36 mg/kg	1.462	52.616 mg/kg	0.00526 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %			<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		150 mg/kg	1.126	168.883 mg/kg	0.0169 %			

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	52 mg/kg		52 mg/kg	0.0052 %			
	082-001-00-6										
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel {  nickel dihydroxide }				34 mg/kg	1.579	53.703 mg/kg	0.00537 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				10.2 pH		10.2 pH	10.2 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	zinc {  zinc oxide }				320 mg/kg	1.245	398.308 mg/kg	0.0398 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0766 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS1.01

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS1.01	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.5 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		6.9 mg/kg	1.32	9.11	mg/kg	0.000911 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.42 mg/kg	2.775	1.166	mg/kg	0.000117 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.4 mg/kg	13.43	5.372	mg/kg	0.000537 %		
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		22 mg/kg	1.462	32.154	mg/kg	0.00322 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		11 mg/kg	1.126	12.385	mg/kg	0.00124 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	13 mg/kg		13 mg/kg	0.0013 %			
	082-001-00-6										
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				8.5 mg/kg	1.579	13.426 mg/kg	0.00134 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				11.1 pH		11.1 pH	11.1 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %			
			TPH								
32	zinc { zinc oxide }				64 mg/kg	1.245	79.662 mg/kg	0.00797 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0217 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: WS1.02

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:
WS1.02	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
1.5 m	

Hazard properties

HP 8: Corrosive "waste which on application can cause skin corrosion"

pH; pH "Assumed to be irritant/corrosive because of pH value"

Because of determinand:

pH: (conc.: 12 pH)

Determinands

Moisture content: **0% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		0.19	mg/kg		0.19	mg/kg	0.000019 %		
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	8.4	mg/kg	1.32	11.091	mg/kg	0.00111 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.48	mg/kg		0.48	mg/kg	0.000048 %		
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.45	mg/kg		0.45	mg/kg	0.000045 %		
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.51	mg/kg		0.51	mg/kg	0.000051 %		
8	benzo[ghi]perylene	205-883-8	191-24-2		0.3	mg/kg		0.3	mg/kg	0.00003 %		
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.2	mg/kg		0.2	mg/kg	0.00002 %		
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.7	mg/kg	2.775	1.943	mg/kg	0.000194 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2	mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	0.6	mg/kg	1.285	0.771	mg/kg	0.00006 %		
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		36	mg/kg	1.462	52.616	mg/kg	0.00526 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chrysene				0.44 mg/kg		0.44 mg/kg	0.000044 %		
	601-048-00-0	205-923-4	218-01-9							
16	copper { dicopper oxide; copper (I) oxide }				88 mg/kg	1.126	99.078 mg/kg	0.00991 %		
	029-002-00-X	215-270-7	1317-39-1							
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				0.91 mg/kg		0.91 mg/kg	0.000091 %		
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				0.24 mg/kg		0.24 mg/kg	0.000024 %		
		205-893-2	193-39-5							
22	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	90 mg/kg		90 mg/kg	0.009 %		
	082-001-00-6									
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel { nickel dihydroxide }				21 mg/kg	1.579	33.169 mg/kg	0.00332 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH		PH		12 pH		12 pH	12pH		
27	phenanthrene				0.74 mg/kg		0.74 mg/kg	0.000074 %		
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				0.82 mg/kg		0.82 mg/kg	0.000082 %		
		204-927-3	129-00-0							
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
31	TPH (C6 to C40) petroleum group		TPH		64.405 mg/kg		64.405 mg/kg	0.00644 %		
32	zinc { zinc oxide }				220 mg/kg	1.245	273.837 mg/kg	0.0274 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.0641 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00644%)

Classification of sample: BH1.01

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH1.01	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		8.1 mg/kg	1.32	10.695 mg/kg	0.00107 %			
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.57 mg/kg	2.775	1.582 mg/kg	0.000158 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2 mg/kg	13.43	<2.686 mg/kg	<0.000269 %			<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8		0.4 mg/kg	1.285	0.514 mg/kg	0.00004 %			
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		26 mg/kg	1.462	38 mg/kg	0.0038 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %			<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		64 mg/kg	1.126	72.057 mg/kg	0.00721 %			

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	24 mg/kg		24 mg/kg	0.0024 %			
	082-001-00-6										
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				16 mg/kg	1.579	25.272 mg/kg	0.00253 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				9.8 pH		9.8 pH	9.8 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %			
			TPH								
32	zinc { zinc oxide }				150 mg/kg	1.245	186.707 mg/kg	0.0187 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0412 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: TP4.03

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP4.03	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.05 m	

Hazard properties

None identified

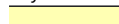
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	7.8	mg/kg	1.32	10.299	mg/kg	0.00103 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.42	mg/kg	2.775	1.166	mg/kg	0.000117 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.4	mg/kg	13.43	5.372	mg/kg	0.000537 %		
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		20	mg/kg	1.462	29.231	mg/kg	0.00292 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	5.6	mg/kg	1.126	6.305	mg/kg	0.00063 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	15 mg/kg		15 mg/kg	0.0015 %		
	082-001-00-6									
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel {  nickel dihydroxide }				8.8 mg/kg	1.579	13.9 mg/kg	0.00139 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH				9.9 pH		9.9 pH	9.9 pH		
			PH							
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %		
			TPH							
32	zinc {  zinc oxide }				50 mg/kg	1.245	62.236 mg/kg	0.00622 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.0195 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: TP4.06

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP4.06	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.3 m	

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		8.6 mg/kg	1.32	11.355 mg/kg	0.00114 %			
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.45 mg/kg	2.775	1.249 mg/kg	0.000125 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.6 mg/kg	13.43	8.058 mg/kg	0.000806 %			
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8		<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		21 mg/kg	1.462	30.693 mg/kg	0.00307 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %			<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		8.7 mg/kg	1.126	9.795 mg/kg	0.00098 %			

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	18 mg/kg		18 mg/kg	0.0018 %			
	082-001-00-6										
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				9.3 mg/kg	1.579	14.689 mg/kg	0.00147 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				9.5 pH		9.5 pH	9.5 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %			
			TPH								
32	zinc { zinc oxide }				70 mg/kg	1.245	87.13 mg/kg	0.00871 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0232 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: WS4.01

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS4.01	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m	

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	11	mg/kg	1.32	14.524	mg/kg	0.00145 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.73	mg/kg	2.775	2.026	mg/kg	0.000203 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.5	mg/kg	13.43	6.715	mg/kg	0.000672 %		
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		27	mg/kg	1.462	39.462	mg/kg	0.00395 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	9.6	mg/kg	1.126	10.809	mg/kg	0.00108 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	8.6 mg/kg		8.6 mg/kg	0.00086 %		
	082-001-00-6									
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel {  nickel dihydroxide }				21 mg/kg	1.579	33.169 mg/kg	0.00332 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH				10.1 pH		10.1 pH	10.1 pH		
			PH							
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
30	zinc {  zinc oxide }				59 mg/kg	1.245	73.438 mg/kg	0.00734 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.0195 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS4.03

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS4.03	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.4 m	

Hazard properties

None identified

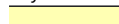
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	7.8	mg/kg	1.32	10.299	mg/kg	0.00103 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.53	mg/kg	2.775	1.471	mg/kg	0.000147 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2	mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		26	mg/kg	1.462	38	mg/kg	0.0038 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	5.5	mg/kg	1.126	6.192	mg/kg	0.000619 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	6.3 mg/kg		6.3 mg/kg	0.00063 %		
	082-001-00-6									
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel {  nickel dihydroxide }				11 mg/kg	1.579	17.374 mg/kg	0.00174 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH				10.3 pH		10.3 pH	10.3 pH		
			PH							
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %		
			TPH							
32	zinc {  zinc oxide }				37 mg/kg	1.245	46.054 mg/kg	0.00461 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.0179 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: WS4.06

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:
WS4.06	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
0.5 m	

Hazard properties

HP 8: Corrosive "waste which on application can cause skin corrosion"

pH; pH "Assumed to be irritant/corrosive because of pH value"

Because of determinand:

pH: (conc.: 12.2 pH)

Determinands

Moisture content: **0% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		6 mg/kg	1.32	7.922	mg/kg	0.000792 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.42 mg/kg	2.775	1.166	mg/kg	0.000117 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2 mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8		<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		23 mg/kg	1.462	33.616	mg/kg	0.00336 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
16	copper { dicopper oxide; copper (I) oxide }				6.6 mg/kg	1.126	7.431 mg/kg	0.000743 %			
	029-002-00-X	215-270-7	1317-39-1								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	7.2 mg/kg		7.2 mg/kg	0.00072 %			
	082-001-00-6										
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				8.3 mg/kg	1.579	13.11 mg/kg	0.00131 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				12.2 pH		12.2 pH	12.2 pH			
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %			
			TPH								
32	zinc { zinc oxide }				41 mg/kg	1.245	51.033 mg/kg	0.0051 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0175 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: BH4.01

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH4.01	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.5 m	

Hazard properties

None identified

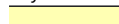
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	6.9	mg/kg	1.32	9.11	mg/kg	0.000911 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.76	mg/kg	2.775	2.109	mg/kg	0.000211 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2	mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		25	mg/kg	1.462	36.539	mg/kg	0.00365 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	8.7	mg/kg	1.126	9.795	mg/kg	0.00098 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	8.1 mg/kg		8.1 mg/kg	0.00081 %		
	082-001-00-6									
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel {  nickel dihydroxide }				16 mg/kg	1.579	25.272 mg/kg	0.00253 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH				6.5 pH		6.5 pH	6.5 pH		
			PH							
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %		
			TPH							
32	zinc {  zinc oxide }				49 mg/kg	1.245	60.991 mg/kg	0.0061 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.0206 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: BH4.02

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH4.02	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.5 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		6.5 mg/kg	1.32	8.582 mg/kg	0.000858 %			
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.66 mg/kg	2.775	1.832 mg/kg	0.000183 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.4 mg/kg	13.43	5.372 mg/kg	0.000537 %			
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		32 mg/kg	1.462	46.77 mg/kg	0.00468 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %			<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		13 mg/kg	1.126	14.637 mg/kg	0.00146 %			

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	6.3 mg/kg		6.3 mg/kg	0.00063 %			
	082-001-00-6										
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				12 mg/kg	1.579	18.954 mg/kg	0.0019 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				11.1 pH		11.1 pH	11.1 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %			
			TPH								
32	zinc { zinc oxide }				56 mg/kg	1.245	69.704 mg/kg	0.00697 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0223 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: WS4.04

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS4.04	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.9 m	

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	7.4	mg/kg	1.32	9.77	mg/kg	0.000977 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.49	mg/kg	2.775	1.36	mg/kg	0.000136 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2	mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		23	mg/kg	1.462	33.616	mg/kg	0.00336 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	6.2	mg/kg	1.126	6.981	mg/kg	0.000698 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	6.7 mg/kg		6.7 mg/kg	0.00067 %		
	082-001-00-6									
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel {  nickel dihydroxide }				9.4 mg/kg	1.579	14.847 mg/kg	0.00148 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH				9.8 pH		9.8 pH	9.8 pH		
			PH							
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
30	zinc {  zinc oxide }				34 mg/kg	1.245	42.32 mg/kg	0.00423 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.0125 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP6.01

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP6.01	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m	

Hazard properties

None identified

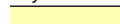
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	5.1	mg/kg	1.32	6.734	mg/kg	0.000673 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.26	mg/kg	2.775	0.722	mg/kg	0.0000722 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.4	mg/kg	13.43	5.372	mg/kg	0.000537 %		
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		15	mg/kg	1.462	21.923	mg/kg	0.00219 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	8.1	mg/kg	1.126	9.12	mg/kg	0.000912 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	18 mg/kg		18 mg/kg	0.0018 %		
	082-001-00-6									
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel {  nickel dihydroxide }				6.4 mg/kg	1.579	10.109 mg/kg	0.00101 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH				7.1 pH		7.1 pH	7.1 pH		
			PH							
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %		
			TPH							
32	zinc {  zinc oxide }				33 mg/kg	1.245	41.076 mg/kg	0.00411 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.0164 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: WS6.03

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS6.03	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.2 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

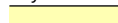
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		6.5 mg/kg	1.32	8.582 mg/kg	0.000858 %			
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.33 mg/kg	2.775	0.916 mg/kg	0.0000916 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.5 mg/kg	13.43	6.715 mg/kg	0.000672 %			
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		20 mg/kg	1.462	29.231 mg/kg	0.00292 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %			<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		11 mg/kg	1.126	12.385 mg/kg	0.00124 %			

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	17 mg/kg		17 mg/kg	0.0017 %			
	082-001-00-6										
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel {  nickel dihydroxide }				7.6 mg/kg	1.579	12.004 mg/kg	0.0012 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				6.7 pH		6.7 pH	6.7 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	zinc {  zinc oxide }				39 mg/kg	1.245	48.544 mg/kg	0.00485 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0142 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP6.09

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP6.09	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.5 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		9.2 mg/kg	1.32	12.147 mg/kg	0.00121 %			
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.63 mg/kg	2.775	1.748 mg/kg	0.000175 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2 mg/kg	13.43	<2.686 mg/kg	<0.000269 %			<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8		<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		48 mg/kg	1.462	70.155 mg/kg	0.00702 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %			<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		7.6 mg/kg	1.126	8.557 mg/kg	0.000856 %			

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	9.9 mg/kg		9.9 mg/kg	0.00099 %			
	082-001-00-6										
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				19 mg/kg	1.579	30.01 mg/kg	0.003 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				7.4 pH		7.4 pH	7.4 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %			
			TPH								
32	zinc { zinc oxide }				40 mg/kg	1.245	49.789 mg/kg	0.00498 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0236 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: TP6.04

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP6.04	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.5 m	

Hazard properties

None identified

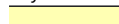
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	7.3	mg/kg	1.32	9.638	mg/kg	0.000964 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.28	mg/kg	2.775	0.777	mg/kg	0.0000777 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.4	mg/kg	13.43	5.372	mg/kg	0.000537 %		
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		19	mg/kg	1.462	27.77	mg/kg	0.00278 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	7.1	mg/kg	1.126	7.994	mg/kg	0.000799 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	9.1 mg/kg		9.1 mg/kg	0.00091 %		
	082-001-00-6									
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel {  nickel dihydroxide }				5.5 mg/kg	1.579	8.687 mg/kg	0.000869 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH				7.1 pH		7.1 pH	7.1 pH		
			PH							
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %		
			TPH							
32	zinc {  zinc oxide }				26 mg/kg	1.245	32.363 mg/kg	0.00324 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.0153 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: TP6.06

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP6.06	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.5 m	

Hazard properties

None identified

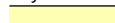
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	10 mg/kg	1.32	13.203 mg/kg	0.00132 %			
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.38 mg/kg	2.775	1.055 mg/kg	0.000105 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.5 mg/kg	13.43	6.715 mg/kg	0.000672 %			
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		22 mg/kg	1.462	32.154 mg/kg	0.00322 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %			<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	8.5 mg/kg	1.126	9.57 mg/kg	0.000957 %			

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	13 mg/kg		13 mg/kg	0.0013 %			
	082-001-00-6										
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel {  nickel dihydroxide }				7.7 mg/kg	1.579	12.162 mg/kg	0.00122 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				7.7 pH		7.7 pH	7.7 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	zinc {  zinc oxide }				35 mg/kg	1.245	43.565 mg/kg	0.00436 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0138 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP6.08

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP6.08	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.4 m	

Hazard properties

None identified

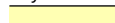
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		5.8 mg/kg	1.32	7.658	mg/kg	0.000766 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.28 mg/kg	2.775	0.777	mg/kg	0.0000777 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2 mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		16 mg/kg	1.462	23.385	mg/kg	0.00234 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		4.2 mg/kg	1.126	4.729	mg/kg	0.000473 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	7 mg/kg		7 mg/kg	0.0007 %			
	082-001-00-6										
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel {  nickel dihydroxide }				6.4 mg/kg	1.579	10.109 mg/kg	0.00101 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				6.7 pH		6.7 pH	6.7 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	zinc {  zinc oxide }				28 mg/kg	1.245	34.852 mg/kg	0.00349 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.00978 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS6.06

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS6.06	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.5 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		7.1 mg/kg	1.32	9.374	mg/kg	0.000937 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.51 mg/kg	2.775	1.415	mg/kg	0.000142 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2 mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8		<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		33 mg/kg	1.462	48.231	mg/kg	0.00482 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		13 mg/kg	1.126	14.637	mg/kg	0.00146 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	10 mg/kg		10 mg/kg	0.001 %			
	082-001-00-6										
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				13 mg/kg	1.579	20.533 mg/kg	0.00205 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				7.6 pH		7.6 pH	7.6 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %			
			TPH								
32	zinc { zinc oxide }				33 mg/kg	1.245	41.076 mg/kg	0.00411 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0199 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: WS6.07

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS6.07	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.6 m	

Hazard properties

None identified

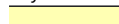
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	8.8	mg/kg	1.32	11.619	mg/kg	0.00116 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.48	mg/kg	2.775	1.332	mg/kg	0.000133 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2	mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		23	mg/kg	1.462	33.616	mg/kg	0.00336 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	4.6	mg/kg	1.126	5.179	mg/kg	0.000518 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	7.3 mg/kg		7.3 mg/kg	0.00073 %		
	082-001-00-6									
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel {  nickel dihydroxide }				12 mg/kg	1.579	18.954 mg/kg	0.0019 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH				7.3 pH		7.3 pH	7.3 pH		
			PH							
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %		
			TPH							
32	zinc {  zinc oxide }				33 mg/kg	1.245	41.076 mg/kg	0.00411 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.0173 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: WS6.03[2]

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS6.03[2]	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.6 m	

Hazard properties

None identified

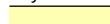
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		11 mg/kg	1.32	14.524	mg/kg	0.00145 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.68 mg/kg	2.775	1.887	mg/kg	0.000189 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.6 mg/kg	13.43	8.058	mg/kg	0.000806 %		
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		34 mg/kg	1.462	49.693	mg/kg	0.00497 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		9.8 mg/kg	1.126	11.034	mg/kg	0.0011 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	11 mg/kg		11 mg/kg	0.0011 %			
	082-001-00-6										
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel {  nickel dihydroxide }				15 mg/kg	1.579	23.692 mg/kg	0.00237 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				7.8 pH		7.8 pH	7.8 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %			
			TPH								
32	zinc {  zinc oxide }				44 mg/kg	1.245	54.767 mg/kg	0.00548 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0226 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: BH6.01

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH6.01	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.4 m	

Hazard properties

None identified

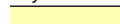
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	6	mg/kg	1.32	7.922	mg/kg	0.000792 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.31	mg/kg	2.775	0.86	mg/kg	0.000086 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2	mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %	<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		21	mg/kg	1.462	30.693	mg/kg	0.00307 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	5.4	mg/kg	1.126	6.08	mg/kg	0.000608 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	9.2 mg/kg		9.2 mg/kg	0.00092 %		
	082-001-00-6									
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel {  nickel dihydroxide }				5.6 mg/kg	1.579	8.845 mg/kg	0.000885 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH				7.7 pH		7.7 pH	7.7 pH		
			PH							
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %		
			TPH							
32	zinc {  zinc oxide }				27 mg/kg	1.245	33.607 mg/kg	0.00336 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.0151 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: TP7.09

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP7.09	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

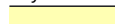
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		6.8 mg/kg	1.32	8.978 mg/kg	0.000898 %			
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.34 mg/kg	2.775	0.944 mg/kg	0.0000944 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2 mg/kg	13.43	<2.686 mg/kg	<0.000269 %			<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8		<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		18 mg/kg	1.462	26.308 mg/kg	0.00263 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %			<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		4.8 mg/kg	1.126	5.404 mg/kg	0.00054 %			

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	7 mg/kg		7 mg/kg	0.0007 %			
	082-001-00-6										
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel {  nickel dihydroxide }				7.6 mg/kg	1.579	12.004 mg/kg	0.0012 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				7.1 pH		7.1 pH	7.1 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %			
			TPH								
32	zinc {  zinc oxide }				24 mg/kg	1.245	29.873 mg/kg	0.00299 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0144 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: TP7.07

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP7.07	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1 m	

Hazard properties

None identified

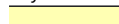
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	9.2	mg/kg	1.32	12.147	mg/kg	0.00121 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.43	mg/kg	2.775	1.193	mg/kg	0.000119 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.6	mg/kg	13.43	8.058	mg/kg	0.000806 %		
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.7	mg/kg	1.285	0.9	mg/kg	0.00007 %	
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		24	mg/kg	1.462	35.077	mg/kg	0.00351 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	92	mg/kg	1.126	103.582	mg/kg	0.0104 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	33 mg/kg		33 mg/kg	0.0033 %		
	082-001-00-6									
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel {  nickel dihydroxide }				13 mg/kg	1.579	20.533 mg/kg	0.00205 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH				8.8 pH		8.8 pH	8.8 pH		
			PH							
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %		
			TPH							
32	zinc {  zinc oxide }				240 mg/kg	1.245	298.731 mg/kg	0.0299 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.0564 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: HP7.01

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
HP7.01	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m	

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		8.6 mg/kg	1.32	11.355	mg/kg	0.00114 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.6 mg/kg	2.775	1.665	mg/kg	0.000167 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.6 mg/kg	13.43	8.058	mg/kg	0.000806 %		
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	0.7 mg/kg	1.285	0.9	mg/kg	0.00007 %		
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		31 mg/kg	1.462	45.308	mg/kg	0.00453 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		130 mg/kg	1.126	146.365	mg/kg	0.0146 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	34 mg/kg		34 mg/kg	0.0034 %			
	082-001-00-6										
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				19 mg/kg	1.579	30.01 mg/kg	0.003 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				8.4 pH		8.4 pH	8.4 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %			
			TPH								
32	zinc { zinc oxide }				360 mg/kg	1.245	448.097 mg/kg	0.0448 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0776 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: HP7.01[2]

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
HP7.01[2]	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.8 m	

Hazard properties

None identified

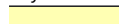
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	12	mg/kg	1.32	15.844	mg/kg	0.00158 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.76	mg/kg	2.775	2.109	mg/kg	0.000211 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		3	mg/kg	13.43	40.29	mg/kg	0.00403 %		
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	1.7	mg/kg	1.285	2.185	mg/kg	0.00017 %	
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		39	mg/kg	1.462	57.001	mg/kg	0.0057 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	230	mg/kg	1.126	258.954	mg/kg	0.0259 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	78 mg/kg		78 mg/kg	0.0078 %		
	082-001-00-6									
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel {  nickel dihydroxide }				42 mg/kg	1.579	66.339 mg/kg	0.00663 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH				8.9 pH		8.9 pH	8.9 pH		
			PH							
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %		
			TPH							
32	zinc {  zinc oxide }				870 mg/kg	1.245	1082.901 mg/kg	0.108 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.165 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: WS7.04

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS7.04	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.2 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		6.9 mg/kg	1.32	9.11	mg/kg	0.000911 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.29 mg/kg	2.775	0.805	mg/kg	0.0000805 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2 mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		15 mg/kg	1.462	21.923	mg/kg	0.00219 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		9.6 mg/kg	1.126	10.809	mg/kg	0.00108 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	17 mg/kg		17 mg/kg	0.0017 %			
	082-001-00-6										
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				5.9 mg/kg	1.579	9.319 mg/kg	0.000932 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				5.6 pH		5.6 pH	5.6 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %			
			TPH								
32	zinc { zinc oxide }				36 mg/kg	1.245	44.81 mg/kg	0.00448 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0167 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: WS7.02

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS7.02	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.7 m	

Hazard properties

None identified

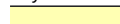
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	9.6	mg/kg	1.32	12.675	mg/kg	0.00127 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.55	mg/kg	2.775	1.526	mg/kg	0.000153 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2	mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %	<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		29	mg/kg	1.462	42.385	mg/kg	0.00424 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	7.5	mg/kg	1.126	8.444	mg/kg	0.000844 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	9.2 mg/kg		9.2 mg/kg	0.00092 %		
	082-001-00-6									
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel {  nickel dihydroxide }				14 mg/kg	1.579	22.113 mg/kg	0.00221 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH				6.8 pH		6.8 pH	6.8 pH		
			PH							
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %		
			TPH							
32	zinc {  zinc oxide }				43 mg/kg	1.245	53.523 mg/kg	0.00535 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.0204 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: WS7.03

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS7.03	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.4 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

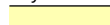
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		6.8 mg/kg	1.32	8.978	mg/kg	0.000898 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.26 mg/kg	2.775	0.722	mg/kg	0.0000722 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2 mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		13 mg/kg	1.462	19	mg/kg	0.0019 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		9.9 mg/kg	1.126	11.146	mg/kg	0.00111 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	15 mg/kg		15 mg/kg	0.0015 %			
	082-001-00-6										
23	mercury {  mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel {  nickel dihydroxide }				4.8 mg/kg	1.579	7.582 mg/kg	0.000758 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				5.7 pH		5.7 pH	5.7 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	zinc {  zinc oxide }				30 mg/kg	1.245	37.341 mg/kg	0.00373 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0109 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP7.03

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP7.03	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.5 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		9.6 mg/kg	1.32	12.675	mg/kg	0.00127 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.58 mg/kg	2.775	1.61	mg/kg	0.000161 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.5 mg/kg	13.43	6.715	mg/kg	0.000672 %		
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		26 mg/kg	1.462	38	mg/kg	0.0038 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.2 mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		23 mg/kg	1.126	25.895	mg/kg	0.00259 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	13 mg/kg		13 mg/kg	0.0013 %			
	082-001-00-6										
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				15 mg/kg	1.579	23.692 mg/kg	0.00237 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH				6.8 pH		6.8 pH	6.8 pH			
			PH								
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
30	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
31	TPH (C6 to C40) petroleum group				44.405 mg/kg		44.405 mg/kg	0.00444 %			
			TPH								
32	zinc { zinc oxide }				83 mg/kg	1.245	103.311 mg/kg	0.0103 %			
	030-013-00-7	215-222-5	1314-13-2								
Total:									0.0276 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Evidence of free product or olfactory evidence of impact was not noted during ground investigations. Concentrations of petroleum hydrocarbons present within in the soil are not considered likely to present risk as flammable. If confirmation is required, this would require flash point testing of soils.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00444%)

Classification of sample: TP7.08

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP7.08	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.6 m	

Hazard properties

None identified

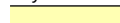
Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	9.3	mg/kg	1.32	12.279	mg/kg	0.00123 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.44	mg/kg	2.775	1.221	mg/kg	0.000122 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		<0.2	mg/kg	13.43	<2.686	mg/kg	<0.000269 %		<LOD
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		24	mg/kg	1.462	35.077	mg/kg	0.00351 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	6.2	mg/kg	1.126	6.981	mg/kg	0.000698 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
22	lead {  lead compounds with the exception of those specified elsewhere in this Annex }			1	7.2 mg/kg		7.2 mg/kg	0.00072 %		
	082-001-00-6									
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel { nickel dihydroxide }				9.6 mg/kg	1.579	15.163 mg/kg	0.00152 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH				7.4 pH		7.4 pH	7.4 pH		
			PH							
27	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
30	zinc { zinc oxide }				35 mg/kg	1.245	43.565 mg/kg	0.00436 %		
	030-013-00-7	215-222-5	1314-13-2							
Total:								0.0131 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non GB MCL determinands

■ **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 2; H411

■ **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302, Acute Tox. 1; H330, Acute Tox. 1; H310, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315

■ **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

■ **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

■ **boron tribromide/trichloride/trifluoride (combined)** (CAS Number: 10294-33-4, 10294-34-5, 7637-07-2)

Description/Comments: Combines the hazard statements and the average of the conversion factors for boron tribromide, boron trichloride and boron trifluoride

Data source: N/A

Data source date: 06 Aug 2015

Hazard Statements: EUH014, Acute Tox. 2; H330, Acute Tox. 2; H300, Skin Corr. 1A; H314, Skin Corr. 1B; H314

■ **chromium(III) oxide (worst case)** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332, Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Resp. Sens. 1; H334, Skin Sens. 1; H317, Repr. 1B; H360FD, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

■ **salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex**

GB MCL index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazard(s) Statement(s):

20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

■ **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4; H302, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

■ **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

■ **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2; H351

▪ **lead compounds with the exception of those specified elsewhere in this Annex**

GB MCL index number: 082-001-00-6

Description/Comments: Least-worst case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers many simple lead compounds to be Carcinogenic category 2

Additional Hazard Statement(s): Carc. 2; H351

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

▪ **pH (CAS Number: PH)**

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

▪ **phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)**

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

▪ **pyrene (EC Number: 204-927-3, CAS Number: 129-00-0)**

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

▪ **TPH (C6 to C40) petroleum group (CAS Number: TPH)**

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on hazard statements

beryllium {beryllium oxide}

Worst case species based on hazard statements

boron {boron tribromide/trichloride/trifluoride (combined)}

Worst case species based on hazard statements

cadmium {cadmium sulfide}

Worst case species based on hazard statements

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Worst case species based on hazard statements

chromium in chromium(VI) compounds {chromium(VI) oxide}

Worst case species based on hazard statements

copper {dicopper oxide; copper (I) oxide}

Most likely common species

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Worst case species

lead {lead compounds with the exception of those specified elsewhere in this Annex}

Worst case species based on hazard statements

mercury {mercury dichloride}

Worst case species based on hazard statements

nickel {nickel dihydroxide}

Worst case species based on hazard statements

zinc {zinc oxide}

Worst case species based on hazard statements

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**

HazWasteOnline Classification Engine Version: 2022.222.5292.9906 (10 Aug 2022)

HazWasteOnline Database: 2022.220.5285.9900 (08 Aug 2022)

This classification utilises the following guidance and legislation:

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

CLP Regulation - Regulation 1272/2008/EC of 16 December 2008

1st ATP - Regulation 790/2009/EC of 10 August 2009

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

13th ATP - Regulation (EU) 2018/1480 of 4 October 2018

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021

Appendix H Preliminary Geotechnical Risk Register



Geotechnical hazard identification – desk study stage

Potential geotechnical hazards have been assessed in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents HD 41/15 and CD 622. The following pages set out the identified geotechnical risks and hazards which are associated with the proposed development and establish the approach which is to be taken to manage the risks including the geotechnical input and analysis.

Table H.1 is a preliminary assessment of possible geotechnical hazards at the site at Desk Study stage. This information is used to assist with ground investigation design.

Table H.1: Possible geotechnical hazards

Hazard	Comment	Hazard status based on desk study	
		Could be present and / or affect site (i.e. Plausible)	Unlikely to be present and/or affect site
Uncontrolled Made Ground (variable strength and compressibility).	Artificial made ground and fill material is anticipated to be on site with variable strength and composition.	✓	-
Soft / loose compressible ground (low strength and high settlement potential).		✓	-
Shrink swell of the clay fraction of soils under the influence of vegetation.	London Clay Formation is expected to be encountered in the north and south areas of the site. Moreover, the presence of mature trees can pose a risk of shrink swell.	✓	-
Variable lateral and vertical changes in ground conditions.	The site is set at various levels and Made Ground and historical landfill may be variable in composition and thickness and this may pose implications to foundation design.	✓	-
High sulfates present in the soils.	Sulfates may be present in soils at the site.	✓	-



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Appendix H Preliminary Geotechnical Risk Register

Adverse chemical ground conditions, (e.g. expansive slag).	The site has not been previously developed. Therefore, no adverse chemical ground conditions are expected.	-	✓
Obstructions.	The site has not been previously developed. However, obstructions may be present due to the historical landfill activities.	✓	-
Existing below ground structures to remain (on or off-site tunnels, foundations, basements, and adjacent sub-structures).	The site has not been previously developed. Therefore, existing below ground structures are not anticipated.	-	✓
Shallow groundwater.	Shallow groundwater may be present within the Artificial Made Ground / Head Deposits. Groundwater was recorded to be present within the Bognor Sand Member between 2.40 – 4.00m bgl, and at 3.0m bgl within London Clay Formation in BGS borehole data.	✓	-
Changing groundwater conditions.	Phreatic levels can fluctuate seasonally.	✓	-
Risk from erosion.	Steep slopes were seen in the vicinity of the power lines in the east and also on the western boundary of Units 500 to 502. Other areas of steep slopes may be present across site.	✓	-
Risk from flooding.	The majority of the site is within Flood Zone 1 (with a low probability of flooding from rivers or the sea). Therefore, risk from flooding is considered low.	-	✓
Running sands and / or loose Made Ground, leading to difficulty with excavation and collapse of side walls.	Artificial Made Ground and fill material is anticipated to be on site with variable strength and composition.	✓	-
Mining.	No significant mining activities were identified within the site boundary or surrounding areas.	-	✓



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Appendix H Preliminary Geotechnical Risk Register

Slope stability issues – general slopes.	The site level is variable and there are some steep slopes and large earth mounds on and around site. General slopes and retaining walls likely to be required.	✓	-
Slope stability issues – retaining walls.		✓	-
Earthworks – settlement (due to placement of fill on soft / loose ground).	The site level is variable and there are some steep slopes and large earth mounds on site. Earthworks likely to be required.	✓	-
Earthworks – poor bearing capacity of new fill.		✓	-
Earthworks – unsuitability of site won material to be reused as fill.		✓	-
Solution features in Chalk.	Chalk geology is present at depth beneath the site below the London Clay Formation and Lambeth Group.	-	✓
Cavities in the Superficial Deposits due to solution features.	Local geology is unlikely to suffer from dissolution.	-	✓
Dissolution (associated with “wet rock head”).		-	✓
Brine extraction.	Unlikely. Brine extraction is not recorded at the site.	-	✓
Cambered ground with gulls possibly present.	Unlikely.	-	✓
Relict Slip Surfaces.	Unlikely.	-	✓
Solifluction.	Unlikely.	-	✓
Problematic soils (silts and rewetting etc.).	Unlikely.	-	✓



Geotechnical Hazard Identification – Following Ground Investigation

The preliminary Geotechnical Risk Register following Ground Investigation is set out in Table H.3.

The probability and impact of a hazard have been judged on a qualitative scale as set out in Table H.2. The degree of risk (R) is determined by combining an assessment of the probability (P) of the hazard occurring with an assessment of the impact (I) of the hazard and associated mitigation it will require if it occurs ($R = P \times I$).

Table H.2: Qualitative assessment of hazards and risks

P = Probability		I = Impact		R = Risk Rating (P x I)	
1	Very unlikely (VU)	1	Very Low	1 – 4	None / negligible
2	Unlikely (U)	2	Low	5 – 9	Minor
3	Plausible (P)	3	Medium	10 – 14	Moderate
4	Likely (Lk)	4	High	15 – 19	Substantial
5	Very Likely (VLk)	5	Very High	20 - 25	Severe



Table H.3: Preliminary Geotechnical Risk Register

Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
Uncontrolled Made Ground (variable strength and compressibility).	Made Ground (surface cover and engineered fill) was encountered across all Plots.	Warehouse buildings	Bearing capacity failure, settlement (total and differential).	2	4	8	Design foundations to found below Made Ground within natural soils.
			Floor slab failure.	3	4	12	Design floor slabs as suspended.
		Roads and Pavements.	Settlement (total and differential) of roads and pavements.	3	2	6	Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate.
		Services.	Settlement (differential), causing damage to services.	3	2	6	Anticipated settlements are significant with regard to services. There is a requirement to improve the Made Ground prior to installation of services. It is also advisable to steepen falls in drainage to prevent back fall and use rocker boxes and flexible couplings.
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	3	3	9	Where soft spots encountered, over-excavation and replacement with suitable fill. Outline design of working platform to include geo-grid. Site inspection and watching brief by Contractor to review working platform frequently and regularly.
Soft / loose ground	The shallow natural soils comprise Head, Bognor Sand Member and	Warehouse buildings	Foundation bearing capacity failure, settlement (total and differential).	2	4	8	Design foundations to found below any loose relative density sand and gravel or soft clay



Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
(low strength and high settlement potential).	weathered London Clay Formation consisting of loose to medium dense silty sands and soft to firm silty clays respectively.		Floor slab failure.	2	4	8	Design floor slab as suspended.
		Roads and Pavements.	Settlement (total and differential), of roads and pavements.	2	3	6	Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate. If anticipated settlements are significant, and cannot be mitigated by design, over-excavate and replace soft soils.
		Services.	Settlement (differential), causing damage to services.	2	3	6	Ground levels are expected to be raised and settlements are anticipated to be significant. Ground improvement may be required to reduce post construction settlements to tolerable levels.
		Public open space	Settlement (differential)	2	3	6	
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	2	3	6	Where soft spots encountered, over-excavate and replace with suitable fill. Design working platform to suit the ground conditions. Outline design of working platform to include geo-grid if necessary. Site inspection and watching brief by Contractor to review working platform frequently and regularly.
Shrinkage / swelling of the clay fraction of soils under the	The clays of the London Clay Formation are	Foundations	Shrinkage or heave of soils and associated damage to foundations.	2	3	6	Design foundations in accordance with NHBC standards. Deepen foundations due to trees as appropriate. Void Former likely to be required.



Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
influence of vegetation.	medium to high heave potential.	Floor slabs.	Floor slab failure.	2	4	8	Design floor slabs in accordance with NHBC standards. Design floor slab as suspended with a void, unless the warranty provider is satisfied the soil is not desiccated, or slabs are constructed when soils are not seasonally desiccated (i.e. during winter and spring).
Variable lateral and vertical changes in ground conditions.	The Made Ground soils vary laterally and vertically, both in composition and strength.	Warehouse Buildings.	Foundation bearing capacity failure, settlement (total and differential).	2	4	8	Design foundations to found below Made Ground within competent natural soils. Design foundations to found below any loose relative density sand and gravel or soft clay. Highly loaded structures may require explicit geotechnical design.
			Floor slab failure.	2	4	8	Design floor slab as suspended.
	The shallow soils of the Head, Bognor Sand and weathered London Clay Formation which vary laterally and vertically between soft to firm clay and sand with a loose to medium dense relative density.	Roads and Pavements.	Settlement (total and differential), of roads and pavements.	2	3	6	Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate. If anticipated settlements are significant, and cannot be mitigated by design, over-excavate and replace unsuitable soils.
		Services.	Settlement (differential), causing damage to services.	2	3	6	Settlements are not anticipated to be significant with regard to services. No additional design requirements envisaged.
		Public open spaces	Settlement (differential), in gardens.	2	3	6	It is unlikely that settlements will be significant with respect to any public open space.



Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	2	3	6	Where soft spots encountered, over-excavate and replace with suitable fill. Design working platform to suit the ground conditions. Outline design of working platform to include geo-grid if necessary. Site inspection and watching brief by Contractor to review working platform frequently and regularly.
Sulfates present in the soils.	The ground investigation has proven that there is the potential for expansive sulfate bearing soils to be present.	Attack of buried concrete.	Damage to concrete and reduction in strength.	2	6	12	Classify concrete in accordance with BRE SD1 and design concrete accordingly.
		Earthworks.	Sulfate heave following the use of hydraulic binders.	3	4	12	Supplementary sulfate testing in accordance with BRE guidelines to be undertaken during earthworks. Before the use of hydraulic binders is approved, comprehensive testing and design will need to be completed by a Specialist Contractor to satisfy both themselves and the Engineer of the suitability of the soils for treatment, and confirm that the requisite end-performance of the material is achievable. The use of modification or stabilisation to be restricted to suitable materials following laboratory trials. In all instances where improvement by the inclusion of binders is considered, a mix design is required and as part of this design, samples should be checked for swelling, even where very low sulfate values are recorded.



Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
Obstructions.	No obstructions were encountered although the presence of Made Ground suggests they should not be ruled out. Obstructions within the natural soils are unlikely.	Construction staff, vehicles and plant operators.	Risk of collapse of excavation as obstructions are pulled out.	2	3	6	Undertake Enablement Works and remove all obstructions.
		Roads and Pavements.	Hard spots in externals and roads / pavements.	2	2	4	
		Warehouse buildings	Possible impact on foundation excavations	2	3	6	
Shallow groundwater.	Monitoring during the ground investigations has proven a shallow groundwater table. A shallow possible perched groundwater table appears to be present in the shallow Bognor Sand and London Clay	Construction staff, vehicles and plant operators.	Difficulty with excavation.	3	2	6	Contractor to appoint competent Temporary Works Designer to design temporary works, in accordance with BS 5975:2008+A1:2011. Temporary Works Designer to consider in their analysis the impact of, and requirements for, de-watering of excavations. Any water that collects at the base of excavations to be removed as soon as practicable.
			Limit state failure, excessive deformation, trafficking of site plant, inability to place and compact fill.				
		Slopes and Retaining.	Serviceability issues.	3	2	6	Contractor to appoint competent Temporary Works Designer to design temporary works, as required in accordance with BS 5975:2008+A1:2011. The shallow groundwater is to be taken into account during geotechnical design of the permanent works.



Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
Changing groundwater conditions.	Monitoring during the ground investigations has proven that the groundwater table is locally variable although long term monitoring has not been undertaken.	Construction staff, vehicles and plant operators.	Difficulty with excavation. Limit state failure, excessive deformation, trafficking of site plant, inability to place and compact fill.	3	2	6	Contractor to appoint competent Temporary Works Designer to design temporary works as required, in accordance with BS 5975:2008+A1:2011. Temporary Works Designer to consider in their analysis the impact of a variable water table.
		Slopes and Retaining.	Serviceability issues.	3	2	6	Contractor to appoint competent Temporary Works Designer to design temporary works, as required in accordance with BS 5975:2008+A1:2011. Design drainage for retaining walls to account for fluctuating groundwater levels. The shallow groundwater is to be taken into account during geotechnical design of the permanent works.
Subject to risk from erosion.	Slopes are proposed on the site.	The entire development.	Serviceability issues	1	4	4	Slopes to be designed at stable angle and site drainage such that overland flow is minimised.
Running sands and / or loose Made Ground, leading to difficulty with excavation and	The ground investigation has indicated that there is a low potential for running sands to be present at the site.	Construction staff, vehicles and plant operators.	Ground failure, instability of plant and machinery.	1	4	4	As instability has been noted in all pits from surface, foundation options should be reviewed to ensure minimal excavation (e.g. piles).
			Risk of collapse of excavation.	1	4	4	



Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
collapse of side walls.							Contractor to appoint competent Temporary Works Designer to design temporary works, in accordance with BS 5975:2008+A1:2011. Temporary Works Design to include recommendations for inspection of excavations. No person entry to unsupported excavations.
Slope stability issues – General Slopes.	The site is on sloping ground and the proposed development requires slopes to be formed as part of the cut to fill.	Residential Dwellings.	Serviceability issues.	2	4	8	Safe slope angles to be assessed during design.
		Roads and Pavements.	Serviceability issues.	2	3	6	Engineered fill requirements to be defined at outline design stage. Drainage requirements to be assessed during design.
		Public space	Serviceability issues.	2	2	4	Slopes to be constructed at a safe angle.
Slope stability issues – retaining walls.	Currently it not thought that any significant retaining structures will be required.	Warehouses	Serviceability issues.	1	4	4	Design of the retaining to be undertaken in accordance with EC7.
		Pavement construction and long-term durability highways and external areas.	Serviceability issues.	1	4	4	Adequate drainage to be designed behind the structure, or for water seepage through the face of the wall. Lateral earth pressure parameters to be characterised during investigation and design. Engineered fill requirements to be defined at outline design stage.



Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
Earthworks – Settlement (due to placement of fill on soft / loose ground / Deep Made Ground).		Public Space	Serviceability issues.	2	2	4	
		Construction staff, vehicles and plant operators.	Potential for future movements / collapse.	1	4	4	
	The ground conditions at the site include shallow and variable Made Ground and variable natural soils	Warehouse buildings	Foundation bearing capacity failure, settlement (total and differential).	2	4	4	Design foundations to found below the Made Ground and any poor quality shallow soils
			Floor slab failure.	2	4	4	Design floor slab as suspended.
		Roads and Pavements.	Settlement (total and differential), of roads and pavements.	2	3	6	Settlements are anticipated to be significant with regard to roads and pavements. Undertake ground improvement (pre-load and surcharge / rolling dynamic compaction / dynamic compaction / over-excavation and replacement) to reduce settlements. Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate.
		Services.	Settlement (differential), causing damage to services.	2	3	6	Settlements are anticipated to be significant with regard to services.



Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
							Detailed design works are required to assess the impact and design mitigation measures.
		Public open spaces	Settlement (differential),	2	3	6	Assess the use of geogrids as part of the design process. Undertake ground improvement (pre-load and surcharge / rolling dynamic compaction / dynamic compaction / over-excavation and replacement) to reduce settlements.
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	2	3	6	Where soft spots encountered, over-excavate and replace with suitable fill. Design working platform to suit the ground conditions. Outline design of working platform to include geo-grid if necessary. Site inspection and watching brief by Contractor to review working platform frequently and regularly.
Earthworks – poor bearing capacity and / or settlement of new fill.	There may a requirement for cut to fill to create the development platform and filling of remediation excavations.	Warehouse buildings	Foundation bearing capacity failure, settlement (total and differential).	2	4	8	Design foundations to found below the alluvium / new fill i.e. piled foundations.
			Floor slab failure.	2	4	8	Design floor slab as suspended.
	This will require reuse of soils	Roads and Pavements.	Settlement (total and differential).	2	3	6	Minimum engineering performance to be defined in an Earthworks Specification.



Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
	excavated from the site.	Services.	Settlement (differential), causing damage to services.	2	3	6	<p>Earthworks to be designed in accordance with</p> <p>1) Manual of Contract Documents for Highway Works (MCHW), Volume 1;</p> <p>2) Specification for Highway Works (SHW) Series 600;</p> <p>3) 6031:2009, Code of practice for earthworks; and</p> <p>4) BS 8000-1, workmanship on building sites.</p> <p>Site testing to be undertaken to confirm the works are in accordance with the design.</p> <p>A suitable watching brief and independent verification.</p>
		Public open space	Settlement (differential),	2	3	6	
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	2	3	6	
Earthworks – Unsuitability of site won material to be reused as fill.	<p>There is a requirement for cut to fill to create the development platform and filling of remediation excavations.</p> <p>This will require reuse of soils excavated from the site.</p>	Earthworks control, inability to place and compact fill.	Service limit state failure, excessive and intolerable total and differential settlement.	2	3	6	<p>The design is to describe the processes required to produce suitable fill for reuse.</p> <p>Contractor to design site control measures, plant, equipment and arrangement to comply with processing requirements.</p> <p>Site testing to be undertaken to confirm the works are in accordance with the design.</p> <p>A suitable watching brief and independent verification.</p> <p>Adequate investigation required of soil types and characterisation of the soils to be undertaken during investigation.</p> <p>Some fill may be unsuitable for use.</p>
		Project Budgets - Insufficient fill to complete earthworks.	Additional Costs, due to importation of fill or having to modify designs.	2	3	6	



Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
Unforeseen ground conditions - risk associated with limited data.	Ground investigation has been undertaken. However, additional information will be obtained during construction. Ground conditions are only defined at exploratory hole locations.	All aspects of the development		3	4	12	<p>Designers to be contacted if conditions encountered are different to those identified during investigation.</p> <p>Regular inspections of excavations and earthworks for evidence of stability.</p> <p>Adequate investigation required to characterise the site and understand the potential risks.</p>

Whilst the probability and impact of the hazard occurring can be reduced to a minimum by geotechnical design, the impact cannot be reduced below very low. The risk register will need to be up-dated, as necessary, to reflect design, additional information, data and experience as it is gained through the construction process.

Impacts of the design with regard to health and Safety considerations will need to be included by the designer at design stage.



Appendix I Plausible Source-Pathway-Receptor Contaminant Linkages



Summary of potential contaminant linkages

Table I.2 lists the plausible contaminant linkages which have been identified. These are considered as potentially unacceptable risks in line with guidelines published in LCRM (2019) and additional risk assessment is required.

Source – Pathway – Receptor Linkages have been assessed in general accordance with guidance in CIRIA Report C552 (Rudland *et al* 2001) but modified to add a 'no linkage' category and to remove low/moderate risk (See Table I.1).

It should be noted that whilst the risk assessment process undertaken in this report may identify potential risks to site demolition and redevelopment workers, consideration of occupational health and safety issues is beyond the scope of this report and need to be considered separately in the Construction Phase Health and Safety Plan.

Table I.1: Consequence versus probability assessment.

Probability	Consequence				
		Severe	Medium	Mild	Minor
	High Likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Low risk	Very low risk
	Low Likelihood	Moderate risk	Low risk	Low risk	Very low risk
	Unlikely	Low risk	Very low risk	Very low risk	Very low risk
	No Linkage	No risk			



Table I.2: Exposure model – final source-pathway-receptor contaminant linkages

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments
Made Ground, associated with historical landfill activities, historical mining and current earthworks/construction works (on and off site), possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons (S1, S3, S4).	Ingestion, inhalation or direct contact (P1)	Site users (R1)	Low likelihood	Medium	Low	No exceedances on any of the chemicals of potential concern, asbestos or petroleum hydrocarbons above the GAC were detected during ground investigation. the risk for human health in regards chemicals of potential concern is considered very low.
	Inhalation of fugitive dust (P1)	Neighbours (R1)	Low likelihood	Medium	Low	The risk of significant generation of dust is likely only during site development process and can therefore be controlled.
	Leaching through unsaturated zone (P5)	Groundwater and possible abstractors (R3)	Low likelihood	Medium	Low	Exceedances on cobalt and cadmium across the entire site within the natural strata. As no evidence of artificial accumulations of these substances, the risk to controlled waters is considered low. Single exceedances on chromium III, iron and selenium were detected when compared to the relevant EQS/DWS. However, groundwater samples collected down gradient have shown no exceedances in these determinands, indicating contamination is not migrating through the ground and in consequence, it does not pose a risk neither to groundwater body nor to the surface water features located to the east and southwest of the site.
	Surface run-off (P6)	Aquatic ecosystems (R8).	Low likelihood	Medium	Low	Surface water samples from Hermitage Stream were collected from upstream, midstream and downstream of the site as part of the Controlled waters and ground gas report (reference 19453-HYD-XX-XX-RP-GE-1006). Results indicate this surface water does not present exceedances when compared to the EQS, and therefore, the risk to surface waters and its ecosystem is considered low.
	Base flow from contaminated groundwater (P8)	Surface water(R4) and possible abstractors	Low likelihood	Medium	Low	



Dunsbury Park, Plot 600

Appendix I Plausible Source-Pathway-Receptor Contaminant Linkages

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments
	Root uptake (P4)	Landscape planting (R5)	Unlikely	Minor	Very Low	Root uptake is possible in gardens and areas of Public Open Space (POS). Exceedances on zinc and copper were detected at Plots 100 and 700 within the made ground. However, as made ground is physically unsuitable as a growing medium, clean, imported subsoil and topsoil will be required in these areas.
	Direct contact (P2)	Water supply pipes (R2)	Unlikely	Medium	Low	Made Ground was present across the entire site, as well as a former landfill area covering a large proportion of the east and northern area of the site. However, no exceedances on PAH and petroleum hydrocarbons were detected in excess of the GAC. Direct contact with buried water supply pipes is therefore unlikely.
Ground gases (carbon dioxide and methane) from organic materials in the Made Ground / landfill / earthworks and Head Deposits (S2, S5).	Migration, and build up and asphyxiation (P3)	Site users (P1)	Low likelihood	Severe	Moderate	Plots 600 is precautionarily classified as CS2. Mitigation measures may be required in accordance with CS2 conditions subject to further risk assessment.
		Neighbours (R1)		Severe	Moderate	
	Migration, build up and explosion (P3)	Buildings on site (R2)	Low likelihood	Severe	Moderate	
		Buildings on adjacent sites (R2)				
Hydrocarbon vapours from potential VOC and petroleum hydrocarbon	Ingestion, inhalation or direct contact (P1)	Site users (R1)	No linkage		No risk	The tank was located at 110m N off-site and it was only recorded on historical mapping in 1970. It is not considered to pose a risk as there is no pathway between source.
		Neighbours (R1)				In terms of migration via leaching to the unsaturated zone, as it lies over London Clay Formation and this comprises generally



Dunsbury Park, Plot 600

Appendix I Plausible Source-Pathway-Receptor Contaminant Linkages

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments
spillages/leaks from unspecified tank located at 110m N of the site. (S6).	Leaching through unsaturated zone	Groundwater and possible abstractors (R3)	No linkage		No risk	cohesive soils, of unproductive strata, there is no link between source and receptor; therefore, risk level is considered negligible. Furthermore, the A3(M) is present at low elevation between the former tank and the site.
	Direct contact (P2)	Water supply pipes (R2)	No linkage		No risk	





Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

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