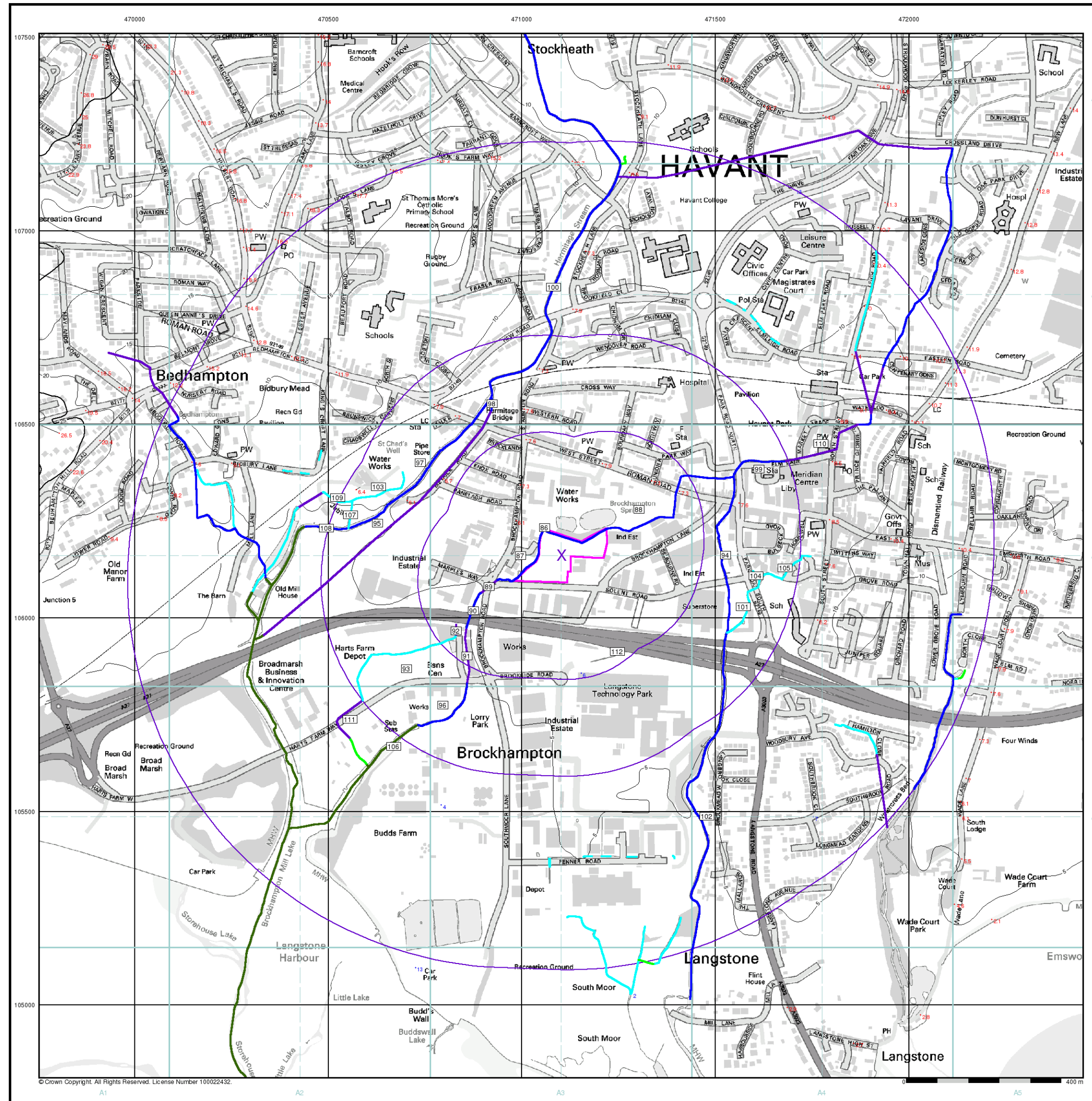




General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID

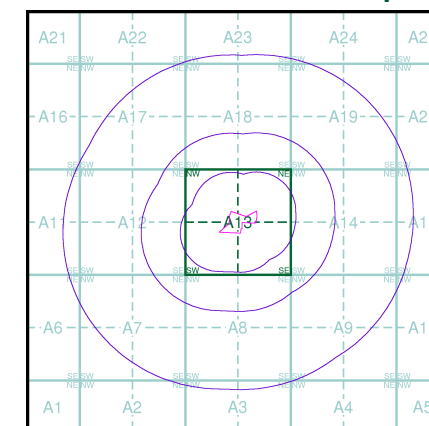
EA Detailed River Network Data

- Primary River
- Secondary River
- Tertiary River
- Canal
- Canal Tunnel
- Undefined River
- Lake/Reservoir
- Offline Drainage Feature
- Extended Culvert (greater than 50m)
- Underground River (inferred)
- Underground River (local knowledge)
- Downstream of High Water Mark
- Downstream of Seaward Extension
- Not assigned River feature

Contours (height in metres)

- Standard Contour
- Index Contour
- Spot Height
- Air Height

EA Detailed River Network Map - Slice A



Order Details

Order Number: 56545315_1_1
Customer Ref: 14252
National Grid Reference: 471100, 106160
Slice: A
Site Area (Ha): 1.7
Search Buffer (m): 1000

Site Details

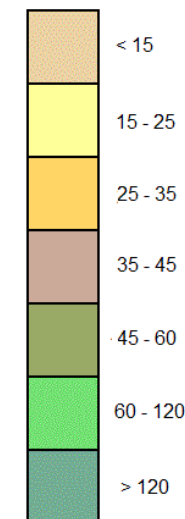
Land north of, Solent Road, HAVANT, Hampshire, PO9 1DQ

General

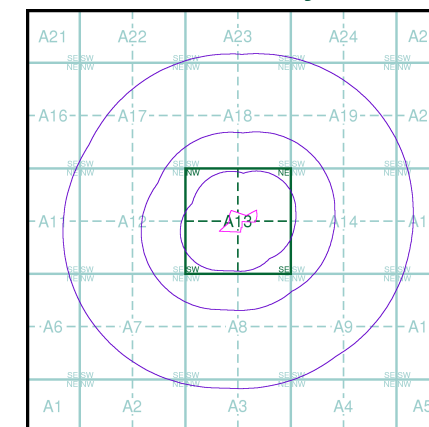
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg



Estimated Soil Chemistry Arsenic - Slice A

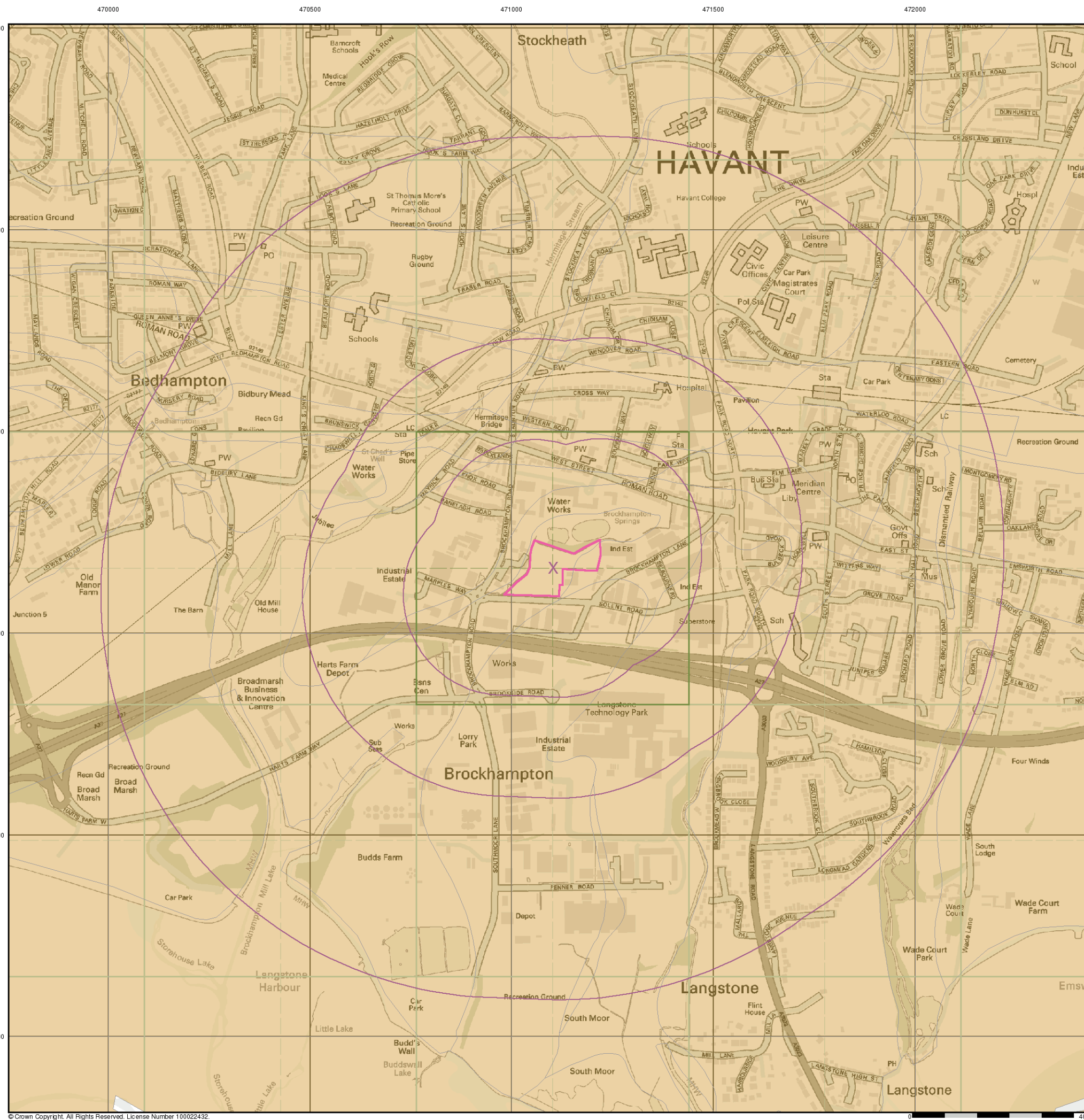


Order Details

Order Details: 56545315_1_1
Customer Ref: 14252
National Grid Reference: 471100, 106160
Slice: A
Site Area (Ha): 1.7
Search Buffer (m): 1000

Site Details

Land north of, Solent Road, HAVANT, Hampshire, PO9 1DQ

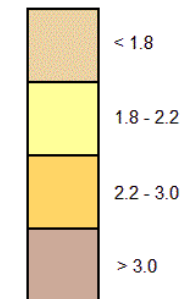


General

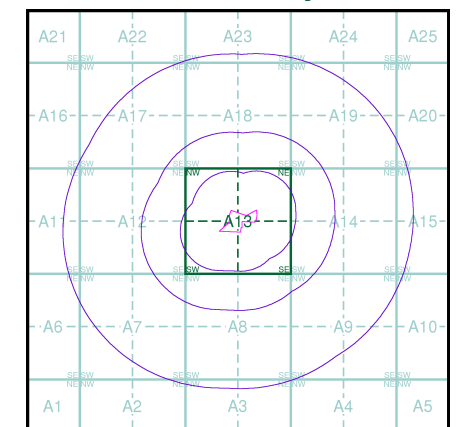
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A



Order Details

Order Details: 56545315_1_1
Customer Ref: 14252
National Grid Reference: 471100, 106160
Slice: A
Site Area (Ha): 1.7
Search Buffer (m): 1000

Site Details

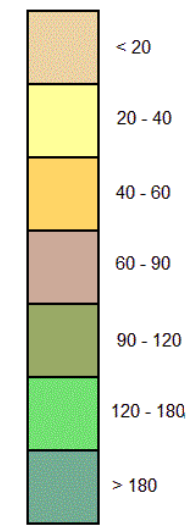
Land north of, Solent Road, HAVANT, Hampshire, PO9 1DQ

General

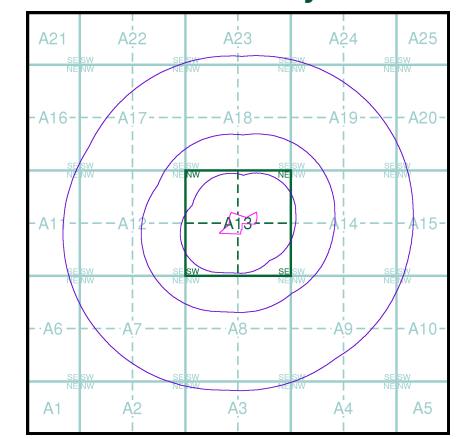
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A



Order Details

Order Details: 56545315_1_1
Customer Ref: 14252
National Grid Reference: 471100, 106160
Slice: A
Site Area (Ha): 1.7
Search Buffer (m): 1000

Site Details

Land north of, Solent Road, HAVANT, Hampshire, PO9 1DQ

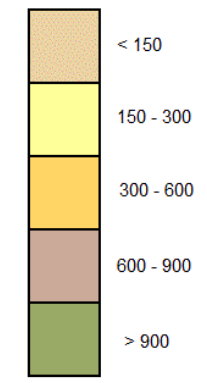


General

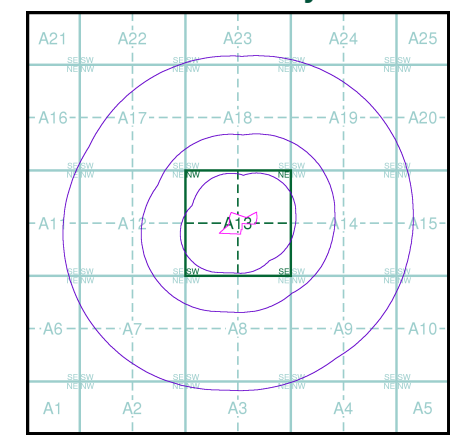
- Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A

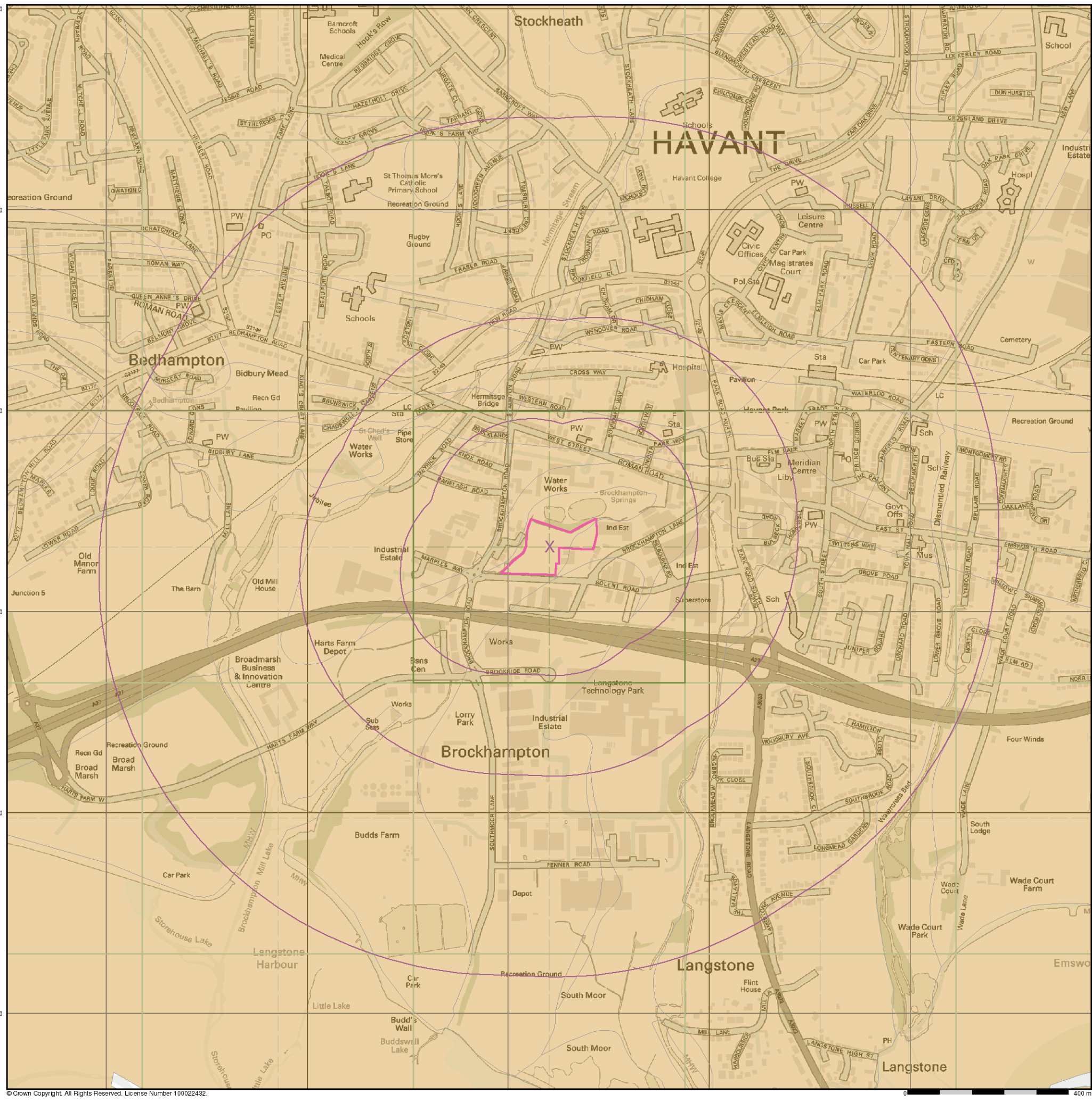


Order Details

Order Details: 56545315_1_1
Customer Ref: 14252
National Grid Reference: 471100, 106160
Slice: A
Site Area (Ha): 1.7
Search Buffer (m): 1000

Site Details

Land north of, Solent Road, HAVANT, Hampshire, PO9 1DQ

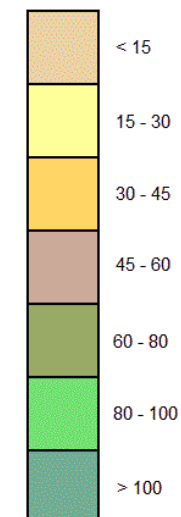


General

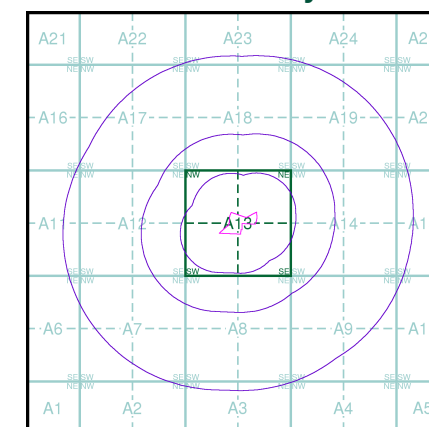
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A



Order Details

Order Details: 56545315_1_1
Customer Ref: 14252
National Grid Reference: 471100, 106160
Slice: A
Site Area (Ha): 1.7
Search Buffer (m): 1000

Site Details

Land north of, Solent Road, HAVANT, Hampshire, PO9 1DQ

Appendix D
Site Photographs

Photo 1.



Photo 2.



Photo 3.



Photo 4.



Appendix E

Risk Assessment Criteria

The classification presented in Tables A1-A4 below are modified from, 'Contaminated land risk assessment: A guide to good practice, 2001, CIRIA C552'.

Table A. 1. Classification Of Consequence

Classification	Definition
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environmental Protection Act 1990, Part IIA. Short term risk of pollution (note: Water Recourses Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).
Medium	Chronic damage to Human Health ("significant harm" as defined in DETR, 2000). Pollution of sensitive water recourse (note: Water Recourses Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).
Mild	Pollution of non-sensitive water recourses. Significant damage to crops, buildings, structures and services ("significant harm" as defined in the Draft Circular on Contaminated Land, DETR, 2000).
	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc).

Table A. 2. Classification Of Probability

Classification	Definition
High likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptors of harm or pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable but possible in the short term and likely over the long term.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the short term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the long term.

Table A. 3. Comparison Of Consequence Against Probability

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

Table A. 4. Risk Classifications

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

Table A. 4. Risk Classifications

High	Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.
Medium	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.
Low	It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.
Very low	It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or .
None	No potential risk if no pollution linkage has been established.

Appendix F – Borehole Logs and SPT Calibration Certificates

KEY TO BOREHOLE AND TRIAL PIT LOGS

MATERIAL LEGENDS

	Topsoil		Made Ground		Bituminous Material
	Concrete		Clay		Silt
	Sand		Gravel		Peat
	Cobbles		Boulders		Mudstone
	Siltstone		Sandstone		Limestone
	Chalk		Coal		Breccia
	Conglomerate		Igneous		Metamorphic
	Pyroclastic (volcanic ash)		Gypsum		Shale
	Ironstone		Bedrock (Unidentified)		Void

INSTALLATION/BACKFILL LEGENDS

	Sand		Gravel		Bentonite/Grout
	Arisings		Concrete		Plain Pipe
	Slotted Pipe				

Legend symbols in general accordance with BS 5930:1999+A2:2010 and standard industry practice.

KEY TO BOREHOLE AND TRIAL PIT LOGS

SAMPLE TYPES

ACM	Asbestos Containing Material Sample
B	Bulk Disturbed Sample
BLK	Block Sample
C	Core Sample
CBR	Undisturbed Sample for California Bearing Ratio Test – 154mm diameter
D	Disturbed Sample - Tub
ES	Soil Sample for Environmental Testing
EW	Water Sample for Environmental Testing
G	Gas Sample
U	Undisturbed Driven Tube Sample – 70/102mm diameter, 450mm long
W	Water Sample

TEST TYPES

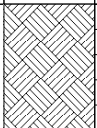
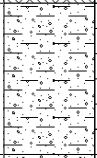
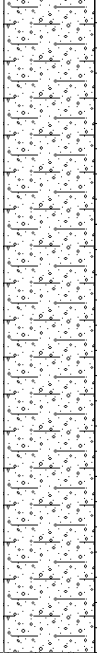
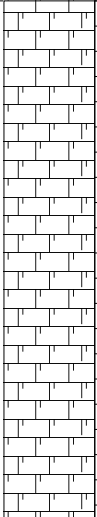
CPT	Cone Penetrometer Test (kN/m ²)
FID	Flame Ionisation Detector Test (ppm)
HV	In-Situ Hand Sheer Vane Test (kN/m ²)
PID	Photoionisation Detector Test (ppm)
SPT (S)	Standard Penetration Test – Split Spoon Sampler
SPT (C)	Standard Penetration Test – Solid 60 Degree Cone

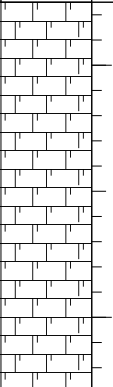
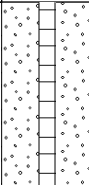
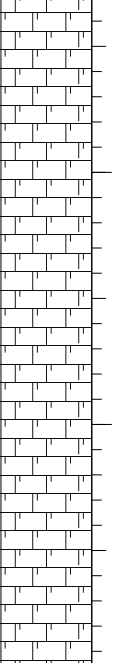
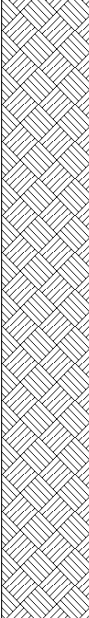
CORE DETAILS

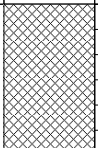
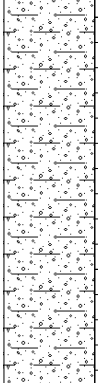
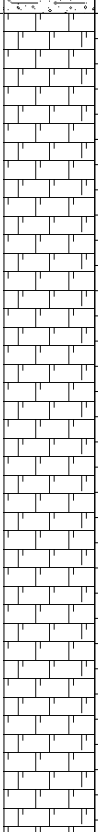
If	Fracture Spacing (mm) – Minimum, Average, Maximum
NI	Non-Intact where >25 fracture spacings per metre
TCR	Total Core Recovery (%)
SCR	Solid Core Recovery (%)
RQD	Rock Quality Designation (%)
AF	Air Flush Return (%)
WF	Water Flush Return (%)

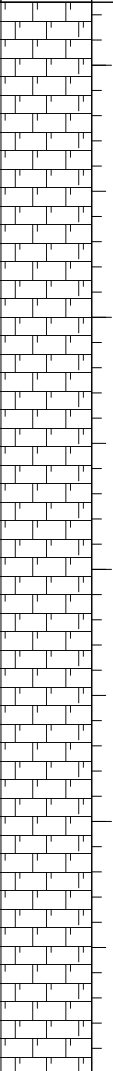
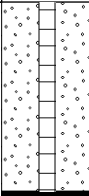
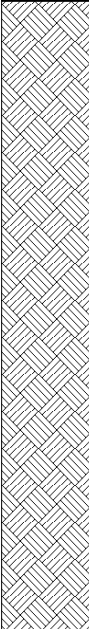
WATER COLUMN DETAILS

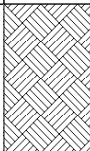
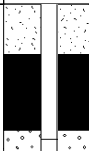
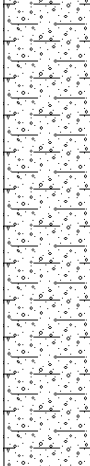
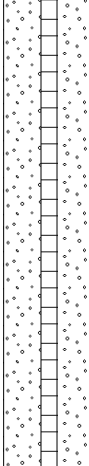
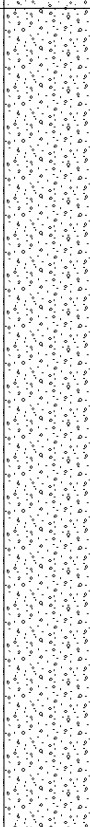
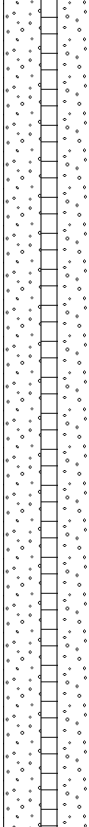
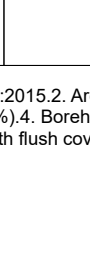
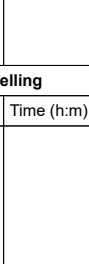
	Water Strike
	Water Level

 Environment - Health & Safety - Sustainability Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 19-1058.01		Hole ID: BH101		Page: 1 of 2			
					Project: Solent Road, Havant							
Cable Percussive Borehole Log					Date: 13/11/2019		Client: Chancerygate (Business Centre) Ltd					
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details			Test Details		Backfill
							Depth (m)	Type	Ref	Depth (m)	Results	
GRASS OVER: Soft brown slightly sandy gravelly clay. Sand is fine to medium. Gravel is subangular to subrounded fine to coarse flint with frequent flint cobbles. Abundant fine rootlets. (TOPSOIL).		0.50	(0.50)	4.67			0.30	ES	1			
Soft whitish grey slightly sandy gravelly CLAY. Sand is fine to medium. Gravel is angular to subrounded fine to coarse flint with occasional flint cobbles. (ALLUVIUM)		1.10	(0.60)	4.07		0.80 1.00	0.50	B	1			
Medium-dense, becoming very loose at 2.5 m bgl and medium-dense at 3.5 m bgl, yellow clayey very sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse flint. (HEAD DEPOSITS)		3.70	(2.60)	1.47		3.70	1.00	D	2			
							1.50 - 2.00	B	3	1.50	SPT(C)N=10 (1,2/2,3,2,3)	
							2.00	D	4			
							2.50 - 3.00	B	5	2.50	SPT(C)N=3 (1,1/1,1,1,0)	
							3.00	D	6			
Medium-dense brownish yellow very clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse flint and chalk. (WEATHERED CHALK FORMATIONS)			(3.60)				3.50 - 4.00	B	7	3.50	SPT(C)N=11 (1,1/1,2,3,5)	
							4.00	D	8			
							4.50 - 5.00	B	9	4.50	SPT(C)N=12 (1,0/2,2,3,5)	
							5.00	D	10			
							5.50 - 6.00	B	11	5.50	SPT(C)N=14 (1,2/3,3,4,4)	
Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. SPT Hammer ID SEDS3 (Er=64%).4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. Depths of strata taken from drillers logs.					Water Stike			Water Level		Chiselling		
					Date	Time	Strike	Duration	Standing	Depth (m)	Time (h:m)	
							1.00 m 3.70 m	20 min 20 min	0.80 m			
Coordinates: E471124.53 N106177.84		Elevation (mAOD): 5.17		Drilled By: South Eastern Drilling Services Ltd		Plant Used: Dando D4000		Logged: AN	Checked: GT	Approved: PB	Scale (m): 1:30	

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 19-1058.01		Hole ID: BH101		Page: 2 of 2									
					Project: Solent Road, Havant													
Cable Percussive Borehole Log					Date: 13/11/2019		Client: Chancerygate (Business Centre) Ltd											
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details			Test Details		Backfill						
							Depth (m)	Type	Ref	Depth (m)	Results							
Medium-dense brownish yellow very clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse flint and chalk. (WEATHERED CHALK FORMATIONS)		7.30		-2.13			6.50	D	12									
Structureless CHALK composed of cream slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded extremely weak low density white. Frequent flint gravel. (Grade Dm). (WEATHERED CHALK FORMATIONS)			(2.70)				7.00 - 7.50	B	13	7.00	SPT(C)N=10 (1,1/1,2,3,4)							
							8.00	D	14									
							8.50	S	15	8.50	SPT(S)N=7 (1,1/1,2,2,2)							
							9.50	D	16									
		10.00		-4.83			10.00	S	17	10.00	SPT(S)N=9 (1,1/1,2,3,3)							
Borehole complete at 10.00 m bgl.																		
Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. SPT Hammer ID SEDS3 (Er=64%).4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. Depths of strata taken from drillers logs.					Water Stike			Water Level		Chiselling								
					Date	Time	Strike	Duration	Standing	Depth (m)	Time (h:m)							
							1.00 m 3.70 m	20 min 20 min	0.80 m									
Coordinates: E471124.53 N106177.84					Elevation (mAOD): 5.17		Drilled By: South Eastern Drilling Services Ltd		Plant Used: Dando D4000		Logged: AN		Checked: GT		Approved: PB		Scale (m): 1:30	

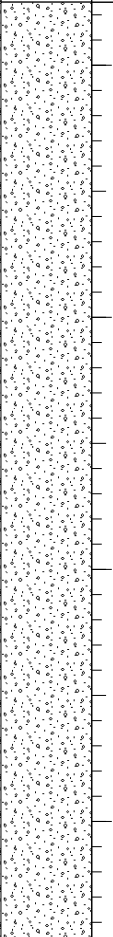
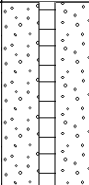
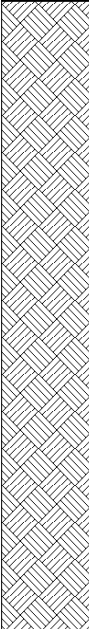
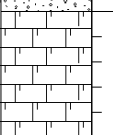
 Environment - Health & Safety - Sustainability Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 19-1058.01		Hole ID: BH102		Page: 1 of 2			
					Project: Solent Road, Havant							
Cable Percussive Borehole Log					Date: 14/11/2019		Client: Chancerygate (Business Centre) Ltd					
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details			Test Details		Backfill
							Depth (m)	Type	Ref	Depth (m)	Results	
GRASS OVER: MADE GROUND: Soft dark brown slightly gravelly slightly sandy clay. Sand is fine to medium. Gravel is angular to subangular fine to coarse flint and brick. Frequent rootlets.			(0.60)					0.50	D	1		
Brownish grey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse flint. (ALLUVIUM)		0.60	(0.20)	4.80								
Loose light brown slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse flint. (HEAD DEPOSITS)		0.80		4.60		0.80 1.00		1.00	D	2		
			(1.70)			1.50		1.50 - 2.00	B	3	1.50	SPT(C)N=5 (1,0/1,1,1,2)
								2.00	D	4		
		2.50		2.90				2.50 - 3.00	B	5	2.50	SPT(C)N=10 (1,1/2,2,3,3)
Structureless CHALK composed of cream slightly sandy gravelly CLAY. Gravel is angular to subrounded extremely weak low density white. Frequent flint gravel. (Grade Dm). (WEATHERED CHALK FORMATIONS)								3.00	D	6		
								3.50 - 4.00	B	7	3.50	SPT(C)N=7 (1,0/1,1,2,3)
								4.00	D	8		
								4.50	S	9	4.50	SPT(S)N=4 (2,1/1,0,1,2)
						5.00		5.00	D	10		
								5.50	S	11	5.50	SPT(S)N=4 (1,0/1,1,1,1)
Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. SPT Hammer ID SEDS3 (Er=64%).4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. Depths of strata taken from drillers logs.					Water Stike			Water Level		Chiselling		
					Date	Time	Strike	Duration	Standing	Depth (m)	Time (h:m)	
							1.00 m 5.00 m	20 min 20 min	0.80 m 1.50 m			
Coordinates: E471163.30 N106170.71		Elevation (mAOD): 5.40		Drilled By: South Eastern Drilling Services Ltd		Plant Used: Dando D4000		Logged: AN	Checked: GT	Approved: PB	Scale (m): 1:30	

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 19-1058.01		Hole ID: BH102		Page: 2 of 2			
					Project: Solent Road, Havant							
Cable Percussive Borehole Log					Date: 14/11/2019		Client: Chancerygate (Business Centre) Ltd					
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details			Test Details		Backfill
							Depth (m)	Type	Ref	Depth (m)	Results	
Structureless CHALK composed of cream slightly sandy gravelly CLAY. Gravel is angular to subrounded extremely weak low density white. Frequent flint gravel. (Grade Dm). (WEATHERED CHALK FORMATIONS)			(7.50)				6.50	D	12	7.00	SPT(S)N=6 (1,1/1,1,2,2)	
							7.00	S	13			
							8.00	D	14			
							8.50	S	15			
							9.50	D	16			
Borehole complete at 10.00 m bgl.		10.00		-4.60			10.00	S	17	10.00	SPT(S)N=8 (1,1/1,2,2,3)	
Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. SPT Hammer ID SEDS3 (Er=64%).4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. Depths of strata taken from drillers logs.					Water Stike			Water Level		Chiselling		
					Date	Time	Strike	Duration	Standing	Depth (m)	Time (h:m)	
							1.00 m 5.00 m	20 min 20 min	0.80 m 1.50 m			
Coordinates: E471163.30 N106170.71		Elevation (mAOD): 5.40		Drilled By: South Eastern Drilling Services Ltd		Plant Used: Dando D4000		Logged: AN	Checked: GT	Approved: PB	Scale (m): 1:30	

 Environment - Health & Safety - Sustainability Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 19-1058.01		Hole ID: BH103		Page: 1 of 2			
					Project: Solent Road, Havant							
Cable Percussive Borehole Log					Date: 14/11/2019 - 15/11/2019		Client: Chancerygate (Business Centre) Ltd					
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details			Test Details		Backfill
							Depth (m)	Type	Ref	Depth (m)	Results	
GRASS OVER: Soft brown slightly gravelly sandy clay. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse flint with occasional flint cobbles. Rootlets present. (TOPSOIL).		0.60	(0.60)	4.41		0.30 0.60	0.50	D	1			
Loose brownish grey clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint. (ALLUVIUM)		2.50	(1.90)	2.51			1.00	D	2			
Medium-dense, becoming loose at 3.5 m bgl, medium dense at 5.5 m bgl, dense at 7.0 m bgl and medium-dense at 8.5 m bgl, greyish brown SAND and GRAVEL. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint. (RIVER TERRACE DEPOSITS)							1.50 - 2.00	B	3	1.50	SPT(C)N=6 (1,0/1,1,2,2)	
							2.00	D	4			
							2.50 - 3.00	B	5	2.50	SPT(C)N=12 (1,2/4,3,2,3)	
							3.00	D	6			
							3.50 - 4.00	B	7	3.50	SPT(C)N=8 (2,1/2,2,2,2)	
							4.00	D	8			
							4.50 - 5.00	B	9	4.50	SPT(C)N=8 (2,2/2,1,2,3)	
							5.00	D	10			
							5.50 - 6.00	B	11	5.50	SPT(C)N=27 (2,5/6,7,7,7)	
Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. SPT Hammer ID SEDS3 (Er=64%).4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. Depths of strata taken from drillers logs.					Water Stike			Water Level		Chiselling		
					Date	Time	Strike	Duration	Standing	Depth (m)	Time (h:m)	
							0.60 m	20 min	0.30 m			
Coordinates: E471084.95 N106166.92		Elevation (mAOD): 5.01		Drilled By: South Eastern Drilling Services Ltd		Plant Used: Dando D4000		Logged: AN	Checked: GT	Approved: PB	Scale (m): 1:30	

Cable Percussive Borehole Log

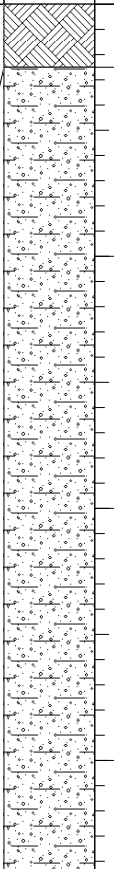
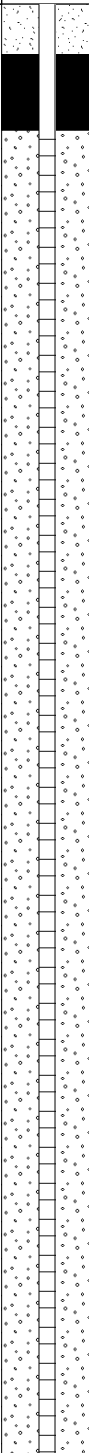
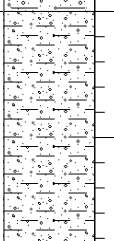
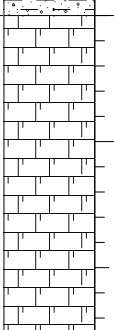
Date: **14/11/2019 - 15/11/2019** Client: **Chancerygate (Business Centre) Ltd**

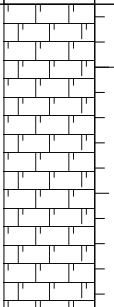
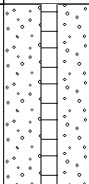
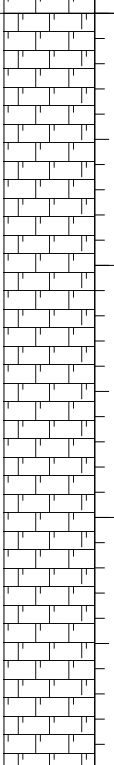
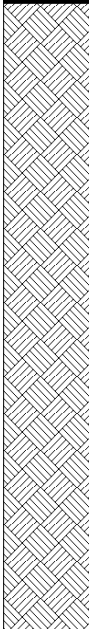
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details			Test Details		Backfill
							Depth (m)	Type	Ref	Depth (m)	Results	
Medium-dense, becoming loose at 3.5 m bgl, medium dense at 5.5 m bgl, dense at 7.0 m bgl and medium-dense at 8.5 m bgl, greyish brown SAND and GRAVEL. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint. (RIVER TERRACE DEPOSITS)							6.50	D	12			
							7.00 - 7.50	B	13	7.00	SPT(C)N=33 (6,9/10,10,7,6)	
			(7.00)				8.00	D	14			
							8.50 - 9.00	B	15	8.50	SPT(C)N=13 (1,1/2,2,5,4)	
		9.50		-4.49			9.50	D	16			
Structureless CHALK composed of cream slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded extremely weak low density white. Frequent flint gravel. (Grade Dm). (WEATHERED CHALK FORMATIONS)		10.00	(0.50)	-4.99			10.00	S	17	10.00	SPT(S)N=10 (2,1/1,2,4,3)	
Borehole complete at 10.00 m bgl.												

Remarks:
1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. SPT Hammer ID SEDS3 (Er=64%).4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. Depths of strata taken from drillers logs.

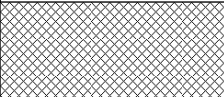
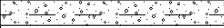
Water Stike			Water Level		Chiselling	
Date	Time	Strike	Duration	Standing	Depth (m)	Time (h:m)
		0.60 m	20 min	0.30 m		

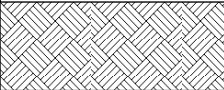
Coordinates: **E471084.95 N106166.92** Elevation (mAOD): **5.01** Drilled By: **South Eastern Drilling Services Ltd** Plant Used: **Dando D4000** Logged: **AN** Checked: **GT** Approved: **PB** Scale (m): **1:30**

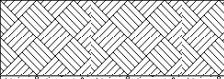
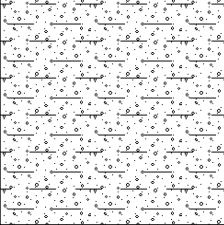
 deltasimons Environment - Health & Safety - Sustainability Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 19-1058.01		Hole ID: BH104		Page: 1 of 2				
					Project: Solent Road, Havant								
Cable Percussive Borehole Log					Date: 15/11/2019		Client: Chancerygate (Business Centre) Ltd						
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details			Test Details		Backfill	
							Depth (m)	Type	Ref	Depth (m)	Results		
GRASS OVER: Soft brown slightly sandy slightly gravelly clay. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse flint with frequent flint cobbles. Abundant fine rootlets. (TOPSOIL). Medium-dense greyish brown clayey very sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint. (ALLUVIUM)		0.25	(0.25)	4.86		0.60 1.00 4.50	0.50	D	1	1.50	SPT(C)N=14 (2,4/2,4,4,4)		
Firm greyish brown very sandy very gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint. (HEAD DEPOSITS)		3.50		1.61			3.50 - 4.00	B	7	3.50	SPT(C)N=16 (1,4/4,5,4,3)		
			(1.00)					4.00	D	8			
Medium-dense yellowish brown very clayey GRAVEL. Gravel is angular to subrounded fine to coarse chalk. (WEATHERED CHALK FORMATIONS)		4.50		0.61			4.50 - 5.00	B	9	4.50	SPT(C)N=17 (1,3/4,4,4,5)		
								5.00	D	10			
								5.50 - 6.00	B	11	5.50	SPT(C)N=17 (2,4/4,5,4,4)	
Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. SPT Hammer ID SEDS3 (Er=64%).4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. Depths of strata taken from drillers logs.					Water Stike			Water Level		Chiselling			
					Date	Time	Strike	Duration	Standing	Depth (m)	Time (h:m)		
							1.00 m 7.00 m	20 min 20 min	0.60 m 4.50 m				
Coordinates: E471091.18 N106134.42		Elevation (mAOD): 5.11		Drilled By: South Eastern Drilling Services Ltd		Plant Used: Dando D4000		Logged: AN	Checked: GT	Approved: PB	Scale (m): 1:30		

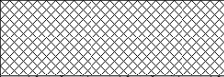
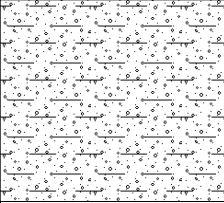
 Environment - Health & Safety - Sustainability Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com					Project No: 19-1058.01		Hole ID: BH104		Page: 2 of 2					
					Project: Solent Road, Havant									
Cable Percussive Borehole Log					Date: 15/11/2019		Client: Chancerygate (Business Centre) Ltd							
Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details			Test Details		Backfill		
							Depth (m)	Type	Ref	Depth (m)	Results			
Medium-dense yellowish brown very clayey GRAVEL. Gravel is angular to subrounded fine to coarse chalk. (WEATHERED CHALK FORMATIONS)		7.00	(2.50)	-1.89			6.50	D	12	7.00	SPT(C)N=5 (1,1/1,1,2,1)			
Structureless CHALK composed of cream slightly sandy gravelly CLAY. Gravel is angular to subrounded extremely weak low density white. (Grade Dm). (WEATHERED CHALK FORMATIONS)			(3.00)				7.00 - 7.50	B	13					
		10.00	(3.00)	-4.89			8.00	D	14			8.50	SPT(S)N=4 (1,0/1,0,1,2)	
							8.50	S	15					
		10.00	(3.00)	-4.89			9.50	D	16			10.00	SPT(S)N=5 (1,2/1,2,1,1)	
							10.00	S	17					
Borehole complete at 10.00 m bgl.														
Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. SPT Hammer ID SEDS3 (Er=64%).4. Borehole installed with 50mm diameter standpipe, gas bung and lockable traffic strength flush cover.5. Depths of strata taken from drillers logs.					Water Stike			Water Level		Chiselling				
					Date	Time	Strike	Duration	Standing	Depth (m)	Time (h:m)			
							1.00 m 7.00 m	20 min 20 min	0.60 m 4.50 m					
Coordinates: E471091.18 N106134.42		Elevation (mAOD): 5.11		Drilled By: South Eastern Drilling Services Ltd		Plant Used: Dando D4000		Logged: AN	Checked: GT	Approved: PB	Scale (m): 1:30			

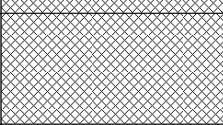


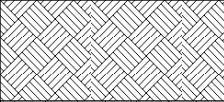
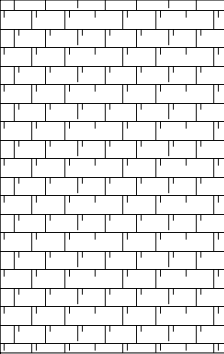
 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com		Project No: 19-1058.01		Hole ID: HP102		Page: 1 of 1		
		Project: Solent Road, Havant						
Hand Dug Trial Pit Log				Date: 14/11/2019		Client: Chancerygate (Business Centre) Ltd		
Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details		Test Details	
					Depth (m)	Type Ref	Depth (m)	Results
GRASS OVER: MADE GROUND: Soft dark brown slightly sandy gravelly clay. Sand is fine to medium. Gravel is subangular to subrounded fine to medium flint. Rare ceramic fragments present.		0.40			0.30	ES 1		
Greyish brown clayey sandy GRAVEL. Sand is fine to medium. Gravel is angular to subrounded fine to coarse flint with occasional flint cobbles. (ALLUVIUM)		0.50						
Hand pit complete at 0.50 m bgl.								
Dimensions and Orientation: 				Bearing: Inclination:		Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. Excavation backfilled with arisings.		
Coordinates:	Elevation (mAOD):	Excavated By: Delta Simons		Plant Used: Hand Tools		Logged: AN	Checked: GT	Approved: PB
						Scale: 1:30		

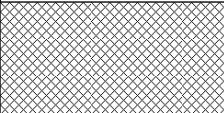
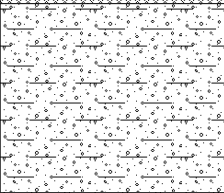
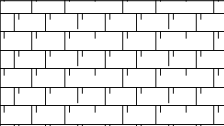
 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com		Project No: 19-1058.01		Hole ID: HP103		Page: 1 of 1		
		Project: Solent Road, Havant						
Hand Dug Trial Pit Log				Date: 14/11/2019		Client: Chancerygate (Business Centre) Ltd		
Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details		Test Details	
					Depth (m)	Type Ref	Depth (m)	Results
GRASS OVER: Soft dark brown slightly sandy gravelly clay. Sand is fine to medium. Gravel is angular to subangular fine to medium flint with occasional flint cobbles. Abundant rootlets. (TOPSOIL).		0.35			0.25	ES 1		
Grey clayey sandy GRAVEL. Sand is fine to medium. Gravel is subangular to subrounded fine to medium flint. (ALLUVIUM)		0.50						
Hand pit complete at 0.50 m bgl.								
Dimensions and Orientation: 				Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. Excavation backfilled with arisings.				
Coordinates:	Elevation (mAOD):	Excavated By: Delta Simons		Plant Used: Hand Tools		Logged: SS	Checked: GT	Approved: PB
						Scale: 1:30		

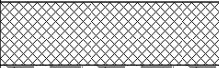
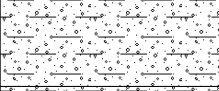
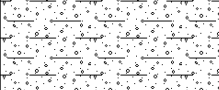
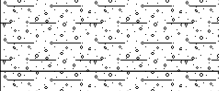
 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com		Project No: 19-1058.01		Hole ID: TP101		Page: 1 of 1					
Trial Pit Log		Date: 13/11/2019		Client: Chancerygate (Business Centre) Ltd							
Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details		Test Details				
					Depth (m)	Type Ref	Depth (m)	Results			
GRASS OVER: Soft brown slightly sandy gravelly clay. Sand is fine to medium. Gravel is subangular to subrounded fine to coarse flint with frequent flint cobbles. Abundant fine rootlets. (TOPSOIL).		0.30	4.83	0.80	0.25	ES 1					
Greyish brown slightly silty sandy clayey GRAVEL. Sand is fine to medium. Gravel is angular to subrounded fine to coarse flint with occasional flint cobbles. (ALLUVIUM)		1.20	3.93		1.00	B 1					
Trial pit complete at 1.20 m bgl.											
Dimensions and Orientation: Length = 1.80 m Width = 0.60 m 		Orientation: Inclination:		Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. Trial pit collapse at 1.8 m bgl.4. Excavation backfilled with arisings.							
Coordinates: E471084.15 N106183.99		Elevation (mAOD): 5.13		Excavated By: BPH Plant Hire		Plant Used: JCB 3CX		Logged: AN	Checked: GT	Approved: PB	Scale: 1:30

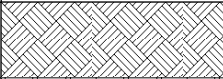
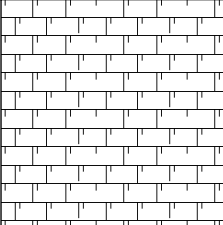
 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com		Project No: 19-1058.01		Hole ID: TP102		Page: 1 of 1		
		Project: Solent Road, Havant						
Trial Pit Log		Date: 15/11/2019		Client: Chancerygate (Business Centre) Ltd				
Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details		Test Details	
					Depth (m)	Type Ref	Depth (m)	Results
GRASS OVER: MADE GROUND: Soft brown sandy gravelly clay. Sand is fine to medium. Gravel is angular to subrounded fine to coarse flint. Abundant rootlets. Rare plastic.		0.30	4.93		0.25	ES 1		
Grey slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint with occasional flint cobbles. (ALLUVIUM)		1.10	4.14	1.10	1.00	B 1		
Trial pit complete at 1.10 m bgl.								
Dimensions and Orientation: Length = 2.00 m Width = 0.55 m 		Orientation: Inclination:		Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. Trial pit collapse at 1.1 m bgl.4. Excavation backfilled with arisings.				
Coordinates: E471143.14 N106171.84		Elevation (mAOD): 5.24		Excavated By: BPH Plant Hire		Plant Used: JCB 3CX		Logged: AN Checked: GT Approved: PB Scale: 1:30

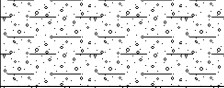
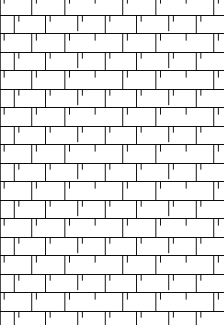
 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com		Project No: 19-1058.01		Hole ID: TP103		Page: 1 of 1		
		Project: Solent Road, Havant						
Trial Pit Log		Date: 14/11/2019		Client: Chancerygate (Business Centre) Ltd				
Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details		Test Details	
					Depth (m)	Type Ref	Depth (m)	Results
MADE GROUND: Macadam.		0.06	5.76		0.30	ES 1		
MADE GROUND: Brown gravel of angular to subangular fine to coarse sandstone.		0.50	5.32					
MADE GROUND: Soft dark brown slightly sandy slightly gravelly clay. Sand is fine to medium. Gravel is subangular fine to medium flint.		0.55	5.27					
Whitish grey clayey sandy GRAVEL. Sand is fine to medium. Gravel is angular to subrounded fine to coarse flint and chalk. (WEATHERED CHALK FORMATIONS)		1.50	4.32					
Trial pit complete at 1.50 m bgl.								
Dimensions and Orientation: Length = 1.70 m Width = 0.55 m 		Orientation:		Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. Trial pit converted to soakaway test pit.4. Excavation backfilled with 20 mm gravel overlain by arisings.				
		Inclination:						
Coordinates: E471196.72 N106178.06		Elevation (mAOD): 5.82		Excavated By: BPH Plant Hire		Plant Used: JCB 3CX		Logged: SS Checked: GT Approved: PB Scale: 1:30

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com		Project No: 19-1058.01		Hole ID: TP104		Page: 1 of 1		
		Project: Solent Road, Havant						
Trial Pit Log		Date: 13/11/2019		Client: Chancerygate (Business Centre) Ltd				
Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details		Test Details	
					Depth (m)	Type Ref	Depth (m)	Results
GRASS OVER: Soft brown slightly sandy gravelly clay. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse flint with frequent flint cobbles. Abundant fine rootlets. (TOPSOIL).		0.40	4.67		0.30	ES 1		
Whitish grey slightly silty clayey sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse flint and chalk. Rare plant remains. (WEATHERED CHALK FORMATIONS)		1.80	3.27	0.90	1.70	B 1		
Trial pit complete at 1.80 m bgl.								
Dimensions and Orientation: Length = 1.60 m Width = 0.50 m 				Orientation: Inclination: Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. Trial pit collapse at 1.8 m bgl.4. Excavation backfilled with arisings.				
Coordinates: E471109.09 N106167.93		Elevation (mAOD): 5.07		Excavated By: BPH Plant Hire		Plant Used: JCB 3CX		Logged: AN Checked: GT Approved: PB Scale: 1:30

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com		Project No: 19-1058.01		Hole ID: TP105		Page: 1 of 1		
		Project: Solent Road, Havant						
Trial Pit Log		Date: 13/11/2019		Client: Chancerygate (Business Centre) Ltd				
Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details		Test Details	
					Depth (m)	Type Ref	Depth (m)	Results
GRASS OVER: MADE GROUND: Soft brown slightly gravelly sandy clay. Sand is fine to coarse. Gravel is angular to subangular fine to coarse chalk, flint and brick with occasional flint cobbles. Ceramic fragments present.		0.45	4.44		0.40	ES 1		
Whitish grey slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint. (ALLUVIUM)		1.20	3.69					
Whitish yellow slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint and chalk. Occasional cobbles of flint. (WEATHERED CHALK FORMATIONS)		1.70	3.19					
Trial pit complete at 1.70 m bgl.								
Dimensions and Orientation: Length = 1.70 m Width = 0.50 m 		Orientation: Inclination:		Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. Trial pit collapse at 1.7 m bgl.4. Excavation backfilled with arisings.				
Coordinates: E471072.63 N106165.63	Elevation (mAOD): 4.89	Excavated By: BPH Plant Hire		Plant Used: JCB 3CX	Logged: SS	Checked: GT	Approved: PB	Scale: 1:30

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com		Project No: 19-1058.01		Hole ID: TP106		Page: 1 of 1		
		Project: Solent Road, Havant						
Trial Pit Log		Date: 13/11/2019		Client: Chancerygate (Business Centre) Ltd				
Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details		Test Details	
					Depth (m)	Type Ref	Depth (m)	Results
GRASS OVER: MADE GROUND: Soft brown slightly gravelly sandy clay. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint with occasional flint cobbles and clinker.		0.25	4.70		0.20	ES 1		
Greyish brown clayey sandy GRAVEL. Sand is fine to medium. Gravel is angular to subrounded fine to coarse flint with occasional flint cobbles.		0.60	4.34					
Whitish grey clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint. (ALLUVIUM)		1.25	3.70					
Light orange clayey very sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse flint. Occasional plant remains. (ALLUVIUM)		1.60	3.34					
Trial pit complete at 1.60 m bgl.					1.60	B 1		
Dimensions and Orientation: Length = 2.00 m Width = 0.55 m 		Orientation: Inclination:		Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. Trial pit collapse at 1.6 m bgl.4. Excavation backfilled with arisings.				
Coordinates: E471085.73 N106152.63	Elevation (mAOD): 4.94	Excavated By: BPH Plant Hire		Plant Used: JCB 3CX	Logged: SS	Checked: GT	Approved: PB	Scale: 1:30

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com		Project No: 19-1058.01		Hole ID: TP107		Page: 1 of 1		
		Project: Solent Road, Havant						
Trial Pit Log		Date: 15/11/2019		Client: Chancerygate (Business Centre) Ltd				
Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details		Test Details	
					Depth (m)	Type Ref	Depth (m)	Results
GRASS OVER: Soft dark brown slightly gravelly sandy clay. Sand is fine to medium. Gravel is angular to subrounded fine to coarse flint and chalk. Frequent fine rootlets. (TOPSOIL).		0.30	4.90		0.20	ES 1		
Greyish brown slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint and chalk. Occasional flint cobbles. (WEATHERED CHALK FORMATIONS)		1.20	4.00	1.20				
Trial pit complete at 1.20 m bgl.								
Dimensions and Orientation: Length = 2.00 m Width = 0.55 m 		Orientation: Inclination:		Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. Trial pit collapse at 1.2 m bgl.4. Excavation backfilled with arisings.				
Coordinates: E471113.40 N106133.30	Elevation (mAOD): 5.20	Excavated By: BPH Plant Hire		Plant Used: JCB 3CX	Logged: AN	Checked: GT	Approved: PB	Scale: 1:30

 Head Office 3 Henley Way, Doddington Road Lincoln, LN6 3QR Tel: +44 (0) 1522 882555 Email: info@deltasimons.com		Project No: 19-1058.01		Hole ID: TP108		Page: 1 of 1		
		Project: Solent Road, Havant						
Trial Pit Log		Date: 13/11/2019		Client: Chancerygate (Business Centre) Ltd				
Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details		Test Details	
					Depth (m)	Type Ref	Depth (m)	Results
Soft brown slightly sandy slightly gravelly clay. Sand is fine to medium. Gravel is angular to subangular fine to medium chalk and flint. Occasional rootlets. (TOPSOIL).		0.25	4.62		0.20	ES 1		
Greyish brown clayey sandy GRAVEL. Sand is fine to medium. Gravel is angular to subrounded fine to coarse flint. Occasional flint cobbles. (ALLUVIUM)		0.60	4.27					
Whitish grey clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse flint and chalk. Occasional plant remains. (WEATHERED CHALK FORMATIONS)		1.90	2.97		1.80	B 1		
Trial pit complete at 1.90 m bgl.								
Dimensions and Orientation: 				Orientation: Inclination:		Remarks: 1. Logged in general accordance with BS 5930:2015.2. Area cleared for services prior to excavating.3. Trial pit collapse at 1.9 m bgl.4. Excavation backfilled with arisings.		
Coordinates: E471073.03 N106146.27		Elevation (mAOD): 4.87		Excavated By: BPH Plant Hire		Plant Used: JCB 3CX		Logged: SS Checked: GT Approved: PB Scale: 1:30

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

Southern Testing
Keeble House
Stuart Way
East Grinstead
West Sussex
RH19 4QA

SPT Hammer Ref: SEDS3
Test Date: 04/05/2019
Report Date: 04/05/2019
File Name: SEDS3.spt
Test Operator: NPB

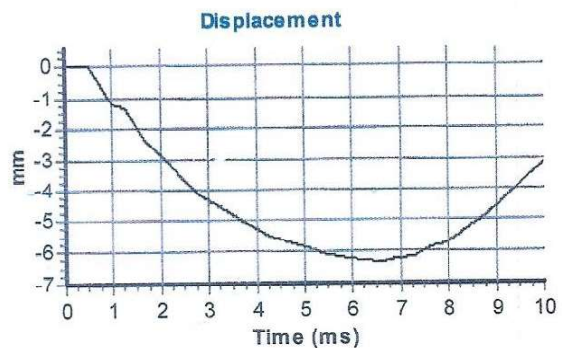
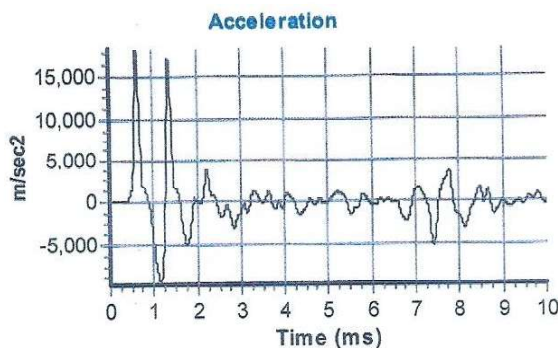
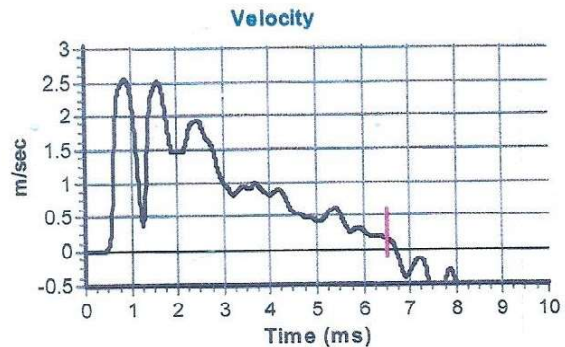
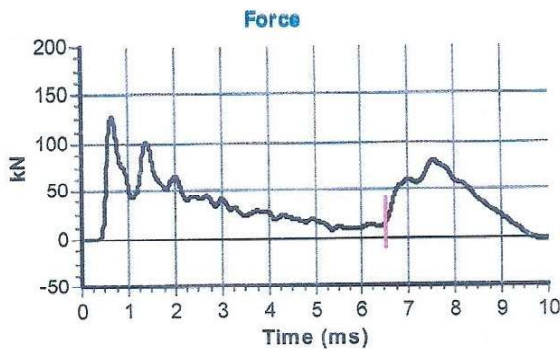
Instrumented Rod Data

Diameter d_r (mm): 54
Wall Thickness t_r (mm): 6.0
Assumed Modulus E_a (GPa): 200
Accelerometer No.1: 6458
Accelerometer No.2: 9607

SPT Hammer Information

Hammer Mass m (kg): 63.5
Falling Height h (mm): 760
SPT String Length L (m): 14.5

Comments / Location
CHARLWOODS



Calculations

Area of Rod A (mm²): 905
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 303

Energy Ratio E_r (%): **64**

Signed: Neil Burrows
Title: Field Operations Manager

The recommended calibration interval is 12 months

Appendix G – CBR Results

Material Description:	Grey Clay With Gravel	Date Tested:	14/11/2019
Test Location:	CBR1 - See Map	Supplier/Source:	Site Won
Weather	Overcast		

The graph displays the relationship between bearing pressure and settlement for two test cycles. The x-axis represents bearing pressure in kN/m², ranging from 0.00 to 50.00. The y-axis represents settlement in mm, ranging from 0.000 to 1.400, with the scale inverted so that 0.000 is at the top. Two red lines, labeled 'Test Cycle' in the legend, show the data. Test Cycle 1 starts at (0, 0.000) and ends at (44.4, 1.25). Test Cycle 2 starts at (0, 0.800) and ends at (44.4, 1.25). The data points for Test Cycle 1 are approximately (0, 0.000), (30, 0.250), (37, 0.500), (42, 0.800), (44, 1.000), and (44.4, 1.25). The data points for Test Cycle 2 are approximately (0, 0.800), (10, 0.900), (20, 1.000), (30, 1.100), (40, 1.200), and (44.4, 1.25).

Bearing Pressure (kN/m²)	Settlement (mm) - Test Cycle 1	Settlement (mm) - Test Cycle 2
0.00	0.000	0.800
30.00	0.250	1.100
37.00	0.500	1.200
42.00	0.800	1.250
44.00	1.000	1.250
44.40	1.250	1.250

Notes:	
--------	--

Material Description:	Gravel	Date Tested:	14/11/2019
Test Location:	CBR2 - See Map	Supplier/Source:	Site Won
Weather	Overcast		

The graph displays the relationship between bearing pressure and settlement for two different test cycles. The X-axis represents bearing pressure in kN/m^2 , and the Y-axis represents settlement in millimeters (mm). The red line with diamond markers represents the first test cycle, starting at (0, 0) and ending at (50.6, 1.25). The black line with diamond markers represents the second test cycle, starting at (0, 0.75) and ending at (50.6, 1.25). Both cycles show a significant increase in settlement as bearing pressure increases, with the second cycle showing a higher settlement for the same bearing pressure.

Bearing Pressure (kN/m^2)	Settlement (mm) - Red Line	Settlement (mm) - Black Line
0.00	0.000	0.750
30.00	0.280	1.000
35.00	0.550	1.050
42.00	0.750	1.100
48.00	1.050	1.150
50.60	1.250	1.250

Notes:	
--------	--

Material Description:	Gravel 10mm	Date Tested:	14/11/2019
Test Location:	CBR3 - See Map	Supplier/Source:	Site Won
Weather	Overcast		

The graph displays the relationship between bearing pressure and settlement for two different test cycles. The X-axis represents bearing pressure in kN/m^2 , ranging from 0.00 to 60.00. The Y-axis represents settlement in mm, ranging from 0.000 to 1.400, with the scale inverted so that 0.000 is at the top. The 'Test Cycle' (red line) shows a non-linear relationship, with settlement increasing rapidly after 31 kN/m^2 . The 'Design Cycle' (blue line) shows a linear relationship between bearing pressure and settlement.

Bearing Pressure (kN/m^2)	Settlement (mm) - Test Cycle	Settlement (mm) - Design Cycle
0.00	0.000	0.900
31.00	0.250	1.050
35.00	0.550	1.100
42.00	0.750	1.150
45.00	1.000	1.200
50.30	1.250	1.250

Notes:	
--------	--

Material Description:	Brown Clay	Date Tested:	14/11/2019
Test Location:	CBR4 - See Map	Supplier/Source:	Site Won
Weather	Overcast		

The graph displays the relationship between bearing pressure and settlement for two test cycles. The top x-axis represents bearing pressure in kN/m^2 , and the y-axis represents settlement in mm. The bottom x-axis is labeled 'Load Vs Settlement Data'.

Bearing Pressure (kN/m^2)	Settlement (mm) - Cycle 1 (Top)	Settlement (mm) - Cycle 2 (Bottom)
0.00	0.000	0.600
20.00	0.250	0.850
30.00	0.550	1.000
36.00	0.800	1.100
41.00	1.050	1.200
48.8	1.300	1.300

Notes:	
--------	--

Material Description:	Brown Clay	Date Tested:	14/11/2019
Test Location:	CBR5 - See Map	Supplier/Source:	Site Won
Weather	Overcast		

The graph displays the relationship between bearing pressure and settlement for a specific test cycle. The x-axis represents bearing pressure in kN/m², ranging from 0.00 to 40.00. The y-axis represents settlement in millimeters, ranging from 0.000 to 1.400. The data points are connected by a red line, showing a non-linear relationship where settlement increases rapidly as bearing pressure increases beyond 20.00 kN/m². The final data point is labeled with a settlement value of 34.4 mm.

Bearing Pressure (kN/m²)	Settlement (mm)
0.00	0.000
20.00	0.280
25.00	0.520
28.00	0.780
30.00	0.980
34.4	34.4

Notes:	
--------	--

Appendix H – Geotechnical Analysis Results



TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS



Environmental Science

4041

Tested in Accordance with: BS 1377-2: 1990: Clause 4.3 and 5

Client: Delta-Simons
Client Address: Castle Heights, 62-64 Maid Marian Way,
Nottingham, NG1 6BJ
Contact: Aidan Nelson
Site Name: Solent Road, Havant
Site Address: Not Given

Client Reference: 19-1058-01
Job Number: 19-72719
Date Sampled: 13/11/2019
Date Received: 15/11/2019
Date Tested: 22/11/2019
Sampled By: Not Given

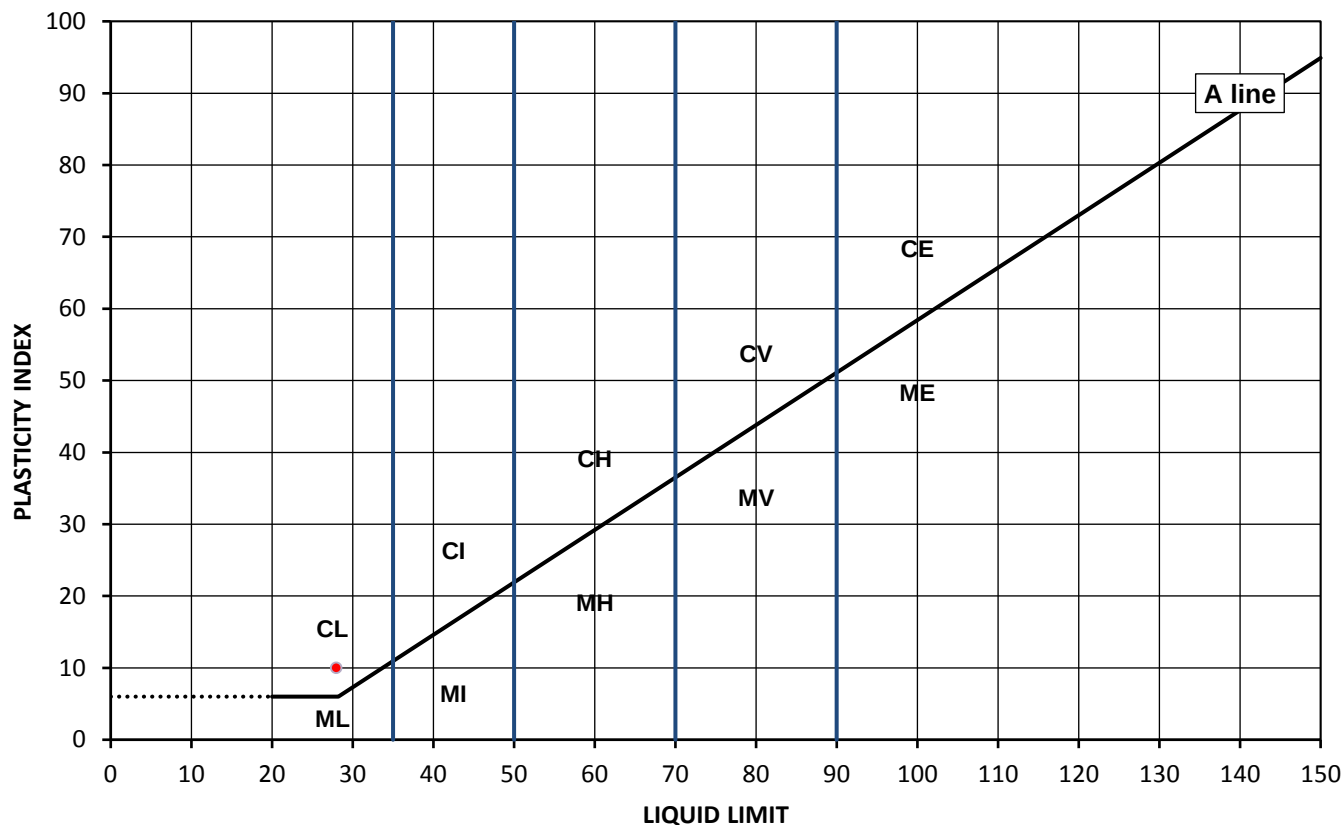
Test Results:

Laboratory Reference: 1366474
Hole No.: BH101
Sample Reference: D16
Soil Description: Cream colour slightly gravelly CLAY with fragments of chalk

Depth Top [m]: 9.50
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
28	28	18	10	84



Legend, based on BS 5930:2015 Code of practice for site investigations

C	Clay	Plasticity	Liquid Limit
M	Silt	L	Low
		I	Medium
		H	High
		V	Very high
		E	Extremely high
			below 35
			35 to 50
			50 to 70
			70 to 90
			exceeding 90
	Organic	O	append to classification for organic material (eg CHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 29/11/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd GF 236.5

*Opinions and interpretations expressed here in are outside of the scope of the UKAS Accreditation.
This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.
The results included within the report are representative of the samples submitted for analysis.
The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland.*

Any assessment of compliance with specifications based the analytical results in a report take in to account 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.



TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS



Environmental Science

4041

Tested in Accordance with: BS 1377-2: 1990: Clause 4.3 and 5

Client: Delta-Simons
Client Address: Castle Heights, 62-64 Maid Marian Way,
Nottingham, NG1 6BJ

Contact: Aidan Nelson
Site Name: Solent Road, Havant
Site Address: Not Given

Client Reference: 19-1058-01
Job Number: 19-72719
Date Sampled: 14/11/2019
Date Received: 15/11/2019
Date Tested: 22/11/2019
Sampled By: Not Given

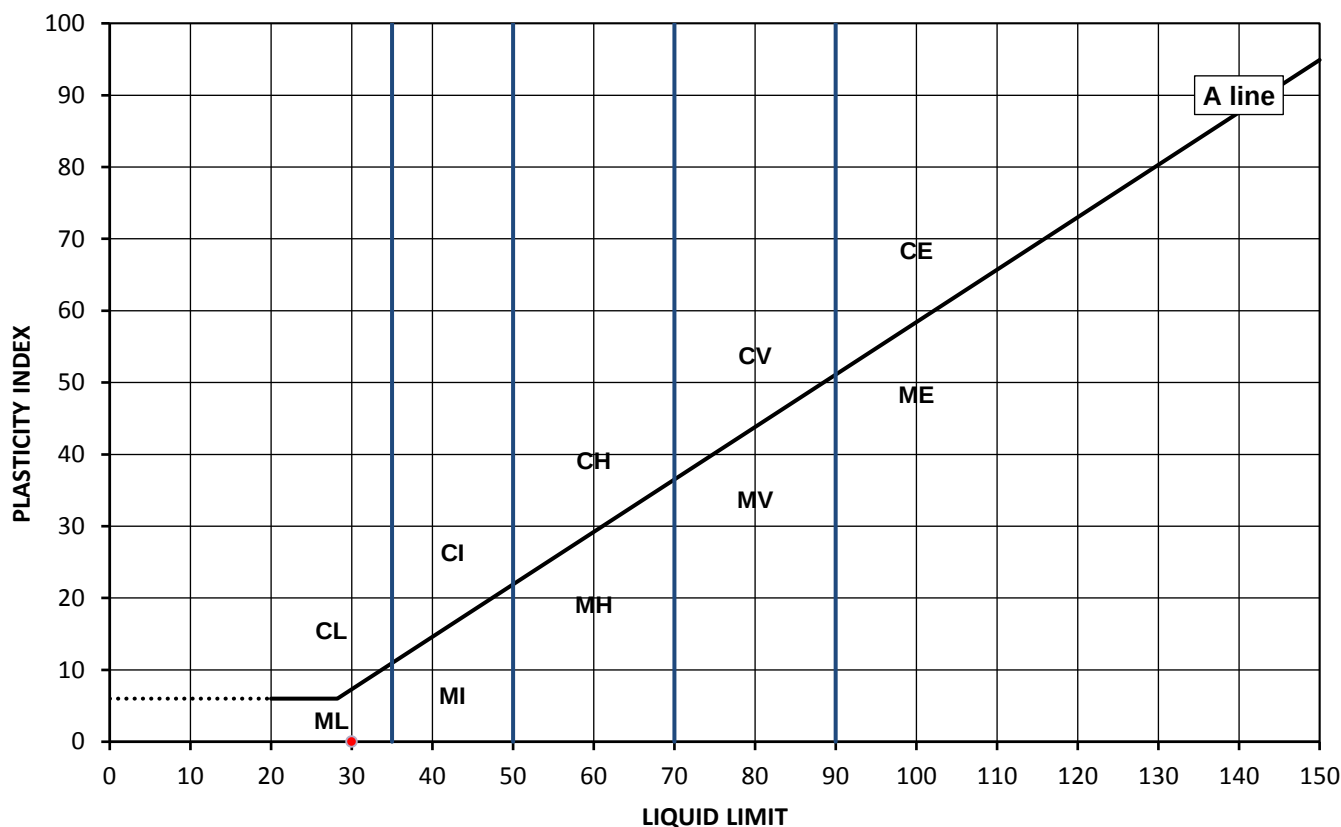
Test Results:

Laboratory Reference: 1366475
Hole No.: BH102
Sample Reference: D14
Soil Description: Cream colour CHALK with fragments of flintstones

Depth Top [m]: 8.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
23	30	NP	NP.	86



Legend, based on BS 5930:2015 Code of practice for site investigations

	Plasticity	Liquid Limit
C Clay	L Low	below 35
M Silt	I Medium	35 to 50
	H High	50 to 70
	V Very high	70 to 90
	E Extremely high	exceeding 90
Organic	O	append to classification for organic material (eg CHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: NP – non plastic

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 29/11/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd GF 236.5

*Opinions and interpretations expressed here in are outside of the scope of the UKAS Accreditation.
This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.
The results included within the report are representative of the samples submitted for analysis.
The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland.*



4041

Client: Delta-Simons
 Client Address: Castle Heights, 62-64 Maid Marian Way,
 Nottingham, NG1 6BJ

Contact: Aidan Nelson
 Site Name: Solent Road, Havant
 Site Address: Not Given

SUMMARY REPORT

Summary of Classification Test Results

Tested in Accordance with:

MC by BS 1377-2: 1990: Clause 3.2; WC by BS EN 17892-1: 2014; Atterberg
 by BS 1377-2: 1990: Clause 4.3, Clause 4.4 and 5; PD by BS 1377-2: 1990:
 Clause 8.2

i2 Analytical Ltd
 7 Woodshots Meadow
 Croxley Green Business Park
 Watford Herts WD18 8YS



Environmental Science

Client Reference: 19-1058-01
 Job Number: 19-72719
 Date Sampled: 13/11 - 14/11/2019
 Date Received: 15/11/2019
 Date Tested: 22/11/2019
 Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	MC	WC	Atterberg				Density			Total Porosity#		
		Reference	Depth Top m	Depth Base m	Type					% Passing 425um	LL	PL	PI	bulk Mg/m3	dry Mg/m3	PD Mg/m3			
1366474	BH101	D16	9.50	Not Given	D	Cream colour slightly gravelly CLAY with fragments of chalk	Atterberg 4 Point	28		84	28	18	10						
1366475	BH102	D14	8.00	Not Given	D	Cream colour CHALK with fragments of flintstones	Atterberg 4 Point	23		86	30	NP	NP						

Note: # Non accredited; NP - Non plastic

Comments:

Approved: Dariusz Piotrowski
 PL Geotechnical Laboratory Manager
 Date Reported: 29/11/2019

Signed:

Darren Berrill
 Geotechnical General Manager
 for and on behalf of i2 Analytical Ltd GF 238.7

"Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation.
 This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.
 The results included within the report are representative of the samples submitted for analysis.
 The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."



TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS



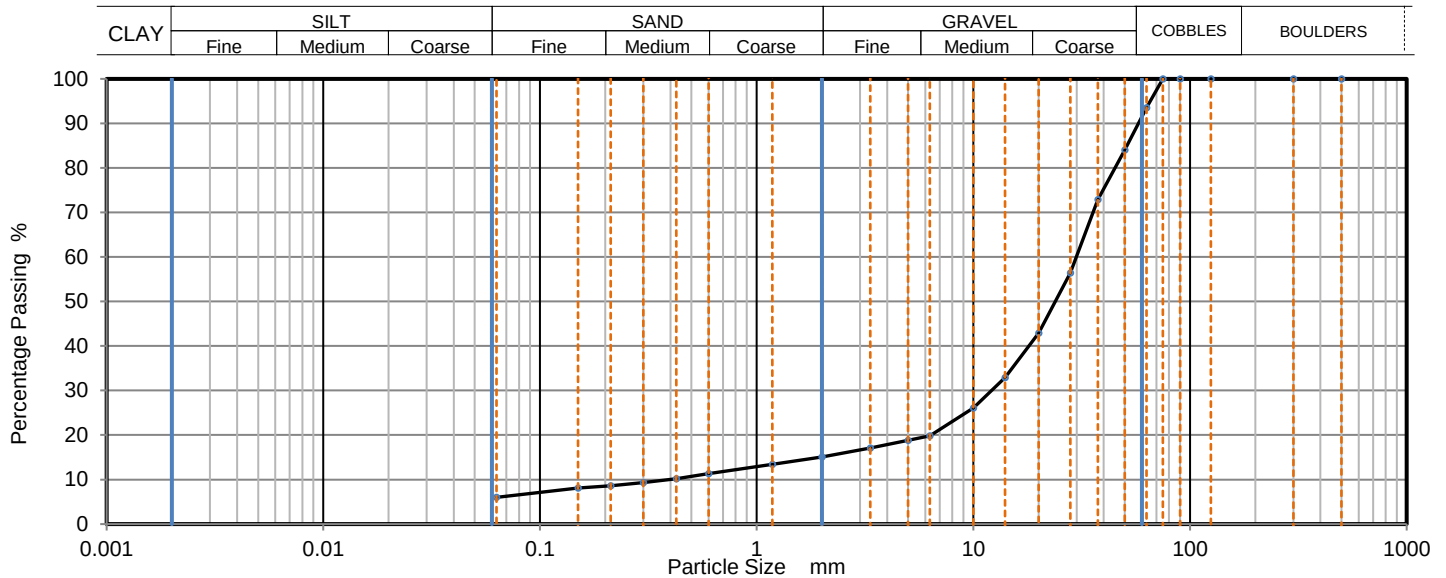
Client: Delta-Simons
Client Address: Castle Heights, 62-64 Maid Marian Way,
Nottingham, NG1 6BJ
Contact: Aidan Nelson
Site Name: Solent Road, Havant
Site Address: Not Given

Client Reference: 19-1058-01
Job Number: 19-72719
Date Sampled: 15/11/2019
Date Received: 15/11/2019
Date Tested: 22/11/2019
Sampled By: Not Given

Test Results:

Laboratory Reference: 1366476
Hole No.: TP102
Sample Reference: B1
Sample Description: Light brown slightly clayey slightly sandy GRAVEL

Depth Top [m]: 1.00
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
125	100		
90	100		
75	100		
63	94		
50	84		
37.5	73		
28	56		
20	43		
14	33		
10	26		
6.3	20		
5	19		
3.35	17		
2	15		
1.18	13		
0.6	11		
0.425	10		
0.3	9		
0.212	9		
0.15	8		
0.063	7		

Sample Proportions	% dry mass
Very coarse	6.50
Gravel	78.40
Sand	8.40
Fines <0.063mm	6.80

Grading Analysis	
D100	mm 75
D60	mm 29.8
D30	mm 12.1
D10	mm 0.393
Uniformity Coefficient	76
Curvature Coefficient	13

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS1377 Part 2 Table 3

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 29/11/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd GF 100.13



TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS



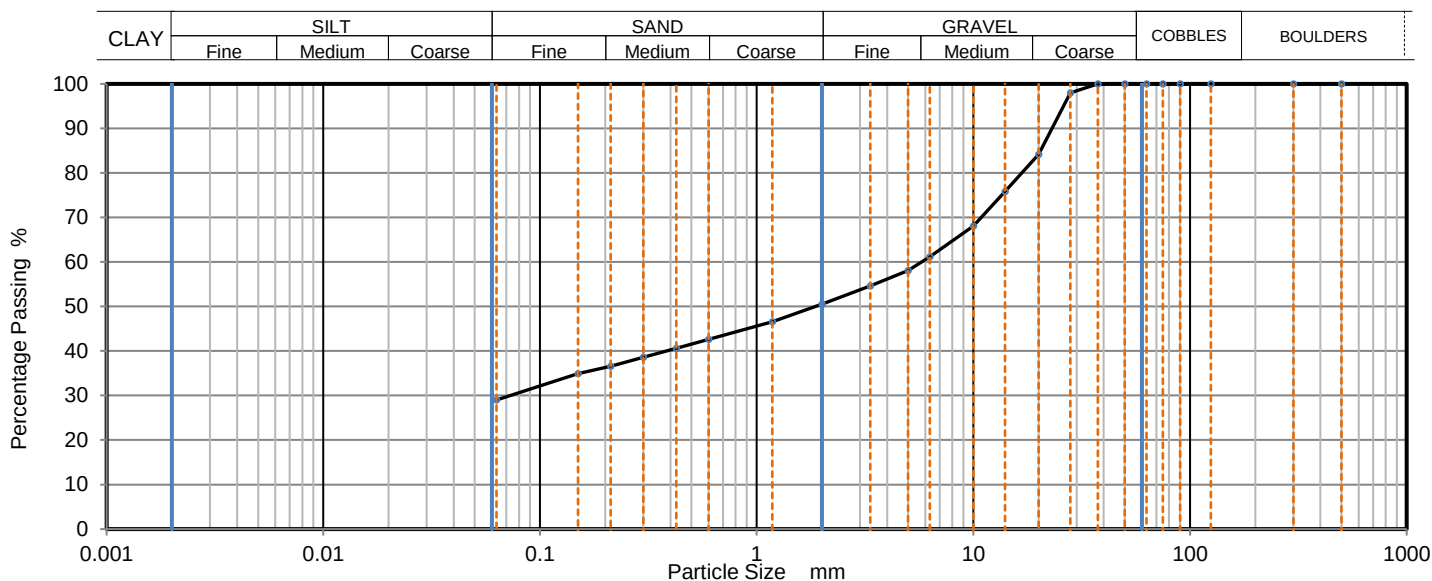
Client: Delta-Simons
Client Address: Castle Heights, 62-64 Maid Marian Way,
Nottingham, NG1 6BJ
Contact: Aidan Nelson
Site Name: Solent Road, Havant
Site Address: Not Given

Client Reference: 19-1058-01
Job Number: 19-72719
Date Sampled: 13/11/2019
Date Received: 15/11/2019
Date Tested: 22/11/2019
Sampled By: Not Given

Test Results:

Laboratory Reference: 1366477
Hole No.: BH101
Sample Reference: B7
Sample Description: Light brown sandy very clayey GRAVEL

Depth Top [m]: 3.50
Depth Base [m]: 4.00
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	98		
20	84		
14	76		
10	68		
6.3	61		
5	58		
3.35	55		
2	51		
1.18	47		
0.6	43		
0.425	41		
0.3	39		
0.212	37		
0.15	35		
0.063	30		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	49.50
Sand	21.00
Fines <0.063mm	29.50

Grading Analysis	
D100	mm 37.5
D60	mm 5.75
D30	mm 0.0682
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS1377 Part 2 Table 3

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 29/11/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd GF 100.13



TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS



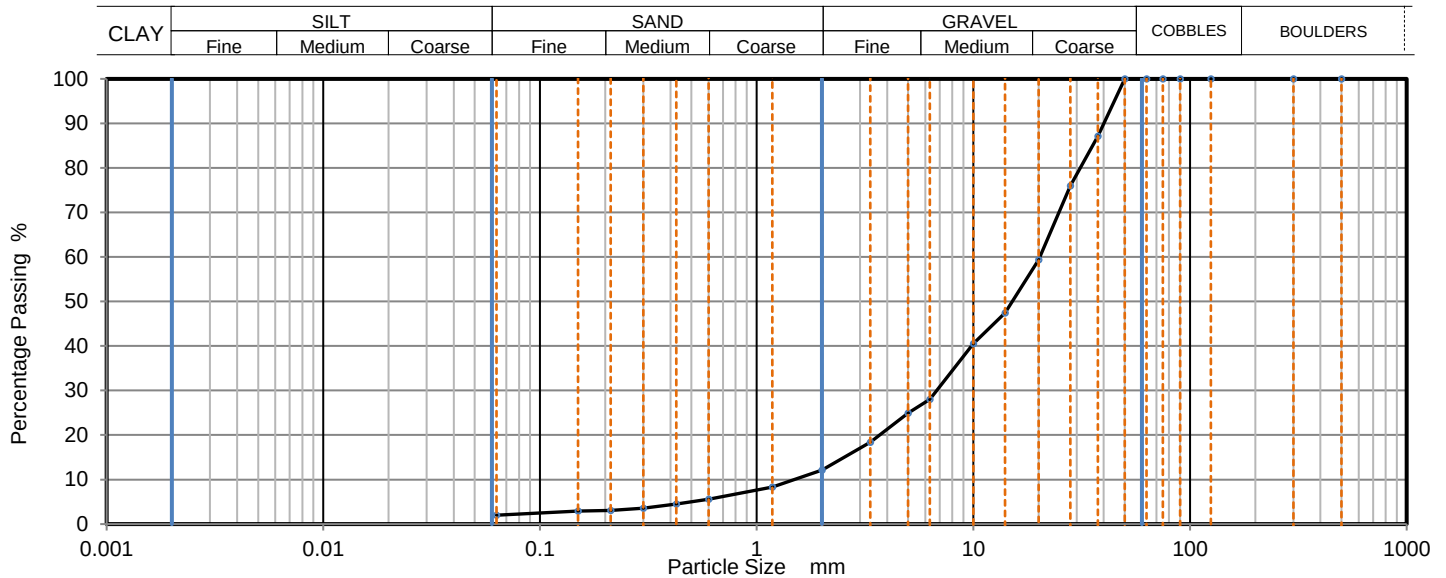
Client: Delta-Simons
Client Address: Castle Heights, 62-64 Maid Marian Way,
Nottingham, NG1 6BJ
Contact: Aidan Nelson
Site Name: Solent Road, Havant
Site Address: Not Given

Client Reference: 19-1058-01
Job Number: 19-72719
Date Sampled: 14/11/2019
Date Received: 15/11/2019
Date Tested: 22/11/2019
Sampled By: Not Given

Test Results:

Laboratory Reference: 1366478
Hole No.: BH102
Sample Reference: B3
Sample Description: Grey slightly sandy GRAVEL

Depth Top [m]: 1.50
Depth Base [m]: 2.00
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	87		
28	76		
20	59		
14	47		
10	41		
6.3	28		
5	25		
3.35	18		
2	12		
1.18	8		
0.6	6		
0.425	5		
0.3	4		
0.212	3		
0.15	3		
0.063	3		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	87.90
Sand	9.60
Fines <0.063mm	2.50

Grading Analysis	
D100	mm 50
D60	mm 20.2
D30	mm 6.78
D10	mm 1.5
Uniformity Coefficient	14
Curvature Coefficient	1.5

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS1377 Part 2 Table 3

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 29/11/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd GF 100.13



TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS



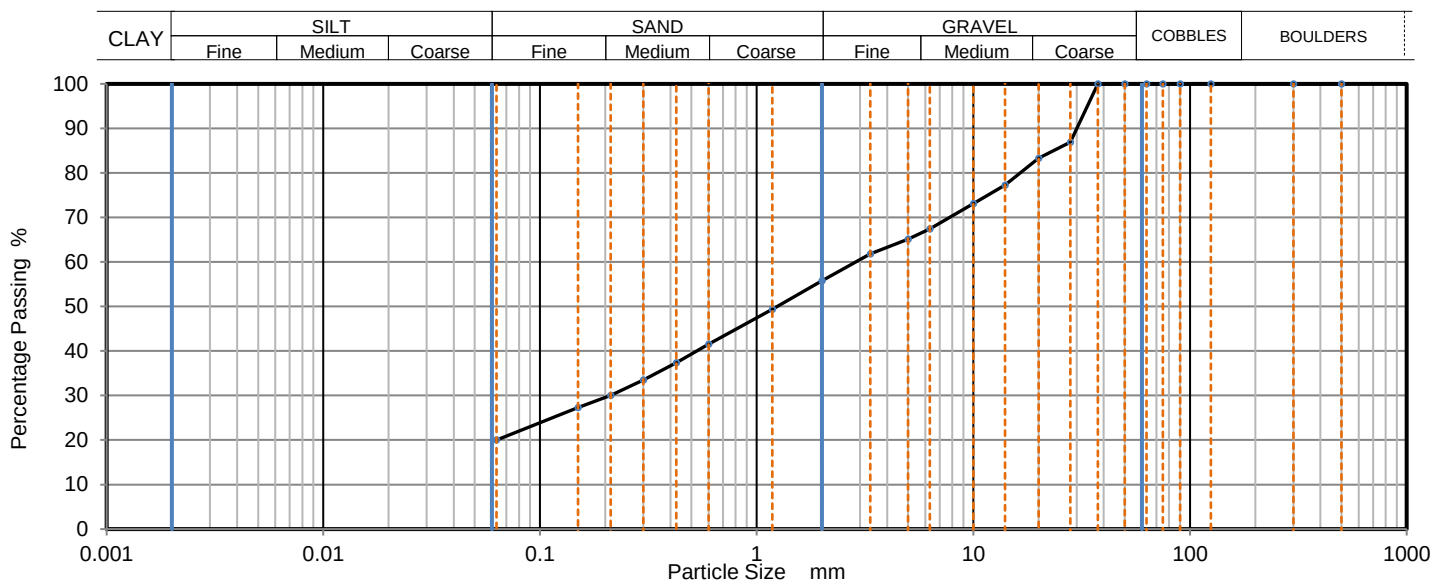
Client: Delta-Simons
Client Address: Castle Heights, 62-64 Maid Marian Way,
Nottingham, NG1 6BJ
Contact: Aidan Nelson
Site Name: Solent Road, Havant
Site Address: Not Given

Client Reference: 19-1058-01
Job Number: 19-72719
Date Sampled: 13/11/2019
Date Received: 15/11/2019
Date Tested: 22/11/2019
Sampled By: Not Given

Test Results:

Laboratory Reference: 1366479
Hole No.: TP106
Sample Reference: B1
Sample Description: Light brown clayey very sandy GRAVEL

Depth Top [m]: 1.60
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	87		
20	83		
14	77		
10	73		
6.3	67		
5	65		
3.35	62		
2	56		
1.18	49		
0.6	42		
0.425	37		
0.3	34		
0.212	30		
0.15	27		
0.063	21		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	44.20
Sand	34.90
Fines <0.063mm	20.90

Grading Analysis	
D100	mm 37.5
D60	mm 2.87
D30	mm 0.211
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS1377 Part 2 Table 3

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 29/11/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd GF 100.13



TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS



Environmental Science

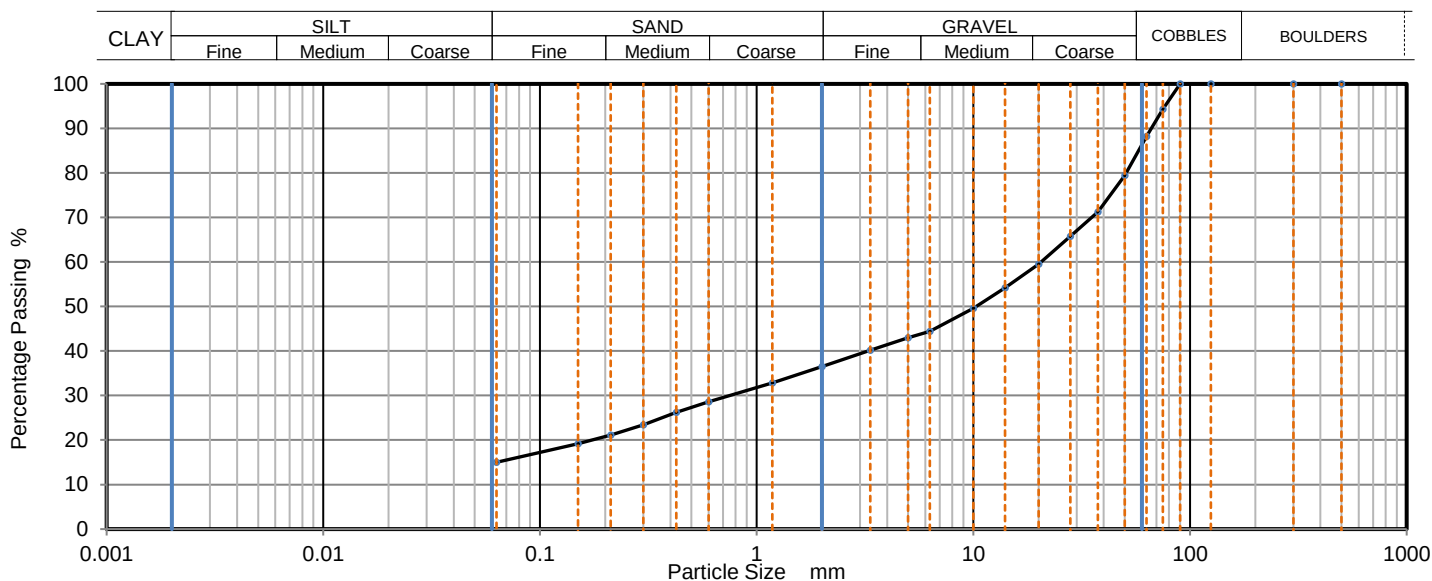
Client: Delta-Simons
Client Address: Castle Heights, 62-64 Maid Marian Way,
Nottingham, NG1 6BJ
Contact: Aidan Nelson
Site Name: Solent Road, Havant
Site Address: Not Given

Client Reference: 19-1058-01
Job Number: 19-72719
Date Sampled: 13/11/2019
Date Received: 15/11/2019
Date Tested: 22/11/2019
Sampled By: Not Given

Test Results:

Laboratory Reference: 1366480
Hole No.: TP108
Sample Reference: B1
Sample Description: Light brown clayey sandy GRAVEL with fragments of chalk

Depth Top [m]: 1.80
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
125	100		
90	100		
75	94		
63	88		
50	79		
37.5	71		
28	66		
20	60		
14	54		
10	50		
6.3	44		
5	43		
3.35	40		
2	37		
1.18	33		
0.6	29		
0.425	26		
0.3	23		
0.212	21		
0.15	19		
0.063	16		

Sample Proportions	% dry mass
Very coarse	11.80
Gravel	51.70
Sand	21.00
Fines <0.063mm	15.50

Grading Analysis	
D100	mm 90
D60	mm 20.5
D30	mm 0.749
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS1377 Part 2 Table 3

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 29/11/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd GF 100.13



TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS



Environmental Science

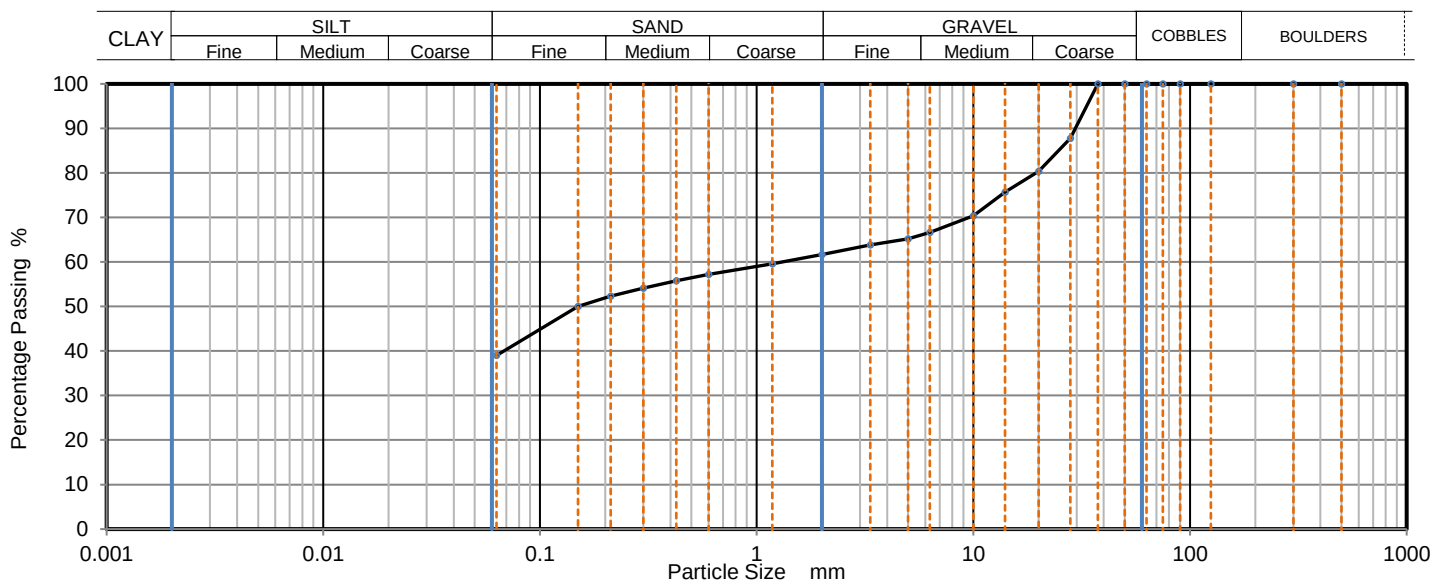
Client: Delta-Simons
Client Address: Castle Heights, 62-64 Maid Marian Way,
Nottingham, NG1 6BJ
Contact: Aidan Nelson
Site Name: Solent Road, Havant
Site Address: Not Given

Client Reference: 19-1058-01
Job Number: 19-72719
Date Sampled: 15/11/2019
Date Received: 15/11/2019
Date Tested: 22/11/2019
Sampled By: Not Given

Test Results:

Laboratory Reference: 1366481
Hole No.: BH104
Sample Reference: B7
Sample Description: Light brown sandy very gravelly CLAY

Depth Top [m]: 3.50
Depth Base [m]: 4.00
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	88		
20	80		
14	76		
10	70		
6.3	67		
5	65		
3.35	64		
2	62		
1.18	60		
0.6	57		
0.425	56		
0.3	54		
0.212	52		
0.15	50		
0.063	39		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	38.30
Sand	22.40
Fines <0.063mm	39.30

Grading Analysis	
D100	mm 37.5
D60	mm 1.3
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS1377 Part 2 Table 3

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 29/11/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd GF 100.13

Appendix I – Soil Chemical Analysis Results

**Aidan Nelson**

Delta-Simons
Castle Heights
62-64 Maid Marian Way
Nottingham
NG1 6BJ

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

e: aidan.nelson@deltasimons.com

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 19-72789

Project / Site name:	Solent Road, Havant	Samples received on:	15/11/2019
Your job number:	19-1058.01	Samples instructed on:	20/11/2019
Your order number:	DS51103	Analysis completed by:	26/11/2019
Report Issue Number:	1	Report issued on:	26/11/2019
Samples Analysed:	10 soil samples		

Signed: 

Zina Abdul Razzak
Senior Quality Specialist

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.

Iss No 19-72789-1 Solent Road, Havant 19-1058.01

This certificate should not be reproduced, except in full, without the express permission of the laboratory.

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

Page 1 of 17

Analytical Report Number: 19-72789

Project / Site name: Solent Road, Havant

Your Order No: DS51103

Lab Sample Number				1366860	1366861	1366862	1366863	1366864
Sample Reference				HP101 ES1	HP102 ES1	HP103 ES1	TP102 ES1	TP103 ES1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.35	0.30	0.25	0.25	0.30
Date Sampled				14/11/2019	14/11/2019	14/11/2019	15/11/2019	14/11/2019
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	49	24
Moisture Content	%	N/A	NONE	50	52	28	18	5.0
Total mass of sample received	kg	0.001	NONE	1.0	0.79	0.81	0.97	1.4

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.1	7.0	7.3	7.4	8.5
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	0.146	-
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	130	95	54	44	48
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.067	0.047	0.027	0.022	0.024
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	66.7	47.4	27.2	22.2	23.9
Total Sulphur	%	0.005	MCERTS	-	-	-	0.094	-

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	0.35	< 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	0.95	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.88	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.57	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.59	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.89	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.20	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.57	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.34	< 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	0.34	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	5.68	< 0.80	< 0.80
-----------------------------	-------	-----	--------	--------	--------	------	--------	--------

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.4	9.0	7.8	7.7	19
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	0.5	0.7	0.4	1.8
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	18	29	32	8.1
Copper (aqua regia extractable)	mg/kg	1	MCERTS	53	43	79	43	6.5
Lead (aqua regia extractable)	mg/kg	1	MCERTS	210	130	330	120	66
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7	0.6	1.3	0.5	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	14	14	18	5.5
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	47	33	180	52	210

Analytical Report Number: 19-72789

Project / Site name: Solent Road, Havant

Your Order No: DS51103

Lab Sample Number				1366860	1366861	1366862	1366863	1366864
Sample Reference				HP101 ES1	HP102 ES1	HP103 ES1	TP102 ES1	TP103 ES1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.35	0.30	0.25	0.25	0.30
Date Sampled				14/11/2019	14/11/2019	14/11/2019	15/11/2019	14/11/2019
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	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
o-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 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	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 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	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 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	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	39
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	< 10	< 10	< 10	< 10	34
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	40

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 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	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 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	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	18	< 10	52
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	< 10	< 10	< 10	< 10	26
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	28	< 10	52

TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	59
-----------------	-------	----	--------	------	------	------	------	----

Analytical Report Number: 19-72789

Project / Site name: Solent Road, Havant

Your Order No: DS51103

Lab Sample Number				1366865	1366866	1366867	1366868	1366869
Sample Reference				TP104 ES1	TP105 ES1	TP106 ES1	TP107 ES1	TP108 ES1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.20	0.20	0.20
Date Sampled				14/11/2019	13/11/2019	13/11/2019	15/11/2019	13/11/2019
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	30	36	29	17	22
Total mass of sample received	kg	0.001	NONE	1.0	1.0	0.93	0.95	0.94

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.6	7.6	7.6	7.5	7.9
Total Sulphate as SO ₄	%	0.005	MCERTS	0.166	0.185	0.137	-	0.197
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	49	77	46	130	30
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.024	0.039	0.023	0.068	0.015
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	24.4	38.5	23.0	67.5	15.2
Total Sulphur	%	0.005	MCERTS	0.109	0.137	0.102	-	0.109

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	0.44
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.40
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.31
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.29
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.36
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.19
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.29
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.28
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	0.37

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	2.93
-----------------------------	-------	-----	--------	--------	--------	--------	--------	------

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.4	7.9	7.7	5.6	8.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.6	0.5	0.6	0.3	0.7
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15	17	16	24	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	140	62	73	27	48
Lead (aqua regia extractable)	mg/kg	1	MCERTS	150	150	140	92	130
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.3	0.4	0.4	< 0.3	0.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	13	13	14	15
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	61	43	50	44	67

Analytical Report Number: 19-72789

Project / Site name: Solent Road, Havant

Your Order No: DS51103

Lab Sample Number				1366865	1366866	1366867	1366868	1366869
Sample Reference				TP104 ES1	TP105 ES1	TP106 ES1	TP107 ES1	TP108 ES1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.20	0.20	0.20
Date Sampled				14/11/2019	13/11/2019	13/11/2019	15/11/2019	13/11/2019
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	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
o-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 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	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 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	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 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	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 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	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 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	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
-----------------	-------	----	--------	------	------	------	------	------



Analytical Report Number : 19-72789

Project / Site name: Solent Road, Havant

* 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 *
1366860	HP101 ES1	None Supplied	0.35	Brown loam with vegetation.
1366861	HP102 ES1	None Supplied	0.30	Brown loam with vegetation.
1366862	HP103 ES1	None Supplied	0.25	Brown loam with vegetation.
1366863	TP102 ES1	None Supplied	0.25	Brown loam with vegetation and stones.
1366864	TP103 ES1	None Supplied	0.30	Beige clay and sand with stones.
1366865	TP104 ES1	None Supplied	0.30	Brown loam with vegetation.
1366866	TP105 ES1	None Supplied	0.40	Brown loam and clay with vegetation and brick.
1366867	TP106 ES1	None Supplied	0.20	Brown loam with vegetation.
1366868	TP107 ES1	None Supplied	0.20	Brown loam with vegetation.
1366869	TP108 ES1	None Supplied	0.20	Brown loam with vegetation.

Analytical Report Number : 19-72789

Project / Site name: Solent Road, Havant

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
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
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Hexavalent chromium in 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
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In-house method based on BS1377 Part 2, 1990, Classification tests	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	MCERTS
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
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
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/cleanup.	L088/76-PL	W	MCERTS

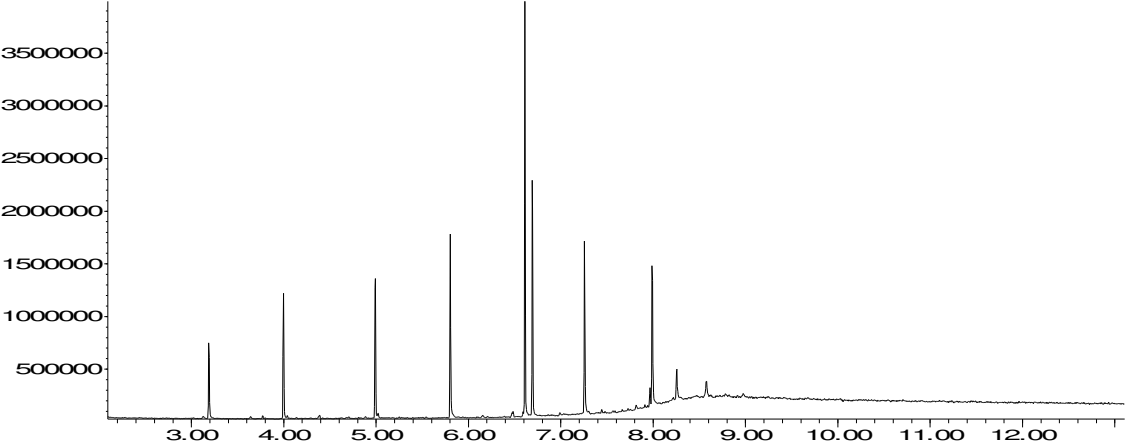
For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

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

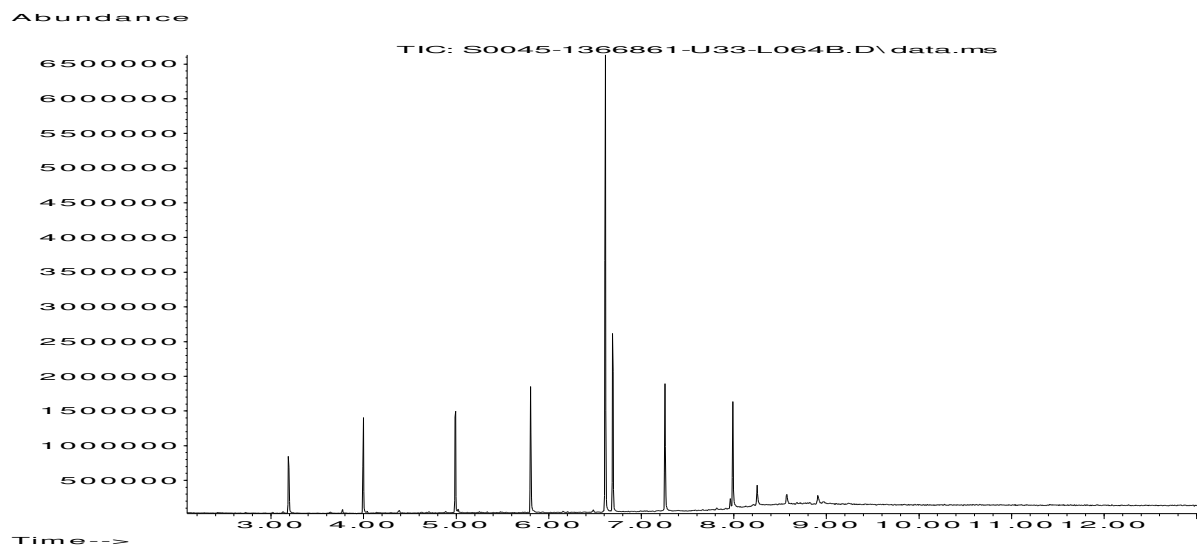
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Abundance

TIC: S0044-1366860-U33-L064B.D\data.ms

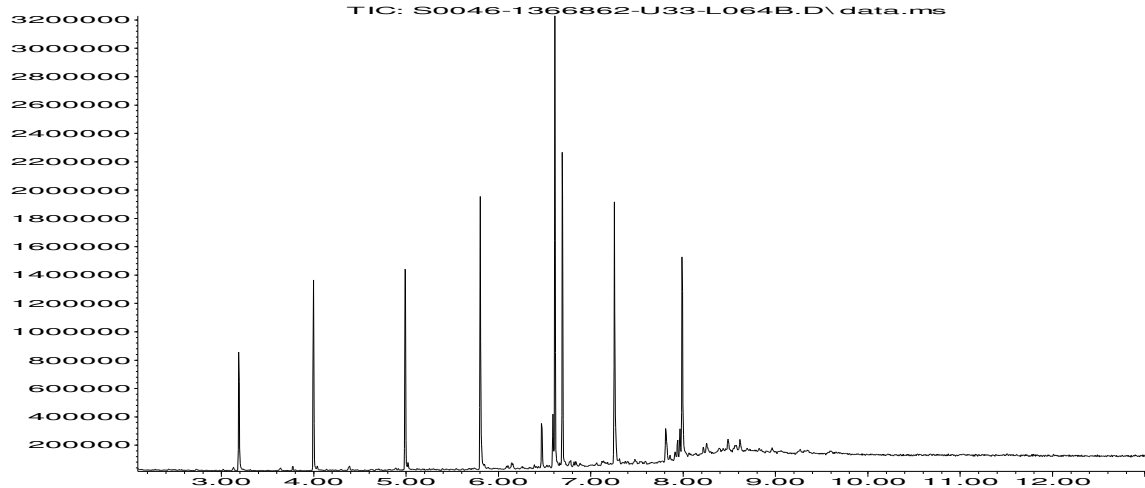


Time-->



Abundance

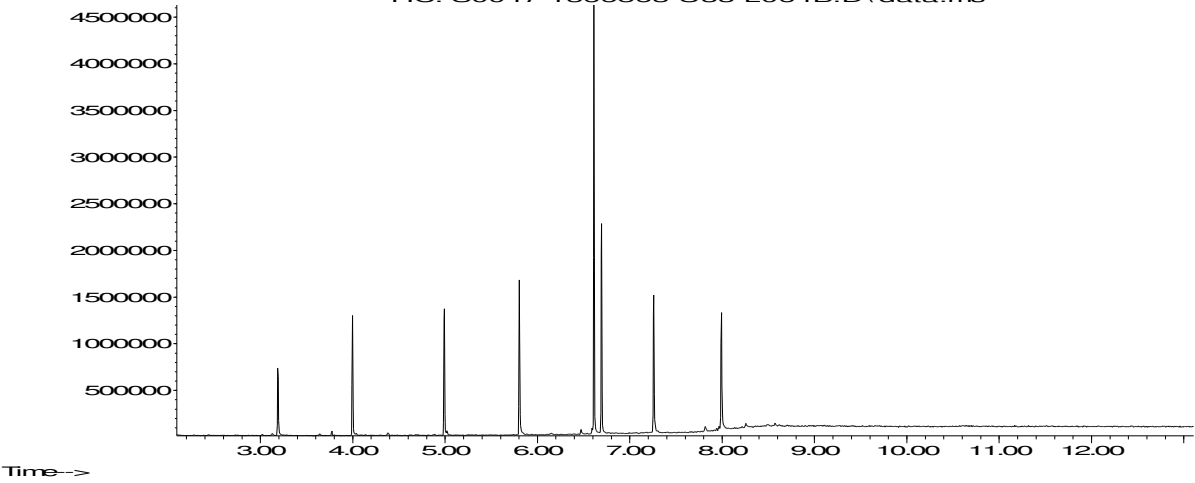
TIC: S0046-1366862-U33-L064B.D\data.ms



Time-->

Abundance

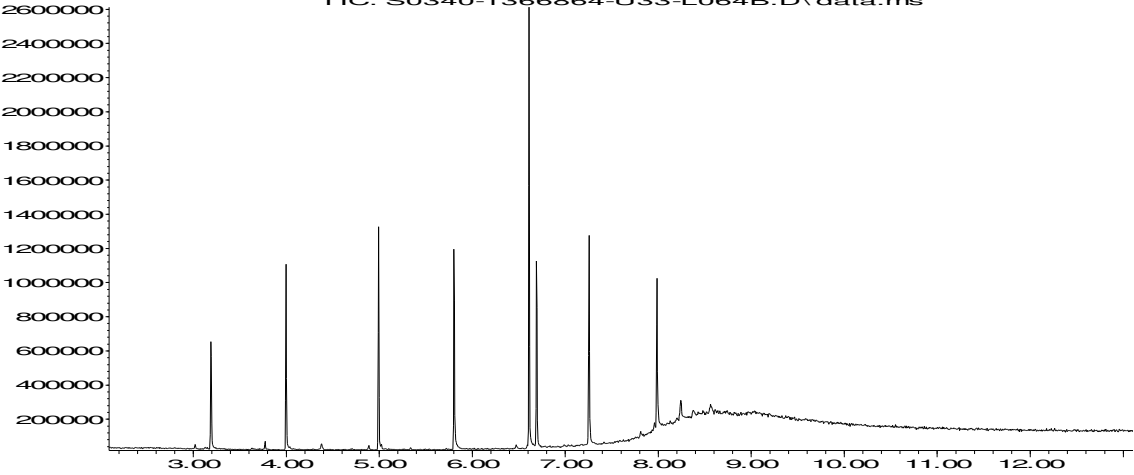
TIC: S0047-1366863-U33-L064B.D\data.ms



Time-->

Abundance

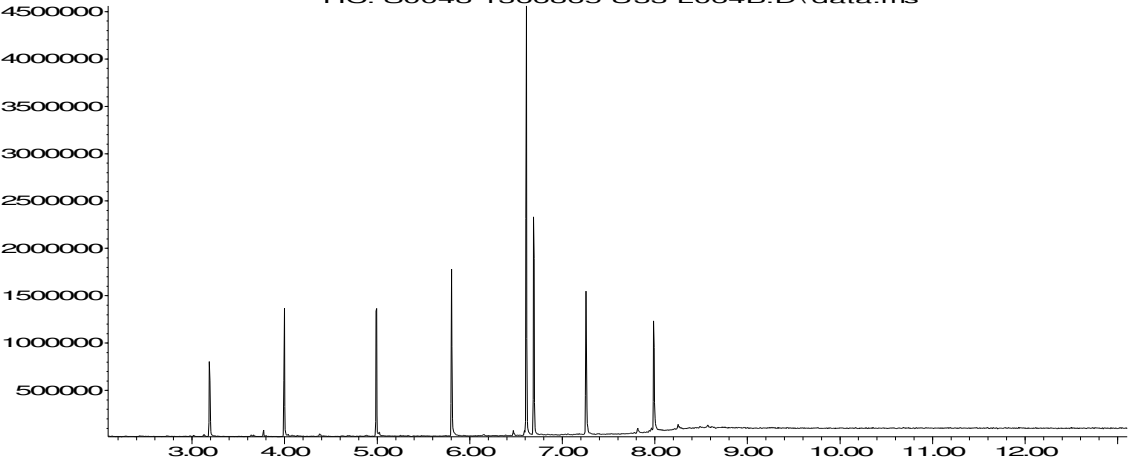
TIC: S0340-1366864-U33-L064B.D\data.ms



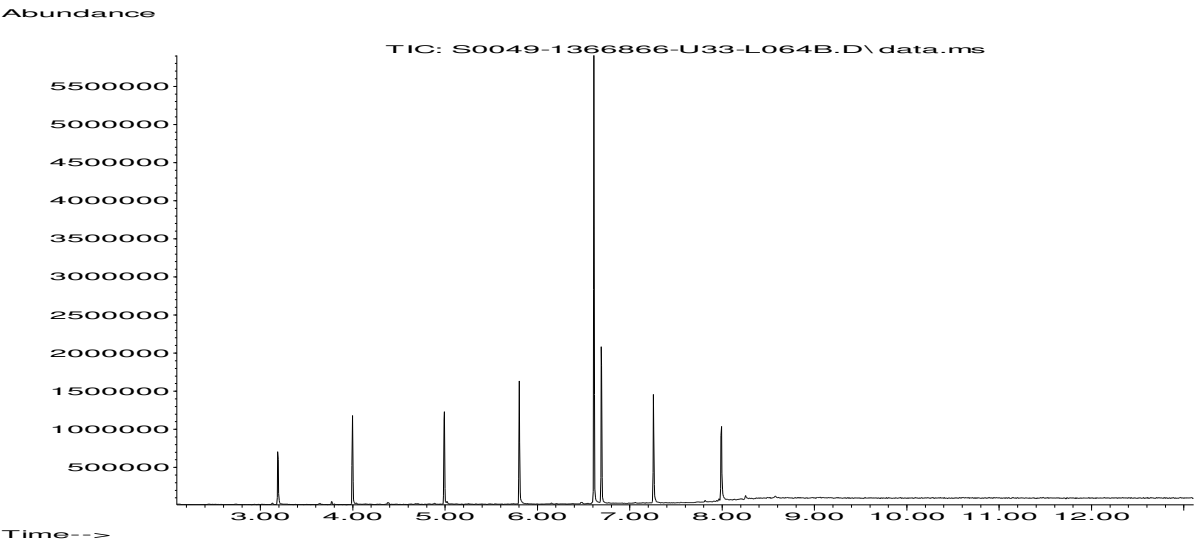
Time-->

Abundance

TIC: S0048-1366865-U33-L064B.D\data.ms

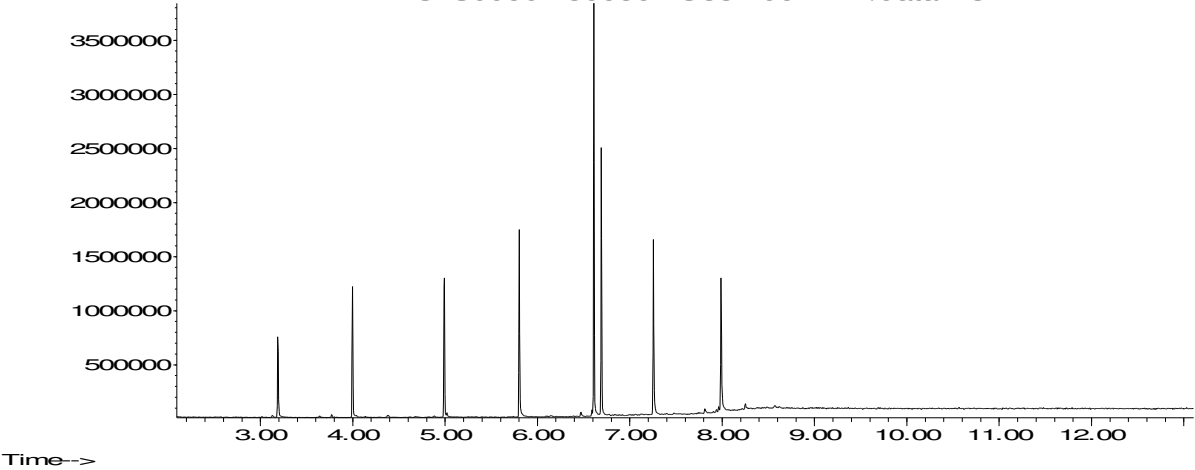


Time-->



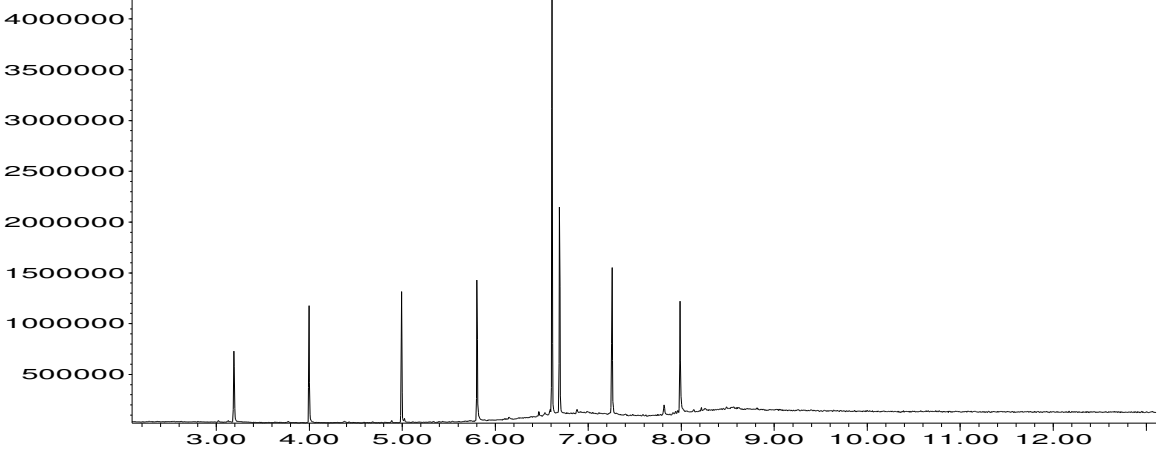
Abundance

TIC: S0050-1366867-U33-L064B.D\data.ms

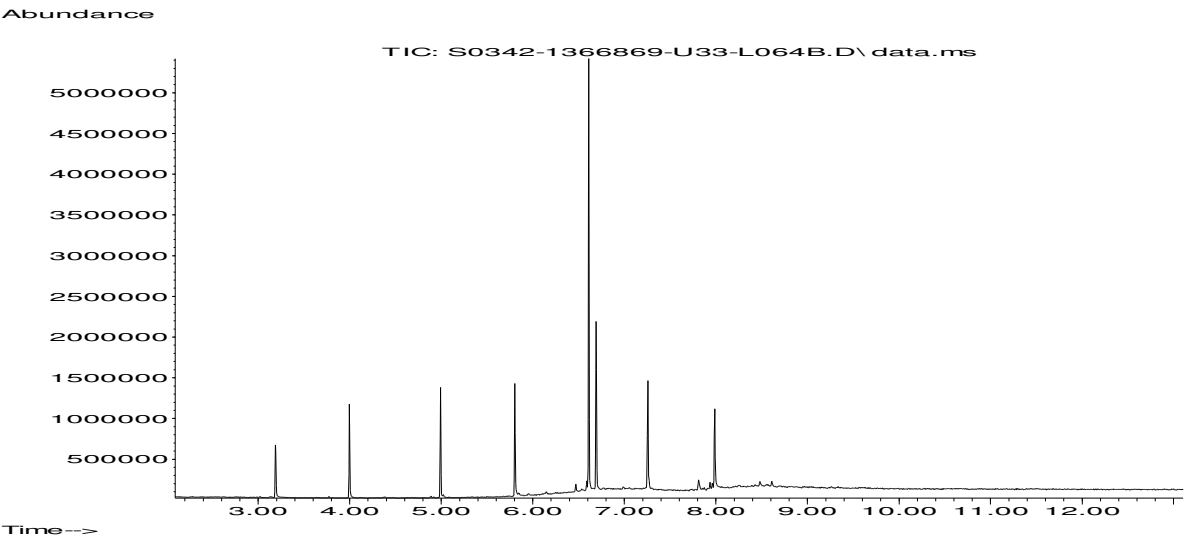


Abundance

TIC: S0341-1366868-U33-L064B.D\data.ms



Time-->



**Aiden Nelson**

Delta-Simons
City Gate East
Floor 6
Tollhouse Hill
Nottingham
NG1 5FS

e: aidan.nelson@deltasimons.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 19-73352

Project / Site name:	Solent Road, Havant	Samples received on:	15/11/2019
Your job number:	19-1058.01	Samples instructed on:	22/11/2019
Your order number:	DS51103	Analysis completed by:	28/11/2019
Report Issue Number:	1	Report issued on:	28/11/2019
Samples Analysed:	3 soil samples		

Signed: *Karolina Marek*

Karolina Marek
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: 19-73352

Project / Site name: Solent Road, Havant

Your Order No: DS51103

Lab Sample Number				1369869	1369870	1369871		
Sample Reference				BH104	BH101	BH103		
Sample Number				D4	D10	D14		
Depth (m)				2.00	5.00	8.00		
Date Sampled				15/11/2019	13/11/2019	14/11/2019		
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
Moisture Content				%	N/A	NONE	10	12
Total mass of sample received				kg	0.001	NONE	0.91	2.0

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	8.4	8.5		
Total Sulphate as SO ₄	%	0.005	MCERTS	0.042	0.056	0.047		
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	48	91	190		
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.024	0.045	0.095		
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	24.2	45.4	95.2		
Total Sulphur	%	0.005	MCERTS	0.018	0.021	0.018		

Analytical Report Number : 19-73352

Project / Site name: Solent Road, Havant

* 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 *
1369869	BH104	D4	2.00	Light brown clay and sand with gravel.
1369870	BH101	D10	5.00	Light brown clay and sand with gravel.
1369871	BH103	D14	8.00	Beige clay and sand with gravel.

Analytical Report Number : 19-73352

Project / Site name: Solent Road, Havant

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In-house method based on BS1377 Part 2, 1990, Classification tests	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests ^{***}	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	MCERTS

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.

Appendix J – Groundwater Chemical Analysis Results



Aidan Nelson
Delta-Simons
Castle Heights
62-64 Maid Marian Way
Nottingham
NG1 6BJ

e: aidan.nelson@deltasimons.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 19-73705

Project / Site name:	Solent Road, Havent	Samples received on:	21/11/2009
Your job number:	19-1058.01	Samples instructed on:	25/11/2019
Your order number:	DS51234	Analysis completed by:	02/12/2019
Report Issue Number:	1	Report issued on:	02/12/2019
Samples Analysed:	4 water samples		

Signed: *Karolina Marek*

Karolina Marek
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: 19-73705

Project / Site name: Solent Road, Havent

Your Order No: DS51234

Lab Sample Number	1371515	1371516	1371517	1371518	
Sample Reference	BH101	BH102	BH103	BH104	
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)	1.00	3.50	2.50	2.00	
Date Sampled	21/11/2019	21/11/2019	21/11/2019	21/11/2019	
Time Taken	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	9.3	7.6	7.6	7.5	
Sulphate as SO ₄	µg/l	45	ISO 17025	206000	100000	83700	42200	

Speciated PAHs

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

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	
-------------------	------	------	-----------	--------	--------	--------	--------	--

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.92	2.12	1.94	0.76	
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	0.07	< 0.02	0.10	
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	
Chromium (dissolved)	µg/l	0.2	ISO 17025	4.3	2.1	3.4	2.5	
Copper (dissolved)	µg/l	0.5	ISO 17025	11	3.4	4.5	14	
Lead (dissolved)	µg/l	0.2	ISO 17025	1.5	0.6	1.0	2.3	
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	
Nickel (dissolved)	µg/l	0.5	ISO 17025	7.7	17	9.9	2.2	
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.9	7.4	1.6	5.5	

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/l	1	ISO 17025	< 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	



Analytical Report Number: 19-73705

Project / Site name: Solent Road, Havent

Your Order No: DS51234

Lab Sample Number	1371515	1371516	1371517	1371518	
Sample Reference	BH101	BH102	BH103	BH104	
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)	1.00	3.50	2.50	2.00	
Date Sampled	21/11/2019	21/11/2019	21/11/2019	21/11/2019	
Time Taken	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	
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 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	

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 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	
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	

Aliphatic >C10 - C12	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Aliphatic >C12 - C16	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Aliphatic >C16 - C21	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Aliphatic >C21 - C35	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Aliphatic >C10 - C35	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	

Aromatic >C10 - C12	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Aromatic >C12 - C16	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Aromatic >C16 - C21	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Aromatic >C21 - C35	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	
Aromatic >C10 - C35	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 19-73705

Project / Site name: Solent Road, Havent

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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	L0738-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
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
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-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	L1028-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPH C10-C35 by GCxGC-FID	Determination of total petroleum hydrocarbons in water by GC x GC FID with carbon banding aliphatic and aromatic C10-C35. Accredited Matrices SW,GW,PW.	In-house method	L1018-PL	W	ISO 17025
TPH Chromatogram in Water	TPH Chromatogram in Water.	In-house method	L070-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025

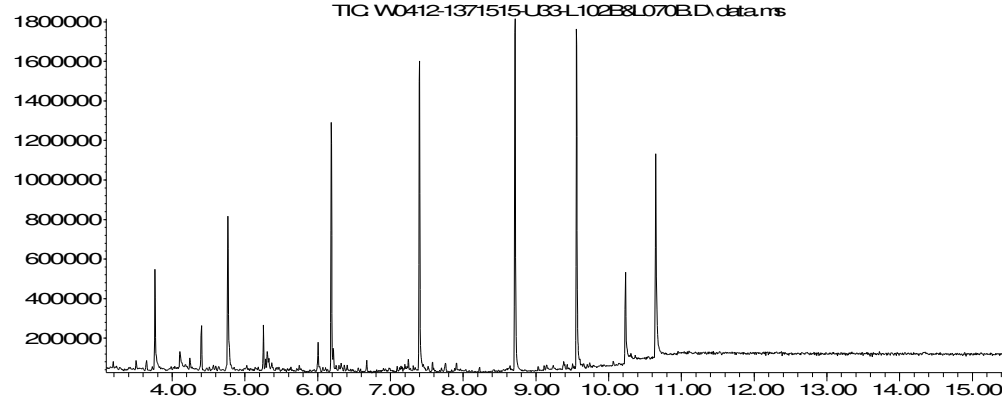
For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

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

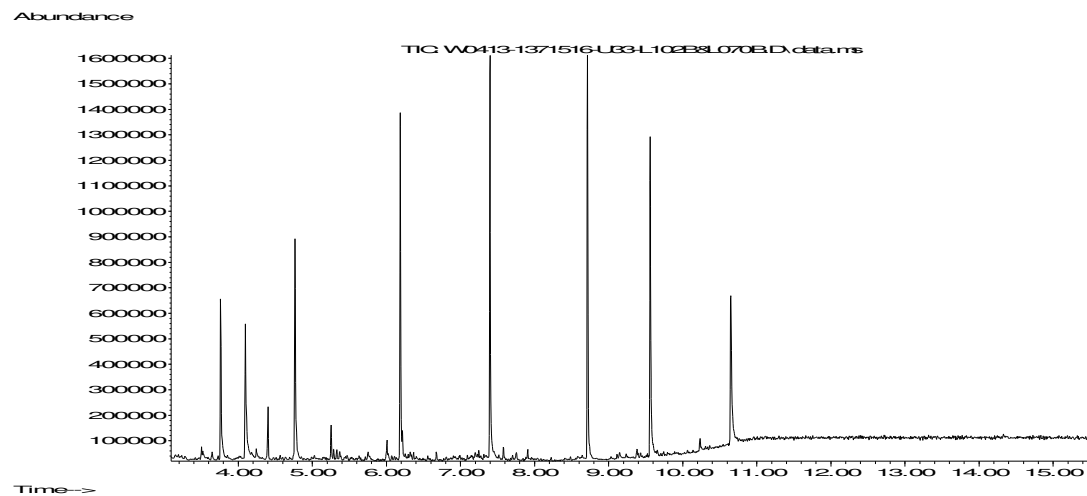
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Abundance

TIC: W0412-1371515-U33-L102B8L070B.D\data.ms

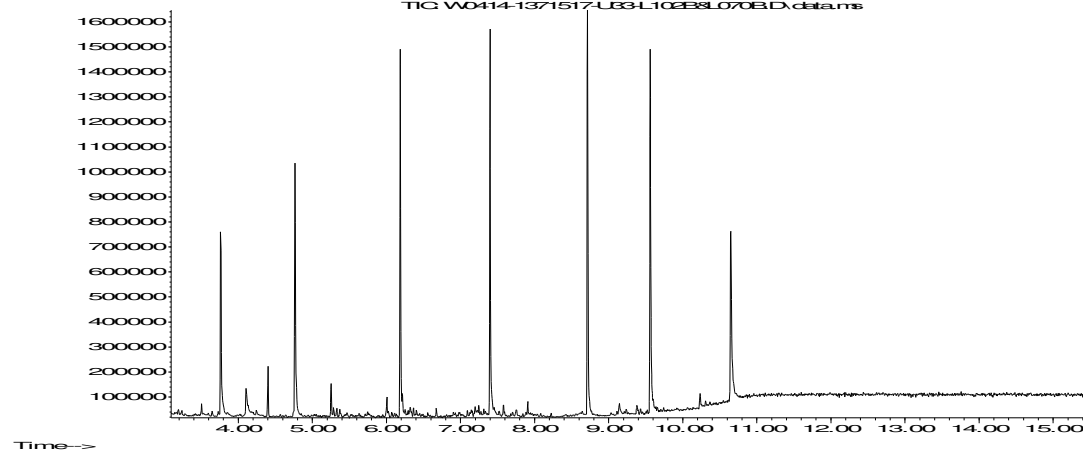


Time-->

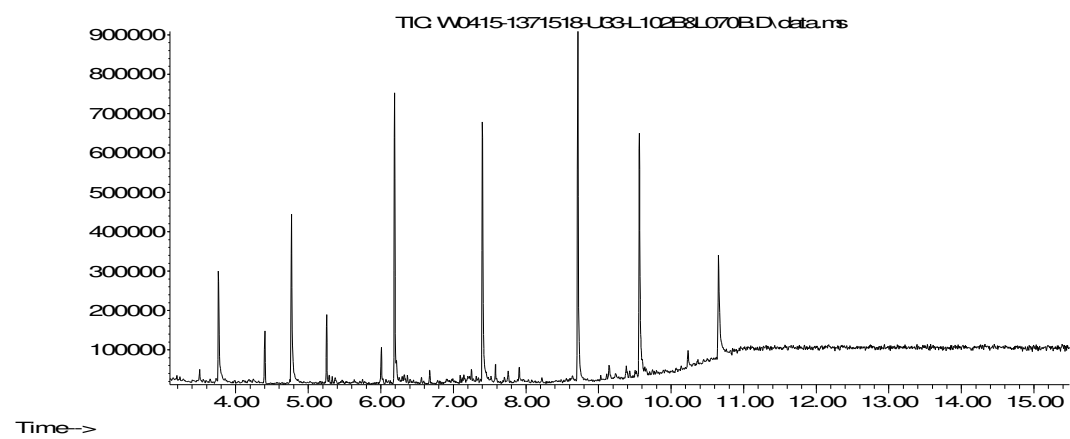


Abundance

TIC: W0414-1371517-U3-L10238-L0703.D\data.ms



Abundance



Appendix K – Field Monitoring Data



[illegible]

[illegible]

Appendix L – Risk Definitions

Contaminated Land Risk Definitions

The following methodology is based on the methodology presented in CIRIA C552 Contaminated Land Risk Assessment: A Guide to Good Practice 2001. It requires the classification of the:

- Δ Magnitude of the potential consequence (severity) of the Risk occurring: and
- Δ Magnitude of the Probability (likelihood) of the Risk occurring.

The classifications are then compared to indicate the risk presented by each pollutant linkage.

Consequence to Receptor Definition Matrix

	Human Health	Controlled Waters	Buildings/Services
Severe Consequence	Acute or chronic permanent impact on human health.	Sensitive controlled water pollution ongoing, or just about to occur.	Catastrophic collapse
Medium Consequence	Chronic permanent impact on human health	Gradual pollution of sensitive controlled water	Degradation of materials
Mild Consequence	Chronic temporary impact on human health	Gradual pollution of non-sensitive controlled water	Damage to building rendering it unsafe to occupy (eg foundation damage resulting in instability).
Minor Consequence	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc).	Slight discoloration of water	Easily repairable effects of damage to buildings, structures and services, i.e discoloration of concrete

Probability Definitions

Probability	Definition in Context
Higher	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution. Positive evidence of source, pathway and receptor.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term. Suspect source, pathway, and receptor
Low Likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term No evidence of hazard, pathway, and receptor

Standard Risk Matrix

		Consequence/ Magnitude of impact			
		Severe	Medium	Mild	Minor
Probability	High	Very High	High	Moderate	Moderate/Low
	Likely	High	Moderate	Moderate/low	Low
	Low Likelihood	Moderate	Moderate/low	Low	Very Low
	Unlikely	Moderate/low	Low	Very Low	Very Low

Classified risks and likely action

Significance Level	Definition/Comments
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required. Demonstrable contaminated land situation, highest threat & liability level, urgent action recommended.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term. Likely contaminated land situation, risk assessment and action recommended.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, if is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term. Plausible contaminated land situation, risk assessment and possible action recommended.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild. Unlikely contaminated land situation, possible risk assessment and possible action.
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe. Negligible risk, no action recommended except vigilance for changes in conditions.

The geohazards listed in the report within Section 4 follow guidance presented in Clayton, C.R.I. (2001) *Managing Geotechnical Risk*, Thomas Telford and the Highways Agency document HD22/08 '*Managing Geotechnical Risk*' (2008) which aims to identify and manage the geotechnical risks associated with a scheme throughout its lifespan, from planning to construction to maintenance.

For each geohazard the probability of the hazard occurring (P) has been considered together with the impact it would have (I) if it were to happen to calculate the risk rating between 1 and 25.

Risks that fall within Moderate, Significant and Severe categories below are considered to be **substantial** and are therefore listed within the report.

Probability	(P)		Impact	(I)		(R)	Risk
Very Likely (VLk)	5	X	Very High (VH)	5	=	20 – 25	Severe
Likely (Lk)	4		High (H)	4		15 – 19	Substantial
Plausible (P)	3		Medium (M)	3		10 – 14	Moderate
Unlikely (U)	2		Low (L)	2		5 – 9	Minor
Very Unlikely (VU)	1		Very Low (VL)	1		1 – 4	Negligible