



0001

Determination of Undrained Shear Strength in Triaxial Compression

Client:	Soiltechnics Limited Cedar Barn, White Lodge Walgrave NN6 9PY	Report No:	51028540/16/07
Contact:	Andy Keeler	Batch Number:	DAM0064463
Site:	STN3739B - MIPA, Havant	Date Sampled:	01.11.16
		Date Received:	14.11.16
		Date Tested:	23.11.16
		Sampled By:	Client
		Sampling Certificate:	N
		Sample Type:	U100

Sample Details:	Laboratory Reference:	45302185	45302186	45302187
	Client Ref:	10	11	12
	Location:	BH03	BH03	BH03
	Depth (m):	11.70-12.15	14.70-15.15	17.70-18.15
	Initial Height (mm)	207	207	207
	Initial Diameter (mm)	105	104	105
	Bulk Density (Mg/m ³)	2.02	2.09	1.97
	Moisture Content (%)	23	21	30
	Dry Density (Mg/m ³)	1.64	1.72	1.52
Test Conditions:	Cell Pressure (kPa)	240	300	360
	Rate of Strain (%/min.)	1.21	1.21	1.21
Failure Conditions:	Load at Failure (kN)	3.724	2.203	0.211
	Strain at Failure (mm)	37.40	1.00	2.40
	Max Deviator Stress (kPa)	341	243	5
	Membrane Correction (kPa)	1.33	0.08	0.14
	Strain (%)	18.1	0.5	1.2
	Shear Strength (kPa)	170	121	3

Failure Diagram:



Mode of Failure:	Barrel/Shear	Shear	Barrel
Depth of test specimen from base within original sample (mm)	18.39	13.72	5.64
Membrane Latex Rubber Thickness (mm)	0.40	0.40	0.40

Sample Description:

45302185 Brown CLAY
45302186 Brown CLAY
45302187 Brown CLAY

Comments: Sample Preparation: Undisturbed
Orientation: Maintaining sample direction.

Certified that the test was carried out in accordance with BS 1377-7 :1990, Method 8

Certified that the Moisture Content was determined in accordance with BS 1377-2:1990, Method 3.2

Page 1 of 1
Date: 28.11.16

Signed:

[] M. Carr - Section Manager
[✓] D. Berrill - Laboratory Manager

For and on behalf of Environmental Scientifics Group

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This Test Report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory

Environmental Scientifics Group. Registered in England No. 2880501. Registered Office: ESG House, Bretby Business Park, Ashby Road, Burton on Trent DE15 0YZ

Determination of Moisture Content and Atterberg Limits

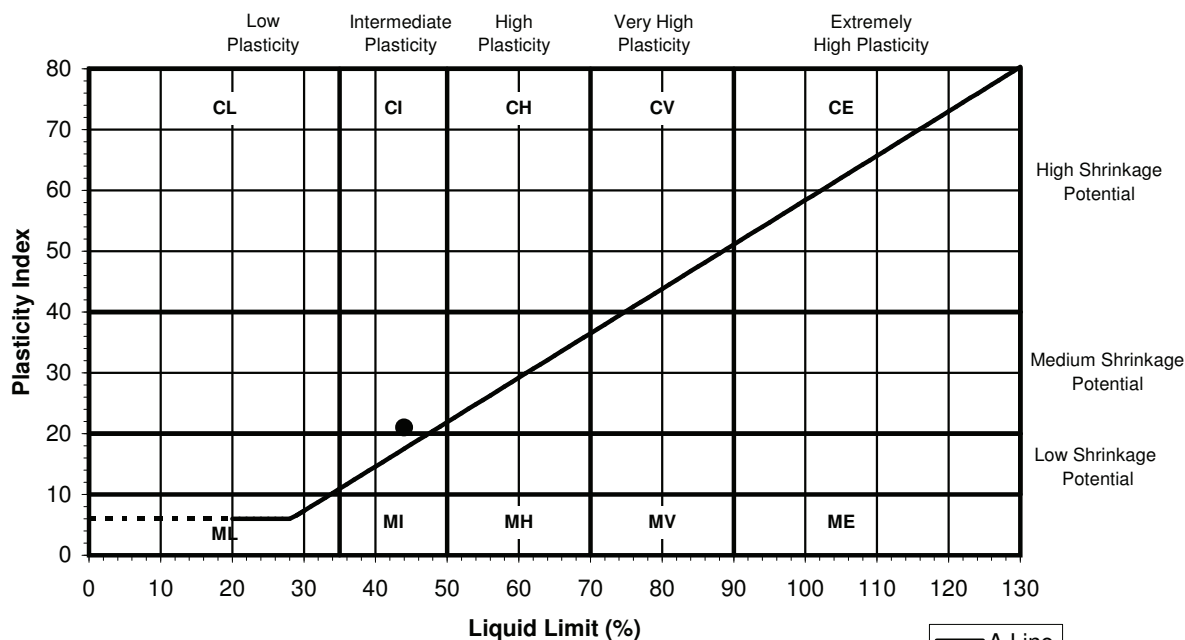
Client: Soiltechnics Limited
Client Address: Cedar Barn,
White Lodge
Walgrave
Postcode: NN6 9PY
Contact: Andy Keeler
Site: MIPA, Havant

Report No: 51028540/16/08
Batch Number: DAM0064997
Client Reference: STN3739B
Sampled by: Client
Date Sampled: 31.10.16
Date Received: 08.12.16
Tested From: 14.12.16-16.12.16
Sample Type: Bulk

Test Results:

Description: Brown grey CLAY with silt

Laboratory Reference	Location	Depth (m)	As Received Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	% Passing 425µm
45304611	BH01	2.70	N/A	44	23	21	100



Sample Preparation: As Received, Coarse particles removed by hand prior to test
Estimated % passing 425µm BS Test Sieve

Certified that the laboratory testing was carried out in accordance with BS 1377-2: 1990: Method 3.2, 4.4 and 5

Page: 1 of 1
Date: 20.12.16

Signed

D. Berrill

[] M. Carr - Section Manager
[✓] D. Berrill - Laboratory Manager

For and on behalf of Environmental Scientifics Group

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This Test Report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory

Environmental Scientifics Group. Registered in England No. 2880501. Registered Office: ESG House, Brethby Business Park, Ashby Road, Burton on Trent DE15 0YZ

Determination of Moisture Content and Atterberg Limits

Client: Soiltechnics Limited
Client Address: Cedar Barn,
White Lodge
Walgrave
Postcode: NN6 9PY
Contact: Andy Keeler

Site: MIPA, Havant

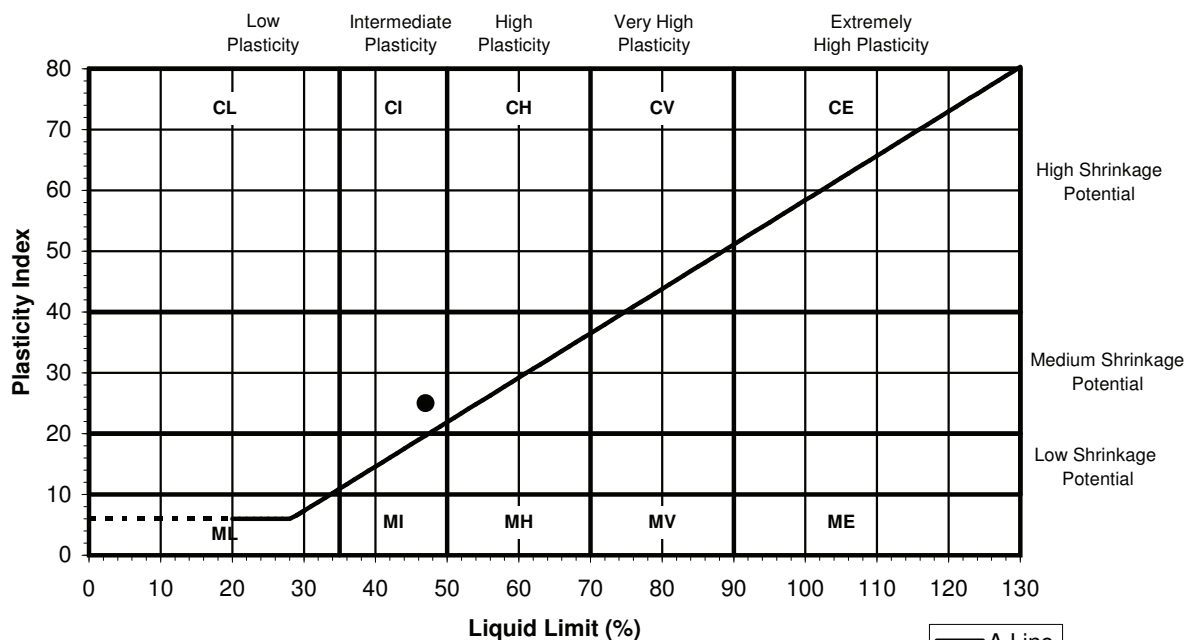
Report No: 51028540/16/09
Batch Number: DAM0064997

Client Reference: STN3739B
Sampled by: Client
Date Sampled: 31.10.16
Date Received: 08.12.16
Tested From: 14.12.16-16.12.16
Sample Type: Bulk

Test Results:

Description: Brown grey CLAY with silt

Laboratory Reference	Location	Depth (m)	As Received Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	% Passing 425µm
45304612	BH01	6.70	N/A	47	22	25	100



Sample Preparation: As Received, Coarse particles removed by hand prior to test
Estimated % passing 425µm BS Test Sieve

Certified that the laboratory testing was carried out in accordance with BS 1377-2: 1990: Method 3.2, 4.4 and 5

Page: 1 of 1
Date: 20.12.16

Signed

D. Berrill

[] M. Carr - Section Manager
[✓] D. Berrill - Laboratory Manager

For and on behalf of Environmental Scientifics Group

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This Test Report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory

Environmental Scientifics Group. Registered in England No. 2880501. Registered Office: ESG House, Brethby Business Park, Ashby Road, Burton on Trent DE15 0YZ

Determination of Moisture Content and Atterberg Limits

Client: Soiltechnics Limited
Client Address: Cedar Barn,
White Lodge
Walgrave
Postcode: NN6 9PY
Contact: Andy Keeler

Site: MIPA, Havant

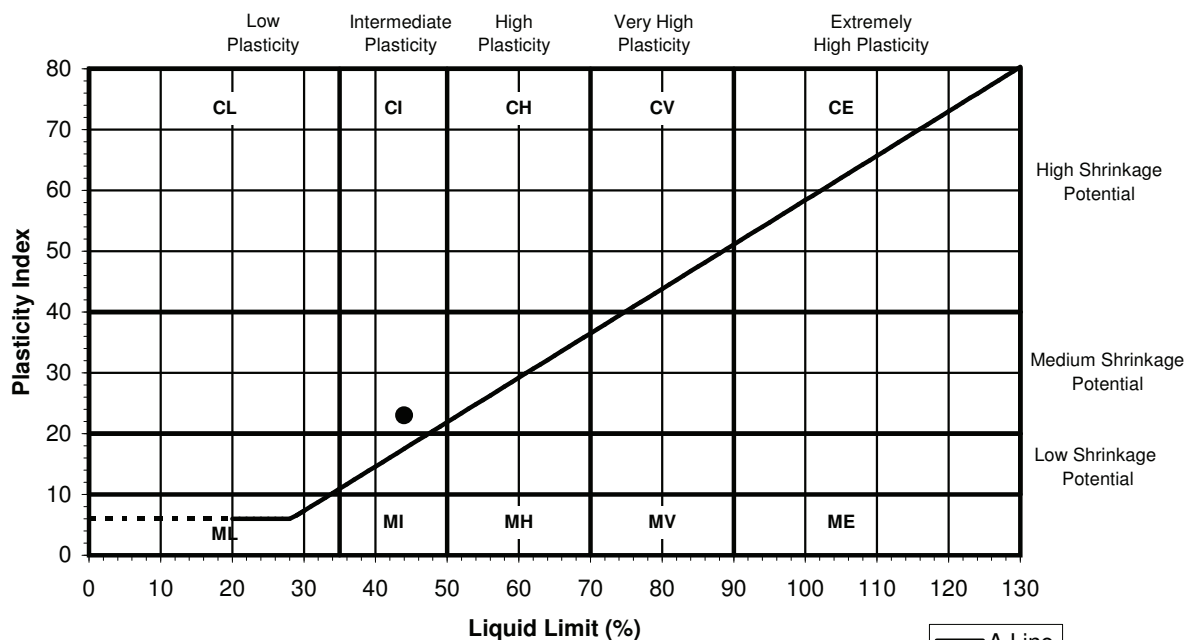
Report No: 51028540/16/10
Batch Number: DAM0064997

Client Reference: STN3739B
Sampled by: Client
Date Sampled: 31.10.16
Date Received: 08.12.16
Tested From: 14.12.16-19.12.16
Sample Type: Bulk

Test Results:

Description: Brown sandy CLAY

Laboratory Reference	Location	Depth (m)	As Received Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	% Passing 425µm
45304613	BH02	1.00	N/A	44	21	23	100



Sample Preparation: As Received, Coarse particles removed by hand prior to test
Estimated % passing 425µm BS Test Sieve

Certified that the laboratory testing was carried out in accordance with BS 1377-2: 1990: Method 3.2, 4.4 and 5

Page: 1 of 1
Date: 20.12.16

Signed

D. Berrill

[] M. Carr - Section Manager
[✓] D. Berrill - Laboratory Manager

For and on behalf of Environmental Scientifics Group

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This Test Report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory

Environmental Scientifics Group. Registered in England No. 2880501. Registered Office: ESG House, Brethby Business Park, Ashby Road, Burton on Trent DE15 0YZ

Determination of Moisture Content and Atterberg Limits

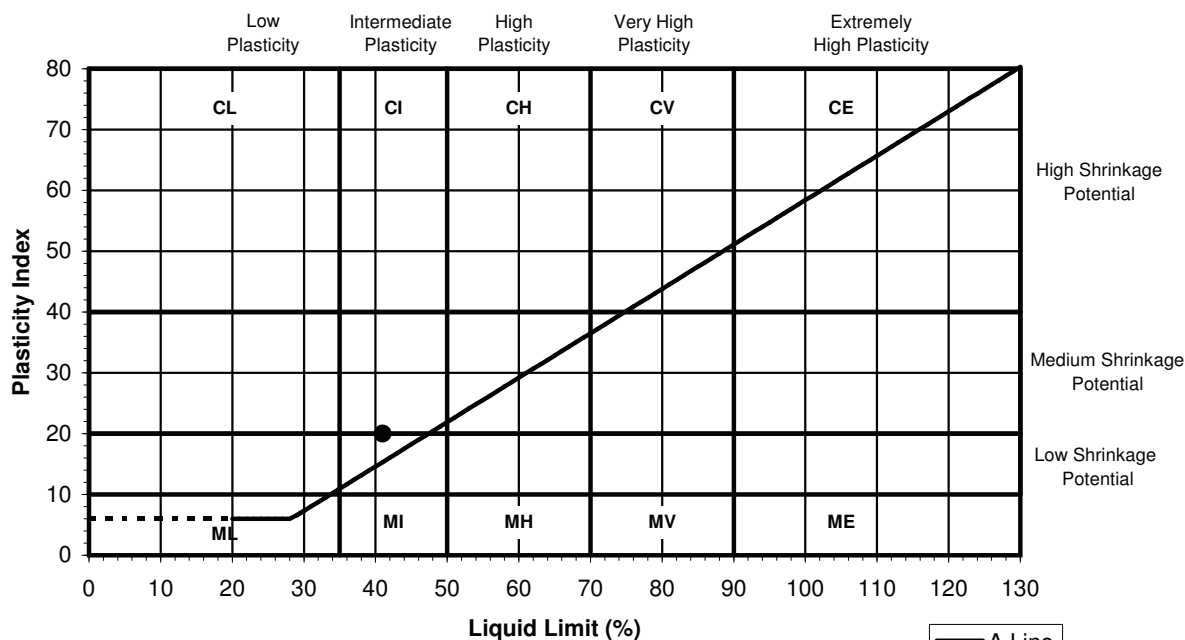
Client: Soiltechnics Limited
Client Address: Cedar Barn,
White Lodge
Walgrave
Postcode: NN6 9PY
Contact: Andy Keeler
Site: MIPA, Havant

Report No: 51028540/16/11
Batch Number: DAM0064997
Client Reference: STN3739B
Sampled by: Client
Date Sampled: 31.10.16
Date Received: 08.12.16
Tested From: 14.12.16-19.12.16
Sample Type: Bulk

Test Results:

Description: Olive brown sandy CLAY with silt

Laboratory Reference	Location	Depth (m)	As Received Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	% Passing 425µm
45304614	BH02	3.20	N/A	41	21	20	100



Sample Preparation: As Received, Coarse particles removed by hand prior to test
Estimated % passing 425µm BS Test Sieve

Certified that the laboratory testing was carried out in accordance with BS 1377-2: 1990: Method 3.2, 4.4 and 5

Page: 1 of 1
Date: 20.12.16

Signed

[Signature]

[] M. Carr - Section Manager
[✓] D. Berrill - Laboratory Manager

For and on behalf of Environmental Scientifics Group

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This Test Report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory

Environmental Scientifics Group. Registered in England No. 2880501. Registered Office: ESG House, Brethby Business Park, Ashby Road, Burton on Trent DE15 0YZ

Determination of Moisture Content and Atterberg Limits

Client: Soiltechnics Limited
Client Address: Cedar Barn,
White Lodge
Walgrave
Postcode: NN6 9PY
Contact: Andy Keeler

Site: MIPA, Havant

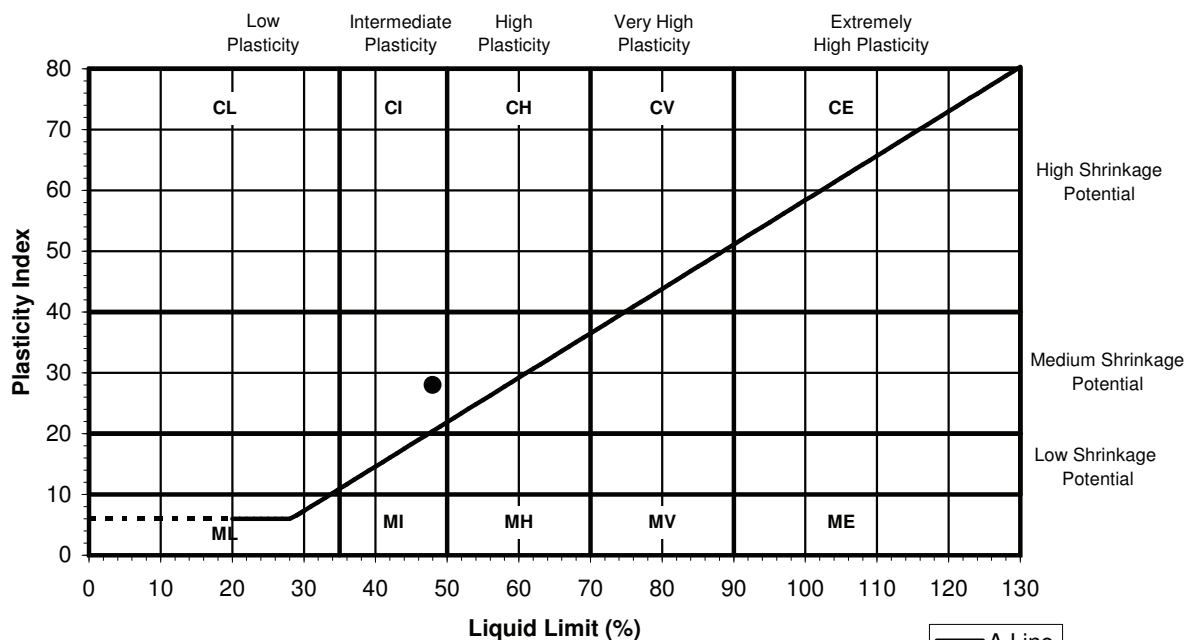
Report No: 51028540/16/12
Batch Number: DAM0064997

Client Reference: STN3739B
Sampled by: Client
Date Sampled: 31.10.16
Date Received: 08.12.16
Tested From: 14.12.16-19.12.16
Sample Type: Bulk

Test Results:

Description: Grey sandy CLAY with silt

Laboratory Reference	Location	Depth (m)	As Received Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	% Passing 425µm
45304615	BH02	5.20	N/A	48	20	28	100



Sample Preparation: As Received, Coarse particles removed by hand prior to test
Estimated % passing 425µm BS Test Sieve

Certified that the laboratory testing was carried out in accordance with BS 1377-2: 1990: Method 3.2, 4.4 and 5

Page: 1 of 1
Date: 20.12.16

Signed

D. Berrill

[] M. Carr - Section Manager
[✓] D. Berrill - Laboratory Manager

For and on behalf of Environmental Scientifics Group

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This Test Report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory

Environmental Scientifics Group. Registered in England No. 2880501. Registered Office: ESG House, Brethby Business Park, Ashby Road, Burton on Trent DE15 0YZ

Determination of Moisture Content and Atterberg Limits

Client: Soiltechnics Limited
Client Address: Cedar Barn,
White Lodge
Walgrave
Postcode: NN6 9PY
Contact: Andy Keeler

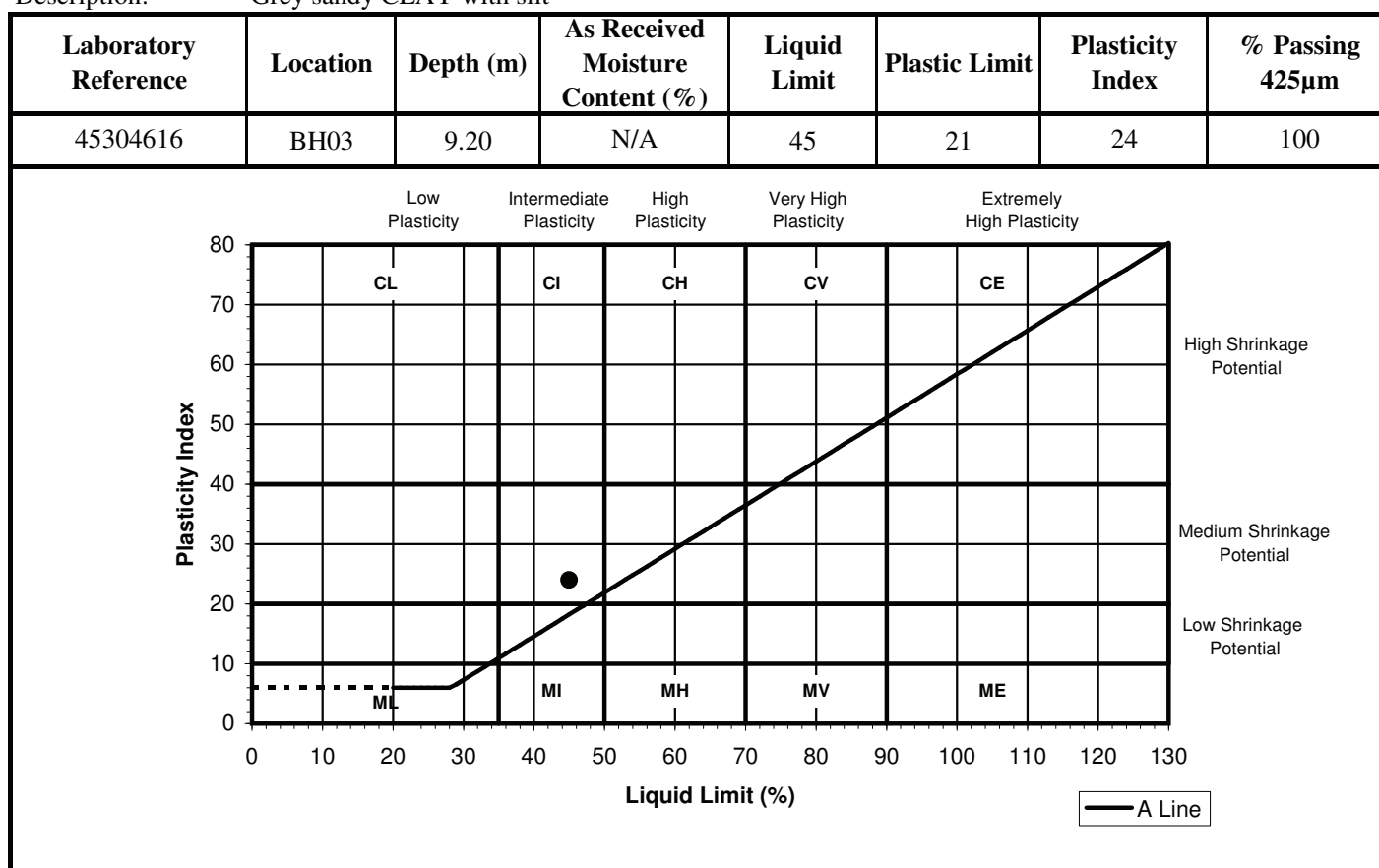
Site: MIPA, Havant

Report No: 51028540/16/13
Batch Number: DAM0064997

Client Reference: STN3739B
Sampled by: Client
Date Sampled: 31.10.16
Date Received: 08.12.16
Tested From: 14.12.16-19.12.16
Sample Type: Bulk

Test Results:

Description: Grey sandy CLAY with silt



Sample Preparation: As Received, Coarse particles removed by hand prior to test
Estimated % passing 425µm BS Test Sieve

Certified that the laboratory testing was carried out in accordance with BS 1377-2: 1990: Method 3.2, 4.4 and 5

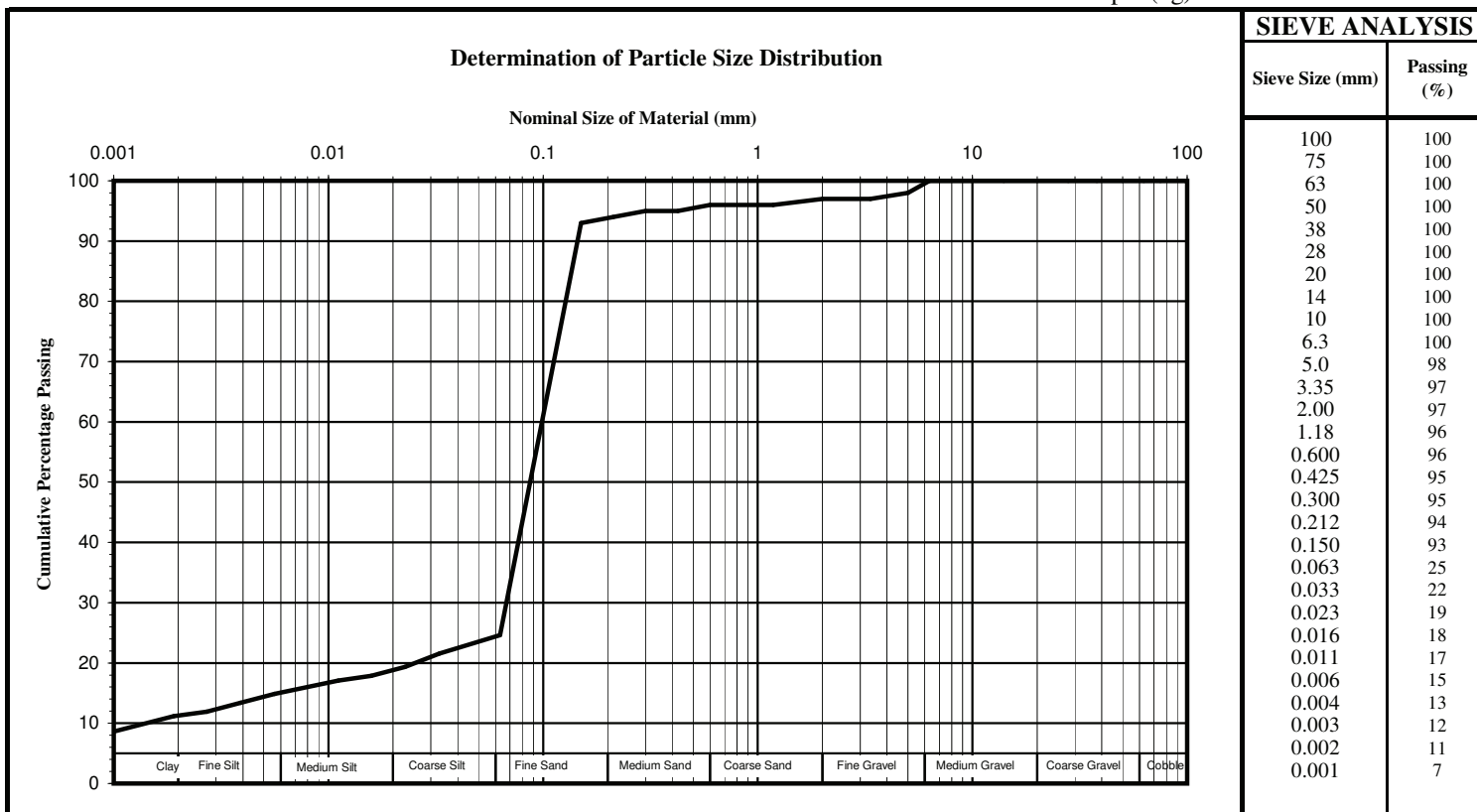


0001

TEST REPORT

Determination of Particle Size Distribution

Client:	Soiltechnics Limited	Report No:	51028540/16/14
Client Address:	Cedar Barn, White Lodge Walgrave	Batch Number:	DAM0064997
	NN6 9PY	Lab Ref:	45304610
Postcode:	Client	Client Reference:	1
Contact:	Andy Keeler	Location:	BH01
Site:	MIPA, Havant	Depth (m):	1.00
Supplier:	Client	Sampled from:	Site
Source:	Site	Sampled by:	Client
		Date Sampled:	31.10.16
Description:	Brown slightly clayey silty SAND with occasional gravel	Date Received:	08.12.16
Moisture Content (%):	19	Date Tested:	14.12.16-17.12.16
Particle Density (Mg/m ³):	2.70 Mg/m ³ Assumed Value	Sample Type:	Disturbed
		Mass of Sample (kg):	1.5



Certified that the test was carried out in accordance with BS 1377-2: 1990 : Clauses 9.2 & 9.5

Comments : No pretreatment necessary
Preparation Method : In accordance with BS 1377-1 : 1990

Page: 1 of 1

Date Reported: 20.12.16

Signed

For and on behalf of Environmental Scientifics Group

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This Test Report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory

Environmental Scientifics Group. Registered in England No. 2880501. Registered Office: ESG House, Bretby Business Park, Ashby Road, Burton on Trent DE15 0YZ

[] M. Carr - Section Manager

[✓] D. Berrill - Laboratory Manager

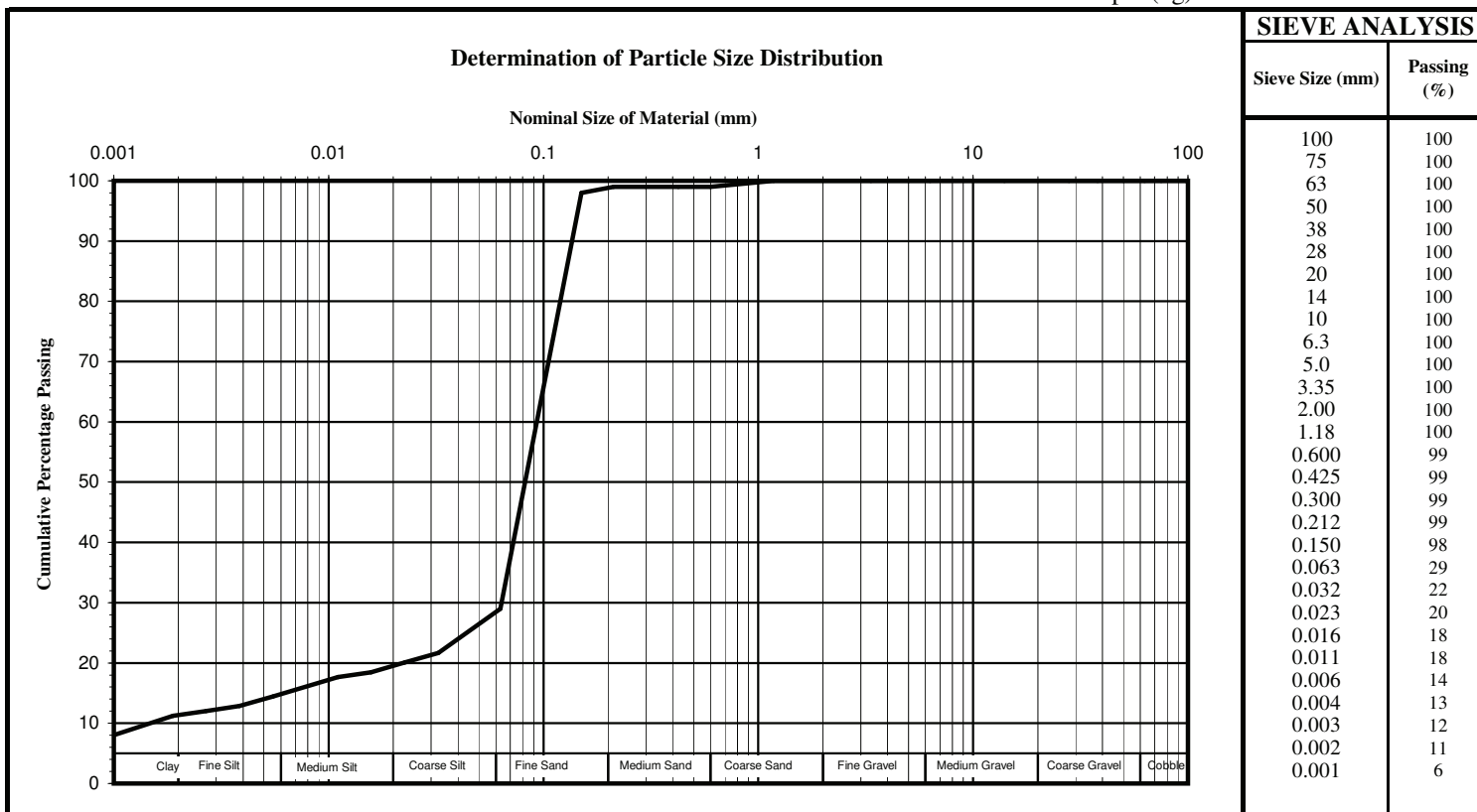


0001

TEST REPORT

Determination of Particle Size Distribution

Client:	Soiltechnics Limited	Report No:	51028540/16/15
Client Address:	Cedar Barn, White Lodge Walgrave	Batch Number:	DAM0064997
		Lab Ref:	45304617
Postcode:	NN6 9PY	Client Reference:	8
Contact:	Andy Keeler	Location:	DTS05
Site:	MIPA, Havant	Depth (m):	2.50-2.60
Supplier:	Client	Sampled from:	Site
Source:	Site	Sampled by:	Client
		Date Sampled:	31.10.16
Description:	Brown slightly clayey silty SAND	Date Received:	08.12.16
Moisture Content (%):	24	Date Tested:	14.12.16-17.12.16
Particle Density (Mg/m ³):	2.70 Mg/m ³ Assumed Value	Sample Type:	Disturbed
		Mass of Sample (kg):	1



Certified that the test was carried out in accordance with BS 1377-2: 1990 : Clauses 9.2 & 9.5

Comments : No pretreatment necessary
Preparation Method : In accordance with BS 1377-1 : 1990

Page: 1 of 1

Date Reported: 20.12.16

Signed

[] M. Carr - Section Manager

[✓] D. Berrill - Laboratory Manager

For and on behalf of Environmental Scientifics Group

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This Test Report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory

Environmental Scientifics Group. Registered in England No. 2880501. Registered Office: ESG House, Bretby Business Park, Ashby Road, Burton on Trent DE15 0YZ



Final Report

Report No.: 16-27151-1

Initial Date of Issue: 16-Nov-2016

Client Soiltechnics Limited

Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
Northamptonshire
NN6 9PY

Contact(s): Rachel Brown

Project STN3739B - Mipa, Havant

Quotation No.: **Date Received:** 08-Nov-2016

Order No.: 22777 **Date Instructed:** 08-Nov-2016

No. of Samples: 1

Turnaround (Wkdays): 7 **Results Due:** 16-Nov-2016

Date Approved: 16-Nov-2016

Approved By:



Details: Robert Monk, Technical Development
Chemist

Results - 2 Stage WAC

Project: STN3739B - Mipa, Havant

Chemtest Job No: 16-27151 Chemtest Sample ID: 375674 Sample Ref: WAC1 Sample ID: 1-050 Top Depth(m): 0.00 Bottom Depth(m): Sampling Date: 31-Oct-2016							Landfill Waste Acceptance Criteria Limits		
							Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Determinand	SOP	Accred.	Units						
Total Organic Carbon	2625	U	%				0.92	3	5
Loss On Ignition	2610	U	%				3.2	--	10
Total BTEX	2760	U	mg/kg				< 0.010	6	--
Total PCBs (7 Congeners)	2815	U	mg/kg				< 0.10	1	--
TPH Total WAC (Mineral Oil)	2670	U	mg/kg				< 10	500	--
Total (Of 17) PAH's	2700	N	mg/kg				< 2.0	100	--
pH	2010	U					8.6	--	--
Acid Neutralisation Capacity	2015	N	mol/kg				0.29	--	To evaluate
Eluate Analysis			2:1 mg/l	8:1 mg/l	2:1 mg/kg	Cumulative mg/kg 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
Arsenic	1450	U	0.0074	0.0068	< 0.050	0.069	0.5	2	25
Barium	1450	U	0.012	0.0061	< 0.50	< 0.50	20	100	300
Cadmium	1450	U	< 0.00010	< 0.00010	< 0.010	< 0.010	0.04	1	5
Chromium	1450	U	0.0051	0.0035	< 0.050	< 0.050	0.5	10	70
Copper	1450	U	0.015	0.0082	< 0.050	< 0.050	2	50	100
Mercury	1450	U	< 0.00050	< 0.00050	< 0.0010	< 0.0050	0.01	0.2	2
Molybdenum	1450	U	0.012	0.0034	< 0.050	< 0.050	0.5	10	30
Nickel	1450	U	0.0023	< 0.0010	< 0.050	< 0.050	0.4	10	40
Lead	1450	U	< 0.0010	0.0059	< 0.010	0.052	0.5	10	50
Antimony	1450	U	0.0026	0.0017	< 0.010	0.018	0.06	0.7	5
Selenium	1450	U	0.0041	0.0018	< 0.010	0.021	0.1	0.5	7
Zinc	1450	U	0.0068	0.0060	< 0.50	< 0.50	4	50	200
Chloride	1220	U	14	7.1	28	79	800	15000	25000
Fluoride	1220	U	0.62	0.36	1.2	3.9	10	150	500
Sulphate	1220	U	210	55	410	730	1000	20000	50000
Total Dissolved Solids	1020	N	340	120	680	1500	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	40	20	79	220	500	800	1000

Soild Information

Dry mass of test portion/kg	0.175
Moisture (%)	11

Leachate Test Information

Leachant volume 1st extract/l	0.329
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.211

SOP	Title	Parameters included	Method summary
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids in Waters
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

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

Charges may apply to extended sample storage

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

customerservices@chemtest.co.uk



Final Report

Report No.: 16-27209-1

Initial Date of Issue: 14-Nov-2016

Client Soiltechnics Limited

Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
Northamptonshire
NN6 9PY

Contact(s): Rachel Brown

Project STN3739B MIPA, Havant

Quotation No.: **Date Received:** 08-Nov-2016

Order No.: 22778 **Date Instructed:** 08-Nov-2016

No. of Samples: 16

Turnaround (Wkdays): 5 **Results Due:** 14-Nov-2016

Date Approved: 14-Nov-2016

Approved By:

Details: Keith Jones, Technical Manager

Project: STN3739B MIPA, Havant

Client: Soiltechnics Limited	Chemtest Job No.:				16-27209	16-27209	16-27209	16-27209	16-27209	16-27209	16-27209	16-27209
Quotation No.:	Chemtest Sample ID.:				375980	375981	375982	375983	375984	375985	375986	375988
Order No.: 22778	Client Sample Ref.:				DTS01a	DTS01a	DTS01b	DTS01b	DTS02	DTS02	DTS03	DTS04
	Client Sample ID.:				1-001	1-007	1-011	1-013	1-016	1-020	1-026	1-031
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.10	2.30	3.10	4.10	0.40	1.40	0.80	1.15
	Bottom Depth (m):									0.90		
	Date Sampled:				31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016
	Asbestos Lab:				COVENTRY				COVENTRY		COVENTRY	
Determinand	Accred.	SOP	Units	LOD								
ACM Type	U	2192		N/A	-				-		-	
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected				No Asbestos Detected		No Asbestos Detected	
Moisture	N	2030	%	0.020	5.6	17	23	21	18	22	8.7	19
Soil Colour	N	2040		N/A	Brown				Brown		Brown	
Other Material	N	2040		N/A	Stones				Stones		Stones	
Soil Texture	N	2040		N/A	Sand				Clay		Sand	
pH	M	2010		N/A	8.8				8.2		9.4	11.1
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	0.63				0.65			1.5
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010						0.13		
Total Sulphur	M	2175	%	0.010						0.090		
Cyanide (Complex)	M	2300	mg/kg	0.50	< 0.50				< 0.50		< 0.50	
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50				< 0.50		< 0.50	
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50				< 0.50		< 0.50	
Sulphate (Acid Soluble)	M	2430	%	0.010						0.13		
Arsenic	M	2450	mg/kg	1.0	18				6.3		13	
Beryllium	U	2450	mg/kg	1.0	1.2				< 1.0		< 1.0	
Cadmium	M	2450	mg/kg	0.10	0.42				< 0.10		< 0.10	
Chromium	M	2450	mg/kg	1.0	17				23		12	
Copper	M	2450	mg/kg	0.50	23				11		30	
Mercury	M	2450	mg/kg	0.10	< 0.10				< 0.10		< 0.10	
Nickel	M	2450	mg/kg	0.50	22				13		11	
Lead	M	2450	mg/kg	0.50	46				93		37	
Selenium	M	2450	mg/kg	0.20	< 0.20				0.32		< 0.20	
Vanadium	U	2450	mg/kg	5.0	32				27		15	
Zinc	M	2450	mg/kg	0.50	86				87		70	
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50				< 0.50		< 0.50	
Organic Matter	M	2625	%	0.40	1.5	1.6	2.2	0.62	0.64	2.6	0.48	1.9
Total Organic Carbon	M	2625	%	0.20			1.3	0.36				
Aliphatic TPH >C5-C6	N	2680	mg/kg	0.010			< 0.010	< 0.010				
Aliphatic TPH >C6-C8	N	2680	mg/kg	0.010			< 0.010	< 0.010				
Aliphatic TPH >C8-C10	N	2680	mg/kg	0.10			< 0.10	< 0.10				
Aliphatic TPH >C10-C12	N	2680	mg/kg	0.10			< 0.10	< 0.10				
Aliphatic TPH >C12-C16	N	2680	mg/kg	0.10			< 0.10	< 0.10				
Aliphatic TPH >C16-C21	N	2680	mg/kg	0.10			< 0.10	< 0.10				
Aliphatic TPH >C21-C35	N	2680	mg/kg	0.10			< 0.10	< 0.10				
Aliphatic TPH >C35-C44	N	2680	mg/kg	0.10			< 0.10	< 0.10				

Project: STN3739B MIPA, Havant

Client: Soiltechnics Limited	Chemtest Job No.:		16-27209	16-27209	16-27209	16-27209	16-27209	16-27209	16-27209	16-27209	16-27209
Quotation No.:	Chemtest Sample ID.:		375980	375981	375982	375983	375984	375985	375986	375987	375988
Order No.: 22778	Client Sample Ref.:		DTS01a	DTS01a	DTS01b	DTS01b	DTS02	DTS02	DTS03	DTS04	DTS04
	Client Sample ID.:		1-001	1-007	1-011	1-013	1-016	1-020	1-026	1-029	1-031
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.10	2.30	3.10	4.10	0.40	1.40	0.80	0.40	1.15
	Bottom Depth (m):							0.90			
	Date Sampled:		31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016
	Asbestos Lab:		COVENTRY				COVENTRY			COVENTRY	
Determinand	Accred.	SOP	Units	LOD							
Total Aliphatic Hydrocarbons	N	2680	mg/kg	1.0			< 1.0	< 1.0			
Aromatic TPH >C5-C7	N	2680	mg/kg	0.010			< 0.010	< 0.010			
Aromatic TPH >C7-C8	N	2680	mg/kg	0.010			< 0.010	< 0.010			
Aromatic TPH >C8-C10	N	2680	mg/kg	0.10			< 0.10	< 0.10			
Aromatic TPH >C10-C12	N	2680	mg/kg	0.10			< 0.10	< 0.10			
Aromatic TPH >C12-C16	N	2680	mg/kg	0.10			< 0.10	< 0.10			
Aromatic TPH >C16-C21	N	2680	mg/kg	0.10			< 0.10	< 0.10			
Aromatic TPH >C21-C35	N	2680	mg/kg	0.10			< 0.10	< 0.10			
Aromatic TPH >C35-C44	N	2680	mg/kg	0.10			< 0.10	< 0.10			
Total Aromatic Hydrocarbons	N	2680	mg/kg	1.0			< 1.0	< 1.0			
Total Petroleum Hydrocarbons	N	2680	mg/kg	2.0			< 2.0	< 2.0			
Benzene	M	2760	µg/kg	1.0			< 1.0	< 1.0			
Toluene	M	2760	µg/kg	1.0			< 1.0	< 1.0			
Ethylbenzene	M	2760	µg/kg	1.0			< 1.0	< 1.0			
m & p-Xylene	M	2760	µg/kg	1.0			< 1.0	< 1.0			
o-Xylene	M	2760	µg/kg	1.0			< 1.0	< 1.0			
Naphthalene	M	2800	mg/kg	0.10	0.19			< 0.10		< 0.10	
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10			< 0.10		< 0.10	
Acenaphthene	M	2800	mg/kg	0.10	< 0.10			< 0.10		< 0.10	
Fluorene	M	2800	mg/kg	0.10	< 0.10			< 0.10		< 0.10	
Phenanthrene	M	2800	mg/kg	0.10	< 0.10			< 0.10		< 0.10	
Anthracene	M	2800	mg/kg	0.10	< 0.10			< 0.10		< 0.10	
Fluoranthene	M	2800	mg/kg	0.10	0.41			< 0.10		< 0.10	
Pyrene	M	2800	mg/kg	0.10	0.63			< 0.10		< 0.10	
Benzo[a]anthracene	M	2800	mg/kg	0.10	0.16			< 0.10		< 0.10	
Chrysene	M	2800	mg/kg	0.10	0.19			< 0.10		< 0.10	
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10			< 0.10		< 0.10	
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10			< 0.10		< 0.10	
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10			< 0.10		< 0.10	
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10			< 0.10		< 0.10	
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10			< 0.10		< 0.10	
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10			< 0.10		< 0.10	
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0			< 2.0		< 2.0	
Total Phenols	M	2920	mg/kg	0.30	< 0.30			< 0.30		< 0.30	

Project: STN3739B MIPA, Havant

Client: Soiltechnics Limited	Chemtest Job No.:				16-27209	16-27209	16-27209	16-27209	16-27209	16-27209	16-27209
Quotation No.:	Chemtest Sample ID.:				375989	375990	375991	375992	375993	375994	375995
Order No.: 22778	Client Sample Ref.:				DTS04	DTS04	DTS05	DTS05	DTS06	DTS06	DTS06
	Client Sample ID.:				1-032	1-034	1-037	1-039	1-041	1-044	1-046
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				1.50	1.80	0.60	1.60	0.20	1.10	1.55
	Bottom Depth (m):				1.60		0.80	1.70			
	Date Sampled:				31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016
	Asbestos Lab:						COVENTRY		COVENTRY		
Determinand	Accred.	SOP	Units	LOD							
ACM Type	U	2192		N/A			-		-		
Asbestos Identification	U	2192	%	0.001			No Asbestos Detected		No Asbestos Detected		
Moisture	N	2030	%	0.020	19	19	17	16	14	19	22
Soil Colour	N	2040		N/A	Brown		Brown		Brown	Brown	
Other Material	N	2040		N/A	NONE		Stones		Stones	Stones	
Soil Texture	N	2040		N/A	Clay		Clay		Clay	Clay	
pH	M	2010		N/A	8.2		8.4		8.7	8.6	
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40			0.69		0.90		
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.11					0.044	
Total Sulphur	M	2175	%	0.010	0.11					0.090	
Cyanide (Complex)	M	2300	mg/kg	0.50			< 0.50		< 0.50		
Cyanide (Free)	M	2300	mg/kg	0.50			< 0.50		< 0.50		
Cyanide (Total)	M	2300	mg/kg	0.50			< 0.50		< 0.50		
Sulphate (Acid Soluble)	M	2430	%	0.010	0.11					0.036	
Arsenic	M	2450	mg/kg	1.0			8.8		8.5		
Beryllium	U	2450	mg/kg	1.0			1.1		< 1.0		
Cadmium	M	2450	mg/kg	0.10			< 0.10		< 0.10		
Chromium	M	2450	mg/kg	1.0			30		19		
Copper	M	2450	mg/kg	0.50			18		37		
Mercury	M	2450	mg/kg	0.10			< 0.10		< 0.10		
Nickel	M	2450	mg/kg	0.50			35		13		
Lead	M	2450	mg/kg	0.50			17		58		
Selenium	M	2450	mg/kg	0.20			0.34		< 0.20		
Vanadium	U	2450	mg/kg	5.0			44		28		
Zinc	M	2450	mg/kg	0.50			51		46		
Chromium (Hexavalent)	N	2490	mg/kg	0.50			< 0.50		< 0.50		
Organic Matter	M	2625	%	0.40		< 0.40	< 0.40	1.9	1.3		8.3
Total Organic Carbon	M	2625	%	0.20		0.23					4.8
Aliphatic TPH >C5-C6	N	2680	mg/kg	0.010		< 0.010					< 0.010
Aliphatic TPH >C6-C8	N	2680	mg/kg	0.010		< 0.010					< 0.010
Aliphatic TPH >C8-C10	N	2680	mg/kg	0.10		< 0.10					< 0.10
Aliphatic TPH >C10-C12	N	2680	mg/kg	0.10		< 0.10					< 0.10
Aliphatic TPH >C12-C16	N	2680	mg/kg	0.10		< 0.10					< 0.10
Aliphatic TPH >C16-C21	N	2680	mg/kg	0.10		< 0.10					< 0.10
Aliphatic TPH >C21-C35	N	2680	mg/kg	0.10		< 0.10					< 0.10
Aliphatic TPH >C35-C44	N	2680	mg/kg	0.10		< 0.10					< 0.10

Project: STN3739B MIPA, Havant

Client: Soiltechnics Limited	Chemtest Job No.:		16-27209	16-27209	16-27209	16-27209	16-27209	16-27209	16-27209
Quotation No.:	Chemtest Sample ID.:		375989	375990	375991	375992	375993	375994	375995
Order No.: 22778	Client Sample Ref.:		DTS04	DTS04	DTS05	DTS05	DTS06	DTS06	DTS06
	Client Sample ID.:		1-032	1-034	1-037	1-039	1-041	1-044	1-046
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		1.50	1.80	0.60	1.60	0.20	1.10	1.55
	Bottom Depth (m):		1.60		0.80	1.70			
	Date Sampled:		31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016	31-Oct-2016
	Asbestos Lab:				COVENTRY		COVENTRY		
Determinand	Accred.	SOP	Units	LOD					
Total Aliphatic Hydrocarbons	N	2680	mg/kg	1.0		< 1.0			< 1.0
Aromatic TPH >C5-C7	N	2680	mg/kg	0.010		< 0.010			< 0.010
Aromatic TPH >C7-C8	N	2680	mg/kg	0.010		< 0.010			< 0.010
Aromatic TPH >C8-C10	N	2680	mg/kg	0.10		< 0.10			< 0.10
Aromatic TPH >C10-C12	N	2680	mg/kg	0.10		< 0.10			< 0.10
Aromatic TPH >C12-C16	N	2680	mg/kg	0.10		< 0.10			< 0.10
Aromatic TPH >C16-C21	N	2680	mg/kg	0.10		< 0.10			< 0.10
Aromatic TPH >C21-C35	N	2680	mg/kg	0.10		< 0.10			< 0.10
Aromatic TPH >C35-C44	N	2680	mg/kg	0.10		< 0.10			< 0.10
Total Aromatic Hydrocarbons	N	2680	mg/kg	1.0		< 1.0			< 1.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	2.0		< 2.0			< 2.0
Benzene	M	2760	µg/kg	1.0		< 1.0			< 1.0
Toluene	M	2760	µg/kg	1.0		< 1.0			< 1.0
Ethylbenzene	M	2760	µg/kg	1.0		< 1.0			< 1.0
m & p-Xylene	M	2760	µg/kg	1.0		< 1.0			< 1.0
o-Xylene	M	2760	µg/kg	1.0		< 1.0			< 1.0
Naphthalene	M	2800	mg/kg	0.10		< 0.10		0.23	
Acenaphthylene	N	2800	mg/kg	0.10		< 0.10		< 0.10	
Acenaphthene	M	2800	mg/kg	0.10		< 0.10		< 0.10	
Fluorene	M	2800	mg/kg	0.10		< 0.10		< 0.10	
Phenanthrene	M	2800	mg/kg	0.10		< 0.10		0.14	
Anthracene	M	2800	mg/kg	0.10		< 0.10		< 0.10	
Fluoranthene	M	2800	mg/kg	0.10		< 0.10		0.39	
Pyrene	M	2800	mg/kg	0.10		< 0.10		0.33	
Benzo[a]anthracene	M	2800	mg/kg	0.10		< 0.10		< 0.10	
Chrysene	M	2800	mg/kg	0.10		< 0.10		< 0.10	
Benzo[b]fluoranthene	M	2800	mg/kg	0.10		< 0.10		< 0.10	
Benzo[k]fluoranthene	M	2800	mg/kg	0.10		< 0.10		< 0.10	
Benzo[a]pyrene	M	2800	mg/kg	0.10		< 0.10		< 0.10	
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10		< 0.10		< 0.10	
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10		< 0.10		< 0.10	
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10		< 0.10		< 0.10	
Total Of 16 PAH's	N	2800	mg/kg	2.0		< 2.0		< 2.0	
Total Phenols	M	2920	mg/kg	0.30		< 0.30		< 0.30	

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

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

Charges may apply to extended sample storage

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

customerservices@chemtest.co.uk



Final Report

Report No.: 16-27697-1

Initial Date of Issue: 18-Nov-2016

Client Soiltechnics Limited

Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
Northamptonshire
NN6 9PY

Contact(s): Rachel Brown

Project STN3739B - MIPA, Havant

Quotation No.: **Date Received:** 14-Nov-2016

Order No.: 22861 **Date Instructed:** 14-Nov-2016

No. of Samples: 2

Turnaround (Wkdays): 5 **Results Due:** 18-Nov-2016

Date Approved: 18-Nov-2016

Approved By:



Details: Keith Jones, Technical Manager

Project: STN3739B - MIPA, Havant

Client: Soiltechnics Limited	Chemtest Job No.:				16-27697	16-27697
Quotation No.:	Chemtest Sample ID.:				378142	378143
Order No.: 22861	Client Sample Ref.:				BH01	DTS04
	Client Sample ID.:				BH012.2	DTS041.35
	Sample Type:				WATER	WATER
	Top Depth (m):				2.20	1.35
	Date Sampled:				31-Oct-2016	31-Oct-2016
Determinand	Accred.	SOP	Units	LOD		
pH	U	1010		N/A	8.1	8.7
Ammoniacal Nitrogen	U	1220	mg/l	0.010	0.44	1.2
Nitrate	U	1220	mg/l	0.50	< 0.50	< 0.50
Sulphate	U	1220	mg/l	1.0	250	940
Cyanide (Total)	U	1300	mg/l	0.050	< 0.050	< 0.050
Cyanide (Free)	U	1300	mg/l	0.050	< 0.050	< 0.050
Cyanide (Complex)	U	1300	mg/l	0.050	< 0.050	< 0.050
Sulphide	U	1325	mg/l	0.050	[B] < 0.050	[B] < 0.050
Magnesium	U	1415	mg/l	0.50	25	13
Arsenic (Dissolved)	U	1450	µg/l	1.0	12	1.7
Boron (Dissolved)	U	1450	µg/l	20	590	53000
Beryllium (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0
Cadmium (Dissolved)	U	1450	µg/l	0.080	0.17	120
Chromium (Dissolved)	U	1450	µg/l	1.0	3.1	1.6
Copper (Dissolved)	U	1450	µg/l	1.0	2.2	11
Mercury (Dissolved)	U	1450	µg/l	0.50	< 0.50	2.9
Nickel (Dissolved)	U	1450	µg/l	1.0	5.1	< 1.0
Lead (Dissolved)	U	1450	µg/l	1.0	< 1.0	1.9
Selenium (Dissolved)	U	1450	µg/l	1.0	5.7	2.0
Vanadium (Dissolved)	U	1450	µg/l	1.0	48	2.7
Zinc (Dissolved)	U	1450	µg/l	1.0	23	19
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	3.7
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	190
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	1300
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	3000
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	700
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	5300
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	130
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	1600
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	1500
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	470
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	3700

Project: STN3739B - MIPA, Havant

Client: Soiltechnics Limited	Chemtest Job No.:			16-27697	16-27697	
Quotation No.:	Chemtest Sample ID.:			378142	378143	
Order No.: 22861	Client Sample Ref.:			BH01	DTS04	
	Client Sample ID.:			BH012.2	DTS041.35	
	Sample Type:			WATER	WATER	
	Top Depth (m):			2.20	1.35	
	Date Sampled:			31-Oct-2016	31-Oct-2016	
Determinand	Accred.	SOP	Units	LOD		
Total Petroleum Hydrocarbons	N	1675	µg/l	10	< 10	8900
Naphthalene	U	1800	µg/l	0.10	< 0.10	< 0.10
Acenaphthylene	U	1800	µg/l	0.10	< 0.10	< 0.10
Acenaphthene	U	1800	µg/l	0.10	< 0.10	< 0.10
Fluorene	U	1800	µg/l	0.10	< 0.10	< 0.10
Phenanthrene	U	1800	µg/l	0.10	< 0.10	< 0.10
Anthracene	U	1800	µg/l	0.10	< 0.10	< 0.10
Fluoranthene	U	1800	µg/l	0.10	< 0.10	< 0.10
Pyrene	U	1800	µg/l	0.10	< 0.10	< 0.10
Benzo[a]anthracene	U	1800	µg/l	0.10	< 0.10	< 0.10
Chrysene	U	1800	µg/l	0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	U	1800	µg/l	0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	U	1800	µg/l	0.10	< 0.10	< 0.10
Benzo[a]pyrene	U	1800	µg/l	0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	U	1800	µg/l	0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	U	1800	µg/l	0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	U	1800	µg/l	0.10	< 0.10	< 0.10
Total Of 16 PAH's	U	1800	µg/l	2.0	< 2.0	< 2.0
Total Phenols	U	1920	mg/l	0.030	[B] < 0.030	[B] < 0.030

Deviations

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

Sample ID:	Sample Ref:	Sample ID:	Sampled Date:	Deviation Code(s):	Containers Received:
378142	BH01	BH012.2	31-Oct-2016	B	Coloured Winchester 1000ml
378142	BH01	BH012.2	31-Oct-2016	B	EPA Vial 40ml
378142	BH01	BH012.2	31-Oct-2016	B	Plastic Bottle 1000ml
378143	DTS04	DTS041.35	31-Oct-2016	B	Coloured Winchester 1000ml
378143	DTS04	DTS041.35	31-Oct-2016	B	EPA Vial 40ml

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N-dimethyl-pphenylenediamine.
1415	Cations in Waters by ICP-MS	Sodium; Potassium; Calcium; Magnesium	Direct determination by inductively coupled plasma - mass spectrometry (ICP-MS).
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5-C6, >C6-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44 Aromatics: >C5-C7, >C7-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44	Pentane extraction / GCxGC FID detection
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

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

Charges may apply to extended sample storage

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

customerservices@chemtest.co.uk



Final Report

Report No.: 16-28070-1

Initial Date of Issue: 23-Nov-2016

Client Soiltechnics Limited

Client Address: Cedar Barn
White Lodge
Walgrave
Northampton
Northamptonshire
NN6 9PY

Contact(s): Rachel Brown

Project STN3739B - MIPA, Havant

Quotation No.: **Date Received:** 17-Nov-2016

Order No.: 22884 **Date Instructed:** 17-Nov-2016

No. of Samples: 7

Turnaround (Wkdays): 5 **Results Due:** 23-Nov-2016

Date Approved: 23-Nov-2016

Approved By:



Details: Robert Monk, Technical Development
Chemist

Results - Soil

Client: Soiltechnics Limited	Chemtest Job No.:				16-28070	16-28070	16-28070	16-28070	16-28070	16-28070	16-28070
Quotation No.:	Chemtest Sample ID.:				379633	379634	379635	379636	379637	379638	379639
Order No.: 22884	Client Sample Ref.:				BH01	BH01	BH01	BH02	BH02	BH03	BH03
	Client Sample ID.:				BH010.5	BH0113.7	BH013.2	BH0217.2	BH028.2	BH030.5	BH0312.2
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.50	13.70	3.20	17.20	8.20	0.50	12.20
	Date Sampled:				31-Oct-2016	01-Nov-2016	31-Oct-2016	03-Nov-2016	02-Nov-2016	04-Nov-2016	04-Nov-2016
	Asbestos Lab:				COVENTRY					COVENTRY	
Determinand	Accred.	SOP	Units	LOD							
ACM Type	U	2192		N/A	-					-	
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected					No Asbestos Detected	
Moisture	N	2030	%	0.020	12	22	22	15	15	11	14
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	NONE	NONE	NONE	NONE	Stones, Textiles	NONE
Soil Texture	N	2040		N/A	Sand	Clay	Clay	Clay	Clay	Sand	Clay
pH	M	2010		N/A	8.8	8.4	8.0	8.3	8.2	10.0	8.4
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	0.83					0.41	
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010		0.10	0.030	0.18	0.21		0.15
Total Sulphur	M	2175	%	0.010		0.49	0.060	0.28	0.36		0.28
Cyanide (Complex)	M	2300	mg/kg	0.50	[B] < 0.50					< 0.50	
Cyanide (Free)	M	2300	mg/kg	0.50	[B] < 0.50					< 0.50	
Cyanide (Total)	M	2300	mg/kg	0.50	[B] < 0.50					< 0.50	
Sulphate (Acid Soluble)	M	2430	%	0.010		0.044	0.023	0.069	0.099		0.078
Arsenic	M	2450	mg/kg	1.0	15					15	
Beryllium	U	2450	mg/kg	1.0	< 1.0					< 1.0	
Cadmium	M	2450	mg/kg	0.10	0.38					0.32	
Chromium	M	2450	mg/kg	1.0	17					13	
Copper	M	2450	mg/kg	0.50	21					13	
Mercury	M	2450	mg/kg	0.10	0.10					< 0.10	
Nickel	M	2450	mg/kg	0.50	14					12	
Lead	M	2450	mg/kg	0.50	87					50	
Selenium	M	2450	mg/kg	0.20	< 0.20					< 0.20	
Vanadium	U	2450	mg/kg	5.0	27					22	
Zinc	M	2450	mg/kg	0.50	110					61	
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50					< 0.50	
Organic Matter	M	2625	%	0.40	1.4					3.3	
Naphthalene	M	2800	mg/kg	0.10	< 0.10					< 0.10	
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10					< 0.10	
Acenaphthene	M	2800	mg/kg	0.10	< 0.10					< 0.10	
Fluorene	M	2800	mg/kg	0.10	< 0.10					< 0.10	
Phenanthrene	M	2800	mg/kg	0.10	0.64					< 0.10	
Anthracene	M	2800	mg/kg	0.10	0.11					< 0.10	
Fluoranthene	M	2800	mg/kg	0.10	0.75					0.14	
Pyrene	M	2800	mg/kg	0.10	0.68					0.20	
Benzo[a]anthracene	M	2800	mg/kg	0.10	0.12					< 0.10	

Results - Soil

Project: STN3739B - MIPA, Havant

Client: Soiltechnics Limited	Chemtest Job No.:		16-28070	16-28070	16-28070	16-28070	16-28070	16-28070	16-28070
Quotation No.:	Chemtest Sample ID.:		379633	379634	379635	379636	379637	379638	379639
Order No.: 22884	Client Sample Ref.:		BH01	BH01	BH01	BH02	BH02	BH03	BH03
	Client Sample ID.:		BH010.5	BH0113.7	BH013.2	BH0217.2	BH028.2	BH030.5	BH0312.2
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.50	13.70	3.20	17.20	8.20	0.50	12.20
	Date Sampled:		31-Oct-2016	01-Nov-2016	31-Oct-2016	03-Nov-2016	02-Nov-2016	04-Nov-2016	04-Nov-2016
	Asbestos Lab:		COVENTRY					COVENTRY	
Determinand	Accred.	SOP	Units	LOD					
Chrysene	M	2800	mg/kg	0.10	0.15			< 0.10	
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10			< 0.10	
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10			< 0.10	
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10			< 0.10	
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10			< 0.10	
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10			< 0.10	
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10			< 0.10	
Total Of 16 PAH's	N	2800	mg/kg	2.0	2.6			< 2.0	
Total Phenols	M	2920	mg/kg	0.30	< 0.30			< 0.30	

Deviations

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

Sample ID:	Sample Ref:	Sample ID:	Sampled Date:	Deviation Code(s):	Containers Received:
379633	BH01	BH010.5	31-Oct-2016	B	Plastic Bag
379633	BH01	BH010.5	31-Oct-2016	B	Plastic Tub 500g

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

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

Charges may apply to extended sample storage

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

customerservices@chemtest.co.uk

Analysis of test data in relation to concentrations of **inorganic** chemical contaminants

Adopted Model: **Industrial/Commercial**
Receptor: **Proposed site users and construction operatives**

Test procedure			Summary of test data					Initial comparison		Outlier test					Normality test			UCL	
Contaminant	Guideline source	Guideline value	No. of tests	Min.	Max.	Mean	No. of tests above guideline value	Initial screening	Pass outlier test?	Number of outliers	Location of outlier	Depth	Concentration	Shapiro-Wilk Normality test	Probability plot test	Data normally distributed?	95% UCL of mean	Contaminant	
		mg/kg		mg/kg	mg/kg	mg/kg		mg/kg											
Arsenic	S4UL	640	7	6.3	18.0	12.1	0	Mean value below guideline	y	0				normal	not normal	n	19.1	Arsenic	
Beryllium	S4UL	12	7	1.0	1.2	1.0	0	Mean value below guideline	n	0				not normal	not normal	n	1.2	Beryllium	
Boron	S4UL	240000	7	0.4	1.5	0.8	0	Mean value below guideline	n	0				normal	not normal	n	1.4	Boron	
Cadmium	S4UL	190	7	0.1	0.4	0.2	0	Mean value below guideline	y	0				not normal	not normal	n	0.5	Cadmium	
Chromium (IV)	S4UL	33	7	12.0	30.0	18.7	0	Mean value below guideline	y	0				normal	not normal	n	28.9	Chromium (IV)	
Copper	S4UL	68000	7	11.0	37.0	21.9	0	Mean value below guideline	y	0				normal	not normal	n	37.0	Copper	
Cyanide (total)	ATK	34	7	0.5	0.5	0.5	0	Mean value below guideline	y	0				not normal	not normal	n	0.5	Cyanide (total)	
Lead	C4SL (I)	1100	7	17.0	93.0	55.4	0	Mean value below guideline	y	0				normal	not normal	n	99.8	Lead	
Mercury#	S4UL	58	7	0.1	0.1	0.1	0	Mean value below guideline	y	0				not normal	not normal	n	0.1	Mercury#	
Nickel	S4UL	980	7	11.0	35.0	17.1	0	Mean value below guideline	n	0				not normal	not normal	n	31.4	Nickel	
Selenium	S4UL	12000	7	0.2	0.3	0.2	0	Mean value below guideline	y	0				not normal	not normal	n	0.3	Selenium	
Vanadium	S4UL	9000	7	15.0	44.0	27.9	0	Mean value below guideline	y	0				normal	not normal	n	42.6	Vanadium	
Zinc	S4UL	730000	7	46.0	110.0	73.0	0	Mean value below guideline	y	0				normal	not normal	n	110.5	Zinc	

S4UL Suitable for Use Level as published by LQM/CIEH
C4SL Category 4 Screening Level
C4SL (lower) (upper) Category 4 Screening Level for Lead at lower or upper bound of range
ATK Soil Screening Value derived by Atkins
BPG5 Guideline from BPG Note 5 as published by Forest Research

Assumed to be elemental mercury as initial screening value

Analysis of test data in relation to concentrations of organic chemical contaminants

Adopted model: Industrial/Commercial
Receptor: Porposed site users and construction operatives

Test procedure			Summary of test data					Initial Screening		Outlier test				Normality test			UCL	
Contaminant	Guideline source	Guideline value*	No. of tests	Min.	Max.	Mean	No. of tests above guideline value	Initial screening	Pass outlier test?	Number of outliers	Location of outlier	Depth	Concentration mg/kg	Shapiro-Wilk Normality test	Probability plot test	Data normally distributed?	95% UCL of mean mg/kg	Contaminant
		mg/kg		mg/kg	mg/kg	mg/kg												
Acenaphthene	S4UL	84000	7	0.1	0.1	0.1	0	Mean value below guideline	y	0				not normal	not normal	n	0.1	Acenaphthene
Acenaphthylene	S4UL	83000	7	0.1	0.1	0.1	0	Mean value below guideline	y	0				not normal	not normal	n	0.1	Acenaphthylene
Anthracene	S4UL	520000	7	0.1	0.1	0.1	0	Mean value below guideline	n	0				not normal	not normal	n	0.1	Anthracene
Benzo(a)anthracene	S4UL	170	7	0.1	0.2	0.1	0	Mean value below guideline	n	0				not normal	not normal	n	0.1	Benzo(a)anthracene
Benzo(a)pyrene	S4UL	35	7	0.1	0.1	0.1	0	Mean value below guideline	y	0				not normal	not normal	n	0.1	Benzo(a)pyrene
Benzo(b)fluoranthene	S4UL	44	7	0.1	0.1	0.1	0	Mean value below guideline	y	0				not normal	not normal	n	0.1	Benzo(b)fluoranthene
Benzo(g,h,i)perylene	S4UL	3900	7	0.1	0.1	0.1	0	Mean value below guideline	y	0				not normal	not normal	n	0.1	Benzo(g,h,i)perylene
Benzo(k)fluoranthene	S4UL	1200	7	0.1	0.1	0.1	0	Mean value below guideline	y	0				not normal	not normal	n	0.1	Benzo(k)fluoranthene
Chrysene	S4UL	350	7	0.1	0.2	0.1	0	Mean value below guideline	n	0				not normal	not normal	n	0.2	Chrysene
Dibenzo(a,h)anthracene	S4UL	3.5	7	0.1	0.1	0.1	0	Mean value below guideline	y	0				not normal	not normal	n	0.1	Dibenzo(a,h)anthracene
Fluoranthene	S4UL	23000	7	0.1	0.8	0.3	0	Mean value below guideline	y	0				not normal	not normal	n	0.7	Fluoranthene
Fluorene	S4UL	63000	7	0.1	0.1	0.1	0	Mean value below guideline	y	0				not normal	not normal	n	0.1	Fluorene
Indeno(1,2,3-cd)pyrene	S4UL	500	7	0.1	0.1	0.1	0	Mean value below guideline	y	0				not normal	not normal	n	0.1	Indeno(1,2,3-cd)pyrene
Naphthalene	S4UL	190	7	0.1	0.2	0.1	0	Mean value below guideline	y	0				not normal	not normal	n	0.2	Naphthalene
Phenanthrene	S4UL	22000	7	0.1	0.6	0.2	0	Mean value below guideline	n	0				not normal	not normal	n	0.5	Phenanthrene
Phenols	S4UL	760	7	0.3	0.3	0.3	0	Mean value below guideline	y	0				not normal	not normal	n	0.3	Phenols
Pyrene	S4UL	54000	7	0.1	0.7	0.3	0	Mean value below guideline	y	0				not normal	not normal	n	0.7	Pyrene

Notes

S4UL Suitable for Use Level as published by LQM/CIEH
C4SL Category 4 Screening Level
SGV Soil Guideline Value as published by the Environment Agency 2009
SSV Soil Screening Value as derived by Soiltechnics
ATK Soil Screening Value derived by Atkins

* Assuming a SOM of 1%

Title	Table number
Analysis of test data in relation to concentrations of organic chemical contaminants	2

Analysis of test data in relation to concentrations of **inorganic** chemical contaminants

Adopted Model: **Industrial/Commercial and BPG5**
Receptor: **Vegetation**

Test procedure			Summary of test data					Initial comparison		Outlier test				Normality test			UCL	
Contaminant	Guideline source	Guideline value	No. of tests	Min.	Max.	Mean	No. of tests above guideline value	Initial screening	Pass outlier test?	Number of outliers	Location of outlier	Depth	Concentration	Shapiro-Wilk Normality test	Probability plot test	Data normally distributed?	95% UCL of mean	Contaminant
		mg/kg		mg/kg	mg/kg	mg/kg							mg/kg					
Arsenic	S4UL	640	7	6.3	18.0	12.1	0	Mean value below guideline	y	0				normal	not normal	n	19.1	Arsenic
Beryllium	S4UL	12	7	1.0	1.2	1.0	0	Mean value below guideline	n	0				not normal	not normal	n	1.2	Beryllium
Boron	S4UL	240000	7	0.4	1.5	0.8	0	Mean value below guideline	n	0				normal	not normal	n	1.4	Boron
Cadmium	S4UL	190	7	0.1	0.4	0.2	0	Mean value below guideline	y	0				not normal	not normal	n	0.5	Cadmium
Chromium (IV)	S4UL	33	7	12.0	30.0	18.7	0	Mean value below guideline	y	0				normal	not normal	n	28.9	Chromium (IV)
Copper	BPG5	130	7	11.0	37.0	21.9	0	Mean value below guideline	y	0				normal	not normal	n	37.0	Copper
Cyanide (total)	ATK	34	7	0.5	0.5	0.5	0	Mean value below guideline	y	0				not normal	not normal	n	0.5	Cyanide (total)
Lead	C4SL (I)	1100	7	17.0	93.0	55.4	0	Mean value below guideline	y	0				normal	not normal	n	99.8	Lead
Mercury#	S4UL	58	7	0.1	0.1	0.1	0	Mean value below guideline	y	0				not normal	not normal	n	0.1	Mercury#
Nickel	S4UL	980	7	11.0	35.0	17.1	0	Mean value below guideline	n	0				not normal	not normal	n	31.4	Nickel
Selenium	S4UL	12000	7	0.2	0.3	0.2	0	Mean value below guideline	y	0				not normal	not normal	n	0.3	Selenium
Vanadium	S4UL	9000	7	15.0	44.0	27.9	0	Mean value below guideline	y	0				normal	not normal	n	42.6	Vanadium
Zinc	BPG5	300	7	46.0	110.0	73.0	0	Mean value below guideline	y	0				normal	not normal	n	110.5	Zinc

S4UL Suitable for Use Level as published by LQM/CIEH
C4SL Category 4 Screening Level
C4SL (lower) (upper) Category 4 Screening Level for Lead at lower or upper bound of range
ATK Soil Screening Value derived by Atkins
BPG5 Guideline from BPG Note 5 as published by Forest Research

Assumed to be elemental mercury as initial screening value

Summary of petroleum hydrocarbon test results

Model: Industrial/Commercial

BTEX (Red highlights indicate exceedance of guideline value)

Indicator	unit	S4UL (mg/kg)	Concentration			
			DTS01b 3.10	DTS01b 4.10	DTS04 1.80	DTS06 1.55
Benzene	mg/kg	27	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	56000	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	5700	< 0.001	< 0.001	< 0.001	< 0.001
o-Xylene	mg/kg	6600	< 0.001	< 0.001	< 0.001	< 0.001
m,p-Xylene	mg/kg	5900	< 0.001	< 0.001	< 0.001	< 0.001

Hydrocarbon banding (Red highlights indicate exceedance of guideline value)

Fraction	unit	S4UL (mg/kg)	Concentration			
			DTS01b 3.10	DTS01b 4.10	DTS04 1.80	DTS06 1.55
Aliphatic						
EC 5 - 6	mg/kg	3200	< 0.010	< 0.010	< 0.010	< 0.010
EC >6 - 8	mg/kg	7800	< 0.010	< 0.010	< 0.010	< 0.010
EC >8 - 10	mg/kg	2000	< 0.10	< 0.10	< 0.10	< 0.10
EC >10 - 12	mg/kg	9700	< 0.10	< 0.10	< 0.10	< 0.10
EC >12 - 16	mg/kg	59000	< 0.10	< 0.10	< 0.10	< 0.10
EC >16 - 35	mg/kg	1600000	< 0.10	< 0.10	< 0.10	< 0.10
EC >35 - 44	mg/kg	1600000	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic						
EC 5 - 7 (benzene)	mg/kg	26000	< 0.010	< 0.010	< 0.010	< 0.010
EC >7 - 8 (toluene)	mg/kg	56000	< 0.010	< 0.010	< 0.010	< 0.010
EC >8 - 10	mg/kg	3500	< 0.10	< 0.10	< 0.10	< 0.10
EC >10 - 12	mg/kg	16000	< 0.10	< 0.10	< 0.10	< 0.10
EC >12 - 16	mg/kg	36000	< 0.10	< 0.10	< 0.10	< 0.10
EC >16 - 21	mg/kg	28000	< 0.10	< 0.10	< 0.10	< 0.10
EC >21 - 35	mg/kg	28000	< 0.10	< 0.10	< 0.10	< 0.10
EC >35 - 44	mg/kg	28000	< 0.10	< 0.10	< 0.10	< 0.10

Title
Comparison of measured concentrations of
petroleum hydrocarbons with guideline values.

Table number
4

Summary of groundwater test results

Receptor
Water type
Fish type
Water hardness

Groundwater
Freshwater
Salmonid
>250 mg/l

Contaminant	Guideline value (µg/l)	Guideline source	Location Depth (m)	BH01 2.2	DTS04 1.35
Inorganics (µg/l)					
Arsenic	50	EQS (f)		12	2
Boron	2000	EQS (f)		590	53000
Cadmium	5	EQS (f)		0	120
Chromium	50	EQS (f)		3	2
Copper	28	EQS (f)		2	11
Lead	20	EQS (f)		< 1.0	2
Mercury	1	EQS (f)		< 0.50	3
Nickel	200	EQS (f)		5	< 1.0
Selenium ¹	10	UKDWS		6	2
Vanadium ²	60	EQS (f)		48	3
Zinc	125	EQS (f)		23	19
Free Cyanide ¹	50	UKDWS		<50	<50
Nitrate as N	50000	UKDWS		<500	<500
Sulphate as SO4	400000	EQS(f)		250000	940000
PAH (µg/l)					
Benzo(a)pyrene ^{1,4}	0.01	UKDWS		< 0.10	< 0.10
Naphthalene ²	10	EQS (f)		< 0.10	< 0.10
Sum of 4 PAH ¹	0.1	UKDWS		<0.1*	<0.1*
TPH (µg/l)					
Hydrocarbons ¹	10	UKDWS		<10*	8900

Notes

- 1 EQS values not available
 2 UKDWS not available
 3 Lower detectable limit above UKDWS. Concentrations below detectable limits are not considered further.
 * Taken as lower detection limit
 # Taken as lower detection limit of a single compound
 \$ Hardness data presented by the Environment Agency

UKDWS UK Drinking Water Standard Guideline taken from "The Water Supply (Water Quality) Regulations 2000"
 EQS (f) Environmental Quality Standard for freshwater published by the Environment Agency
 EQS (s) Environmental Quality Standard for saltwater published by the Environment Agency

Title
Comparison of measured concentrations with
guideline values for water receptors

Table number
5

Initial Conceptual Model (following source-pathway-receptor assessment)

Proposed site use commercial/Industrial

Source	Pathway										Receptor	Risk assessment to CIRIA C552		
	Humans						Vegetation	Water				Consequence of risk occurring	Risk	
	Ingestion of air-borne dusts	Ingestion of soil	Ingestion of vegetables and soil attached to vegetables	Inhalation of air-borne dusts	Inhalation of vapours	Dermal contact with soil and dust	Root uptake, deposition to shoots and foliage contact	Percolation of water through contaminated soils	Near-surface water run-off through contaminated	Saturation of soils by flood waters			via most likely pathway	
Soils														
Household chemicals manufacture	Likely	Low likelihood	Unlikely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Adult	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current)	-	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (proposed)	-	Medium	Moderate
	-	-	-	-	-	-	-	Likely	Likely	Unlikely	Water (current)	-	Medium	Moderate
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (proposed)	-	Medium	Low/moderate
Vehicle service and repair	Likely	Low likelihood	Unlikely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Adult	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current)	-	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (proposed)	-	Medium	Moderate
	-	-	-	-	-	-	-	Likely	Likely	Unlikely	Water (current)	-	Medium	Moderate
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (proposed)	-	Medium	Low/moderate
TPH contamination previous investigation	Likely	Low likelihood	Unlikely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Adult	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current)	-	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (proposed)	-	Medium	Moderate
	-	-	-	-	-	-	-	Likely	Likely	Unlikely	Water (current)	-	Medium	Moderate
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (proposed)	-	Medium	Low/moderate
Made Ground	Likely	Low likelihood	Unlikely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Adult	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current)	-	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (proposed)	-	Medium	Moderate
	-	-	-	-	-	-	-	Likely	Likely	Unlikely	Water (current)	-	Medium	Moderate
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (proposed)	-	Medium	Low/moderate
TPH odours in soils	Likely	Low likelihood	Unlikely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Adult	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current)	-	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (proposed)	-	Medium	Moderate
	-	-	-	-	-	-	-	Likely	Likely	Unlikely	Water (current)	-	Medium	Moderate
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (proposed)	-	Medium	Low/moderate
Water														
TPH in groundwater at DTS04	-	-	-	-	-	-	-	Likely	Likely	Unlikely	Water (current)	-	Medium	Moderate
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (proposed)	-	Medium	Low/moderate

Title	Table number
Initial Conceptual Site Model	1

Updated Conceptual Model

Proposed site use commercial/Industrial

Source	Pathway										Receptor	Risk assessment to CIRIA C552		
	Humans	Ingestion of air-borne dusts	Ingestion of soil	Ingestion of vegetables and soil attached to vegetables	Inhalation of air-borne dusts	Inhalation of vapours	Dermal contact with soil and dust	Vegetation	Water	Near-surface water run-off through contaminated				
Consequence of risk occurring via most likely pathway														Risk
Soils														
Household chemicals manufacture	Likely	Low likelihood	Unlikely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Adult	Minor	Low
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current)	-	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Likely	Likely	Unlikely	Water (current)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (proposed)	-	Minor	Very low
Vehicle service and repair	Likely	Low likelihood	Unlikely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Adult	Minor	Low
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current)	-	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Likely	Likely	Unlikely	Water (current)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (proposed)	-	Minor	Very low
TPH contamination previous investigation	Likely	Low likelihood	Unlikely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Adult	Minor	Low
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current)	-	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Likely	Likely	Unlikely	Water (current)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (proposed)	-	Minor	Very low
Made Ground	Likely	Low likelihood	Unlikely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Adult	Minor	Low
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current)	-	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Likely	Likely	Unlikely	Water (current)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (proposed)	-	Minor	Very low
TPH odours in soils	Likely	Low likelihood	Unlikely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Adult	Minor	Low
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current)	-	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Likely	Likely	Unlikely	Water (current)	-	Minor	Low
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (proposed)	-	Minor	Very low
Water														
TPH in groundwater at DTS04	-	-	-	-	-	-	-	Likely	Likely	Unlikely	Water (current)	-	Medium	Moderate
	-	-	-	-	-	-	-	Low likelihood	Low likelihood	Unlikely	Water (proposed)	-	Medium	Low/moderate

Title	Table number
Updated Conceptual Site Model	2

Record of in-situ gas and water level monitoring results

Date / Time	Instrument Used	Location	Atmospheric pressure (mB)	Temperature (°C)	Methane, CH ₄ (%v/v) Chg		Carbon Dioxide, CO ₂ (%v/v) Chg		Oxygen, O ₂ (%v/v)		Balance	Lower Explosive Limit	Gas Flow (q)	Peak hazardous gas flow rate Qhgs		Steady hazardous gas flow rate Qhgs		NHBC Guideline	NHBC Guideline	Characteristic gas situation	Potentially Explosive	Water Level (m)
					Peak	Steady	Peak	Steady	Minimum	Average	(%v/v)	(% LEL)	(l/Hr)	CH ₄	CO ₂	CH ₄	CO ₂	(Peak)	(Steady)			
08/11/2016 10:07	GA5000	BH01	1017	falling	0.0	0.2	0.1	0.1	0.1	21.2	21.4	78.4	2.0	0.0	0.00	0.00	0.00	0.00		ONE	NO	1
07/12/2016 14:09	GA5000	BH01	1031	steady	11.0	0.0	0.0	0.3	0.3	21.0	21.2	78.5	0.0	0.0	0.00	0.00	0.00	0.00		ONE	NO	1.54
08/11/2016 11:25	GA5000	DTS01b	1017	falling	0.0	0.1	0.1	8.4	8.4	14.2	14.2	77.3	2.0	-0.1	0.00	0.01	0.00	0.01		TWO	NO	3.25
07/12/2016 14:28	GA5000	DTS01b	1026	steady	11.0	0.0	0.0	5.4	5.4	13.1	13.1	81.5	0.0	-0.2	0.00	0.01	0.00	0.01		TWO	NO	-
07/12/2016 13:32	GA5000	DTS01b	1033	steady	11.0	0.0	0.0	11.4	11.4	3.6	3.6	85.0	0.0	-0.1	0.00	0.01	0.00	0.01		TWO	NO	2.54
08/11/2016 10:46	GA5000	DTS04	1012	falling	0.0	0.1	0.1	0.1	0.1	9.7	9.8	90.0	2.0	0.0	0.00	0.00	0.00	0.00		ONE	NO	1.65
07/12/2016 13:44	GA5000	DTS04	1027	steady	11.0	0.0	0.0	0.5	0.2	15.5	15.5	84.3	0.0	0.0	0.00	0.00	0.00	0.00		ONE	NO	1.16
07/12/2016 13:59	GA5000	DTS06	1031	steady	11.0	0.0	0.0	1.6	1.6	18.9	18.9	79.5	0.0	-0.3	0.00	0.00	0.00	0.00		ONE	NO	2.02

0.2	0.1	11.4	11.4	0.0	0.0	90.0	2.0	0.30	0.00	0.03	0.00	0.03		TWO	Worst case scenario
0.0	0.0	1.2	1.1	4.9	4.9	27.3	0.3	0.11	0.00	0.00	0.00	0.00		ONE	Average site scenario

Additional considerations:

Notes:

- 1) Gas Screening Value (GSV) derived by multiplying the peak gas concentration (%) by the peak flow rate (l/h).
- 2) The gas analyser is capable of measuring flow to an accuracy of 0.1l/h. Below this value the analyser records zero flow. Adopting a precautionary approach we have used a flow rate of 0.1l/h when the analyser records zero with this flow rate used to determine the gas screening value.

Title	Revision
Record of in-situ gas monitoring results	Preliminary

Table comparing cumulative compound concentrations with hazardous waste threshold values

Category of danger		Irritant	Harmful	Toxic	Carcinogenic		Corrosive	Toxic for reproduction		Mutagenic		Ecotoxic				
														ΣN : R50-53/0.25	ΣN : 50-53	ΣN : 50-53
														+ΣN : R51-53/2.5	+ΣN : R50	+ΣN : 51-53
														+ΣN : R52-53/25		+ΣN : 52-53
Risk Phrase		Xi	Xn	T+	T	Carc Cat 1		Repr Cat 1 or		Muta Cat 1 or		Muta Cat 2				
Contaminant	Highest concentration	H4 (%)	H5 (%)	H6 (%)	H6 (%)	H7 (%)	H7 (%)	H8 (%)	H8 (%)	H10 (%)	H10 (%)	H11 (%)	H11 (%)	H14	H14	H14
Metals																
Arsenic	18.00			0.0024	0.0028	0.0028								0.4459	0.0028	0.0028
Beryllium	1.20	0.0003		0.0003	0.0003	0.0003										0.0003
Copper	37.00	0.0093	0.0093												0.0093	0.0093
Cadmium	0.42		0.0000		0.0000	0.0000										
Chromium	30.00					0.0048									0.0048	0.0048
Lead	93.00		0.0100							0.0100	0.0100				0.0100	0.0100
Mercury	0.10			0.0000											0.0000	0.0000
Nickel	35.00		0.0045				0.0045					0.0045			0.0045	0.0045
Selenium	0.34				0.0000										0.0000	0.0000
Zinc	110.00	0.0798	0.0798			0.0305		0.0229					0.0517		0.0798	0.0798
Vanadium	44.00	0.0065			0.0065						0.0065		0.0065			0.0065
PAH																
Naphthalene	0.23		0.0000												0.0000	0.0000
Benzo(a)anthracene	0.16				0.0000	0.0000									0.0000	0.0000
Chrysene	0.19				0.0000	0.0000							0.0000		0.0000	0.0000
Benzo(b)fluoranthene	0.00				0.0000	0.0000									0.0000	0.0000
Benzo(k)fluoranthene	0.00				0.0000	0.0000									0.0000	0.0000
Benzo(a)pyrene	0.00					0.0000				0.0000		0.0000			0.0000	0.0000
Dibenzo(a,h)anthracene	0.00				0.0000	0.0000									0.0000	0.0000
TPH																
Benzene	0.00				0.0000	0.0000										
1,2,4-trimethylbenzene	0.00	0.0000	0.0000													0.0000
Hydrocarbon (C6 to C35)	0.00		0.0000			0.0000					0.0000	0.0000				0.0000
Total (or greatest)																
		0.0958	0.1035	0.0027	0.0097	(0.0000)	(0.0045)	0.0229	0.0000	(0.0000)	(0.01)	(0.0000)	(0.0517)	0.4459	0.1112	0.1180
Threshold		1%	1%	0.10%	3%	0.10%	1%	5%	1%	0.50%	3%	0.10%	1%	1	25%	25%
Exceeded Y/N		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Title
Hazard assessment spreadsheet

Table number
1 of 1

Landfill Waste Acceptance Criteria				Laboratory test data	
Parameter	Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill	WAC1	
Parameters determined on the waste					
Total organic carbon (w/w %)	3%	5%	6%*	0.92	
Loss on ignition			10%*	3.2	
BTEX (mg kg ⁻¹)	6			< 0.010	
PCBs (7 congeners) (mg kg ⁻¹)	1			< 0.10	
Mineral oil C ₁₀ - C ₄₀ (mg kg ⁻¹)	500			< 10	
PAH (17 congeners)	100			< 2.0	
pH		>6		8.6	
Acid neutralisation capacity pH 6 (mol kg ⁻¹)		To be evaluated	To be evaluated		
Acid neutralisation capacity pH 4 (mol kg ⁻¹)		To be evaluated	To be evaluated		
Limit values (mg kg⁻¹) for compliance test using BN 12457-3 at L/S 10 l kg⁻¹					
As (arsenic)	0.5	2	25	0.069	
Ba (barium)	20	100	300	< 0.50	
Cd (cadmium)	0.04	1	5	< 0.010	
Cr (chromium (total))	0.5	10	70	< 0.050	
Cu (Copper)	2	50	100	< 0.050	
Hg (mercury)	0.01	0.2	2	< 0.0050	
Mo (molybdenum)	0.5	10	30	< 0.050	
Ni (nickel)	0.4	10	40	< 0.050	
Pb (lead)	0.5	10	50	0.052	
Sb (antimony)	0.06	0.7	5	0.018	
Se (selenium)	0.1	0.5	7	0.021	
Zn (zinc)	4	50	200	< 0.50	
Cl (chloride)	800	15,000	25,000	79	
F (fluoride)	10	150	500	3.9	
SO ₄ (sulphate)	1000#	20,000	50,000	730	
Total Dissolved Solids (TDS) ⁺	4,000	60,000	100,000	1500	
Phenol index	1			< 0.50	
Dissolved organic carbon at own pH or pH 7.5-8.0 [@]	500	800	1000	220	

Notes

- * Either TOC or LOI must be used for hazardous waste
- # If an inert waste does not meet the SO₄ L/S10 limit, alternative limit values of 1500 mg l⁻¹ SO₄ at Co (initial eluate from the percolation test (prCEN/TS 14405:2003)) AND 6000 mg kg⁻¹ SO₄ at L/S10 (either from the percolation test or batch test BS EN 12457-3), can be used to demonstrate compliance with the acceptable criteria for inert wastes.
- + The value for TDS can be used instead of the values for Cl and SO₄
- @ DOC at pH 7.5-8.0 abd L/S10 can be determined or eluate derived from a modified version of the pH dependence Test, prEN 14429, if the limit value at own pH (BS EN 12457 eluate) is not met.

PRIMARY CLASSIFICATION	NON-HAZARDOUS	
SECONDARY CLASSIFICATION	INERT	

Title

Comparison of test data to landfill waste acceptance criteria (table 5.1) (Secondary classification)

Appendix

E

Basic categorisation schedule for Made Ground soils

Produced following the requirements of The Landfill (England and Wales) (Amendment) Regulations 2004 Part 2 (5)

(a) *Source and origin of waste*

Proposed development at MIPA Paints, Fulflood Road, Havant

(b) *Process producing the waste*

Foundation and service trench excavations / general site clearance

(c) *Statement on waste treatment*

Refer to pre-treatment confirmation form

(d) *Composition of the waste*

Brown and grey sand and gravel and clay with frequent cobbles of brick.

(e) *Appearance of the waste*

As above

(f) *European waste catalogue code*

17-05-04 (for non-hazardous waste)

(g) *Hazardous waste properties*

None

(h) *Is the waste prohibited under regulation 9?*

No

(i) *Landfill class*

Inert

(j) *Additional precautions required at landfill*

None

(k) *Can waste be recycled or recovered?*

Yes

(l) *Name and address of waste producer*

TBC

(m) *Name and address of consultant*

Soiltechnics Limited, Cedar Barn, White Lodge, Walgrave, Northampton. NN6 9PY.

Tel: (01604) 781877

E-mail: mail@soiltechnics.net

Fax: (01604) 781007

Website: www.soiltechnics.net

Schedule Date:

signed

23rd December 2016

Soiltechnics reference:

STN3739B-G01



Seb Crolla B.Sc.(Hons), MEnvSc., F.G.S.
Associate Director, Soiltechnics Limited

Basic categorisation schedule for Bognor Sand Member soils

Produced following the requirements of The Landfill (England and Wales) (Amendment)
Regulations 2004 Part 2 (5)

(a) *Source and origin of waste*

Proposed development at MIPA Paints, Fulford Road, Havant

(b) *Process producing the waste*

Foundation and service trench excavations / general site clearance

(c) *Statement on waste treatment*

Refer to pre-treatment confirmation form

(d) *Composition of the waste*

Orange brown sandy clay or loose clayey gravelly sand with gravels of flint.

(e) *Appearance of the waste*

As above

(f) *European waste catalogue code*

17-05-04 (for non-hazardous waste)

(g) *Hazardous waste properties*

None

(h) *Is the waste prohibited under regulation 9?*

No

(i) *Landfill class*

Inert based on soils being of natural origin and unlikely to be affected by artificial contamination

(j) *Additional precautions required at landfill*

None

(k) *Can waste be recycled or recovered?*

Yes

(l) *Name and address of waste producer*

TBC

(m) *Name and address of consultant*

Soiltechnics Limited, Cedar Barn, White Lodge, Walgrave, Northampton. NN6 9PY.

Tel: (01604) 781877

E-mail: mail@soiltechnics.net

Fax: (01604) 781007

Website: www.soiltechnics.net

Schedule Date:

signed

23rd December 2016

Soiltechnics reference:

STN3739B-G01



Seb Crolla B.Sc.(Hons), MEnvSc., F.G.S.
Associate Director, Soiltechnics Limited

Basic categorisation schedule for London Clay Formation soils

Produced following the requirements of The Landfill (England and Wales) (Amendment) Regulations 2004 Part 2 (5)

(a) *Source and origin of waste*

Proposed development at MIPA Paints, Fulford Road, Havant

(b) *Process producing the waste*

Foundation and service trench excavations / general site clearance

(c) *Statement on waste treatment*

Refer to pre-treatment confirmation form

(d) *Composition of the waste*

Grey clay

(e) *Appearance of the waste*

As above

(f) *European waste catalogue code*

17-05-04 (for non-hazardous waste)

(g) *Hazardous waste properties*

None

(h) *Is the waste prohibited under regulation 9?*

No

(i) *Landfill class*

Inert based on soils being of natural origin and unlikely to be affected by artificial contamination

(j) *Additional precautions required at landfill*

None

(k) *Can waste be recycled or recovered?*

Yes

(l) *Name and address of waste producer*

TBC

(m) *Name and address of consultant*

Soiltechnics Limited, Cedar Barn, White Lodge, Walgrave, Northampton. NN6 9PY.

Tel: (01604) 781877

E-mail: mail@soiltechnics.net

Fax: (01604) 781007

Website: www.soiltechnics.net

Schedule Date:

signed

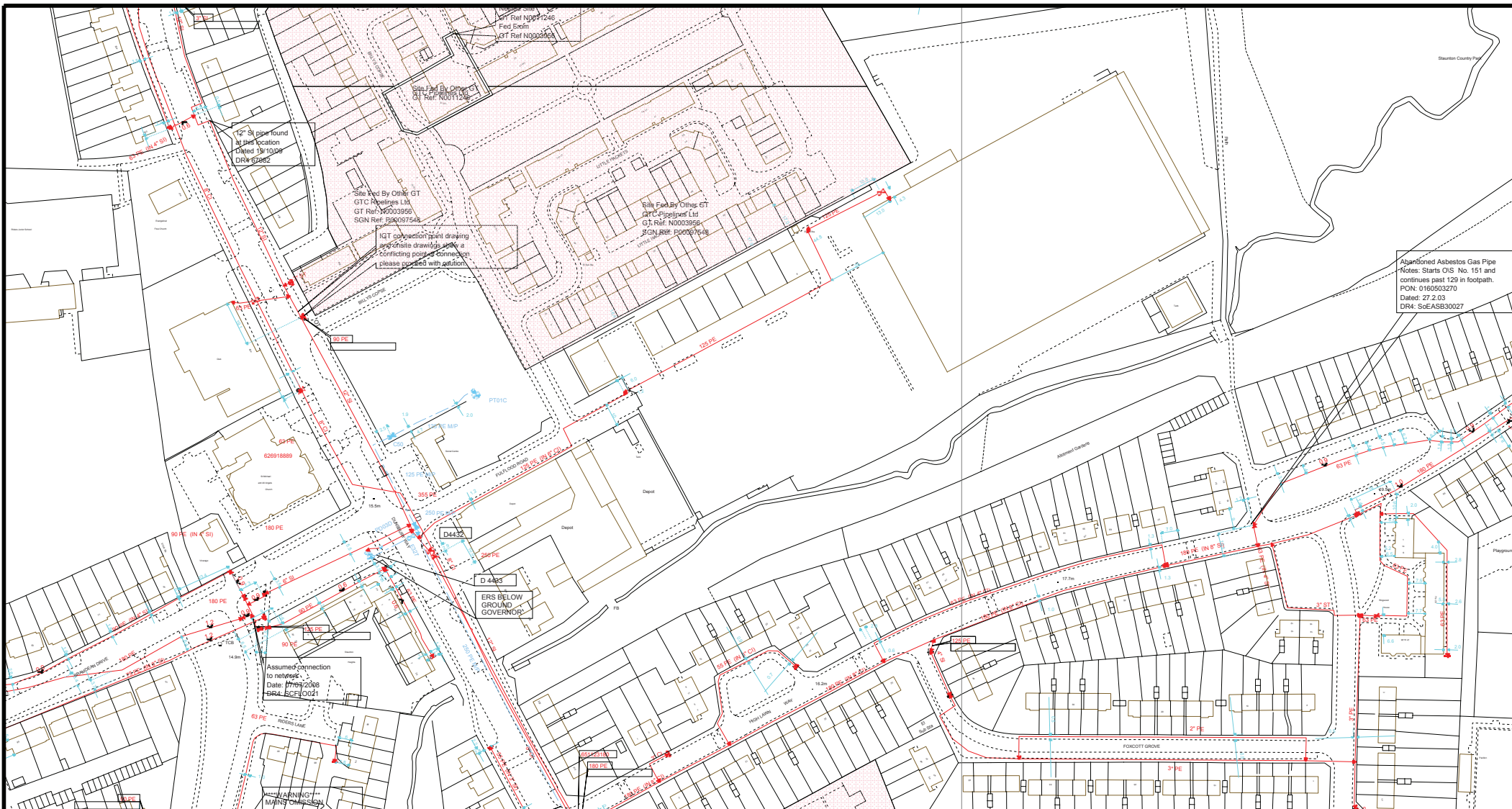
23rd December 2016

Soiltechnics reference:

STN3739B-G01



**Seb Crolla B.Sc.(Hons), MEnvSc., F.G.S.
Associate Director, Soiltechnics Limited**



USER ID: SaraB

DATE: 07 Sep 2016

EXTRACT DATE: 07 Jul 2016

MAP REF: SU7108SW

CENTRE: 471414, 108294

SCALE: 1:2,313

LP Mains

MP Mains

IP Mains

LHP Mains

NHP Mains

Valve



Depth of
Cover



Syphon



Diameter
Change



Material
Change



This plan shows those pipes owned by Scotia Gas Networks plc in their role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Scotia Gas Networks plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

Product: UtilityMaps

Version: 1.6.8.1

Template: 'Scotia Gas Networks (A4 Landscape)'



This plan is reproduced from or based on the OS map by Scotia Gas Networks plc, with the sanction of the controller of HM Stationery Office. Crown Copyright Reserved.



Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy.

It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.



openreach
a BT Group business

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED

(Office hours: Monday - Friday 08.00 to 17.00)

www.openreach.co.uk/cbyd

KEY TO BT SYMBOLS

DP	
Planned DP	
PCP	
Planned PCP	
Built	
Planned	
Inferred	
Building	
Kiosk	
Hatchings	

Pole	
Planned Pole	
Joint Box	
Change Of State	
Split Coupling	
Duct Tee	
Planned Box	
Manhole	
Planned Manhole	
Cabinet	
Planned Cabinet	

Other proposed plant is shown using dashed lines.

BT Symbols not listed above maybe disregarded.

Existing BT Plant may not be recorded.

Information valid at time of preparation

Reproduced from the Ordnance Survey map by BT by permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office
(C) Crown Copyright British Telecommunications plc 100028040

openreach
a BT Group business



BT Ref : LLW03084F

Map Reference : (centre) SU7141308292

Easting/Northing : (centre) 471413,1082

Issued : 07/09/2016 15:09:13

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk



BASED UPON THE ORDNANCE SURVEY MAP WITH THE SANCTION
OF THE CONTROLLER OF H.M. STATIONERY OFFICE CROWN
COPYRIGHT RESERVED.

This copy has been made by or with the authority of
SCOTTISH ELECTRICITY TRANSMISSION LTD.
the Copyright Designs and Patents Act 1988 (the act).
Unless the act provides a relevant exception to copyright,
the copy must not be copied without prior permission of the
copyright owner.

Scottish and Southern Energy plc. Registered in Scotland
No. 117119. Registered Office: Inverleith House
200 Dundee Road Perth PH1 3AQ

PORTSMOUTH

023-9262-4200

H.V. MAINS RECORD

Scale 1:1250

Date: 07/09/2016

Grid Ref.SU71410829

aeeler

SOI

Plot 1 of 2

UNCONTROLLED COPY

Subject to Revision without Notice

Template: SMS NISWA BW A4 plot3

NORMAL DEPTH TO THE TOP OF THE
CABLE WHEN LAID.

FOOTPATH 0.40m 0.45m 0.60m 0.75m

ROAD CROSSING 0.65m 0.60m 0.75m 0.90m

h.v./services - up to 1000V

- over 1000V to 11,000V

h.v.

-22,000V and 132,000V

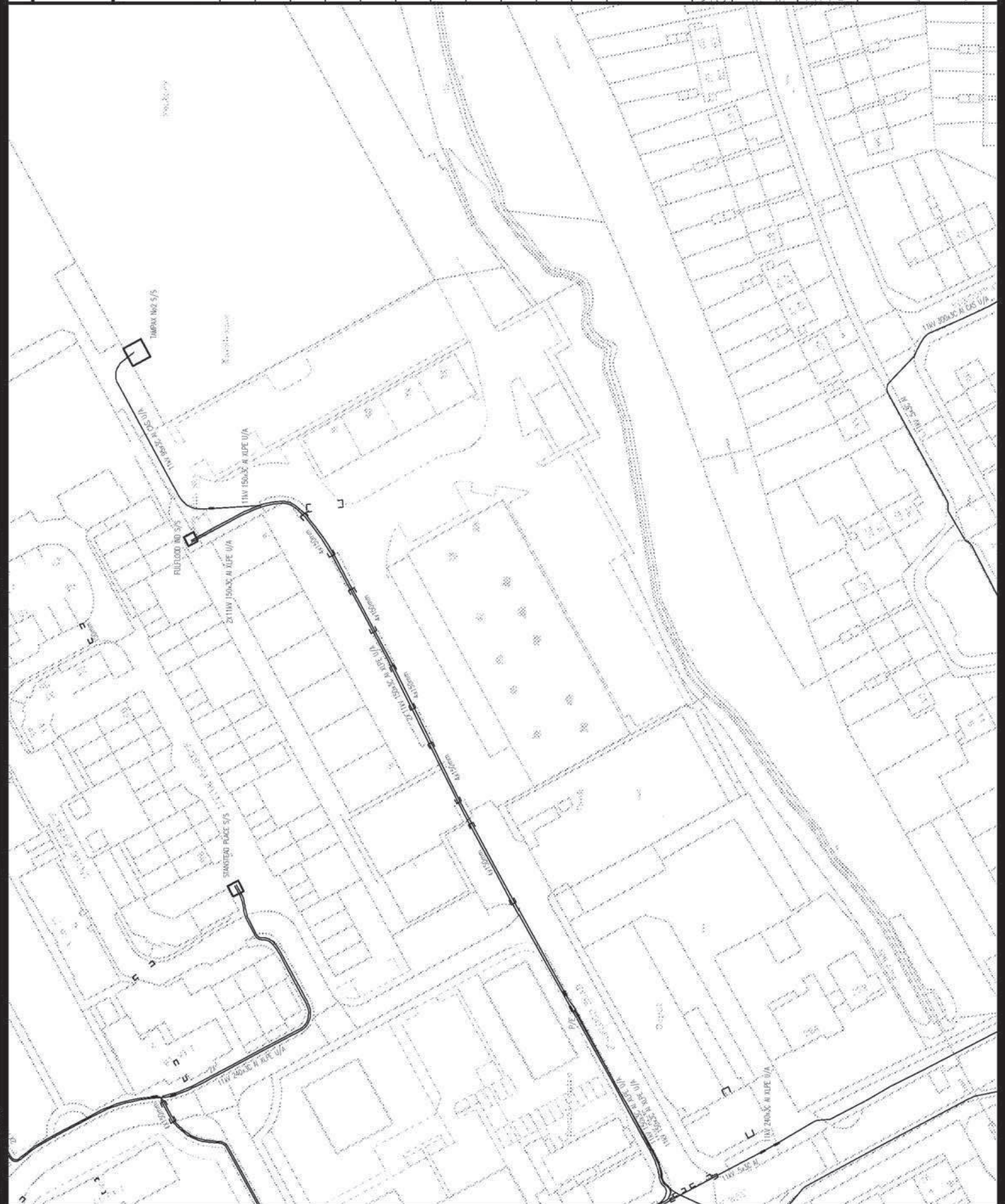
e.h.v

WARNING

There may have been subsequent alterations to
the surface levels. Trial holes must be taken to
determine positions and depths of cables. BS (G)
47 Booklet from the Health and Safety Executive -
Avoiding Danger from Buried Cables - should be
consulted before commencing excavation work.
(available from HSE)

WHEN WORKING IN THE VICINITY OF OVERHEAD LINES
THE HEALTH AND SAFETY GUIDANCE NOTE G58 SHOULD
BE CONSULTED.

(AVAILABLE FROM HSE)





BASED UPON THE ORDNANCE SURVEY MAP WITH THE SANCTION
OF THE CONTROLLER OF H.M. STATIONERY OFFICE CROWN
COPYRIGHT RESERVED.

This copy has been made by or with the authority of
SUTHERLAND ELECTRIC LTD.
the Copyright Designs and Patents Act 1988 (the act).
Unless the act provides a relevant exception to copyright,
the copy must not be copied without prior permission of the
copyright owner.

Scottish and Southern Energy plc. Registered in Scotland
No. 117119. Registered Office: Inverleith House
200 Dundee Road Perth PH1 3AQ

PORTSMOUTH

023-9262-4200

L.V. MAINS RECORD

Scale 1:1250

Date: 07/09/2016

Grid Ref.SU71410829

aeeler

SOI

Plot 2 of 2

UNCONTROLLED COPY

Subject to Revision without Notice

Template: SMS NISWA BW A4 plot3

NORMAL DEPTH TO THE TOP OF THE
CABLE WHEN LAID.

FOOTPATH 0.40m 0.45m 0.60m 0.75m

ROAD CROSSING 0.65m 0.60m 0.75m 0.90m

L.v./services -up to 1000V

-over 1000V to 11,000V

h.v. -22,000V and 132,000V

e.h.v

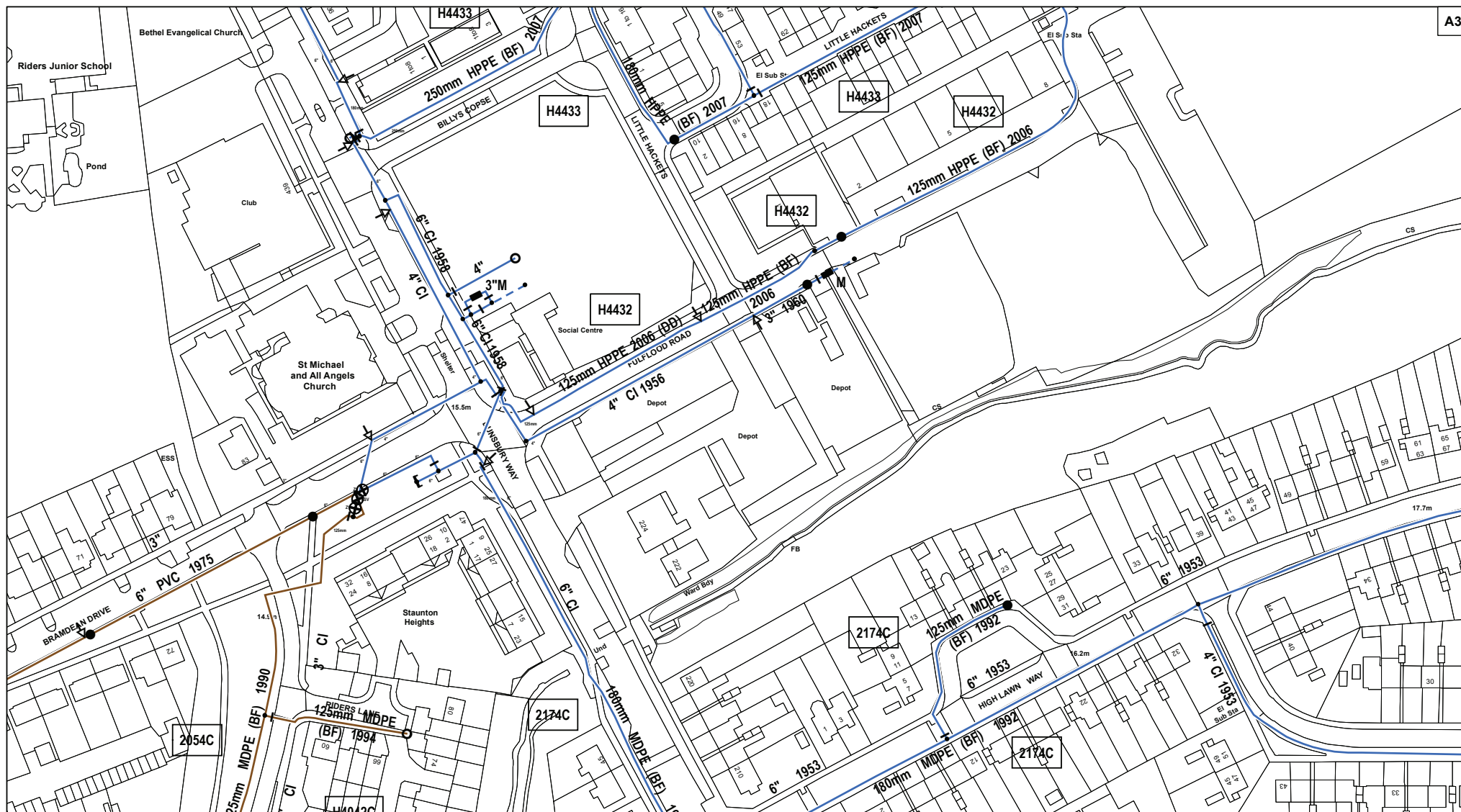
WARNING

There may have been subsequent alterations to
the surface levels. Trial holes must be taken to
determine positions and depths of cables. BS (G)
47 Booklet from the Health and Safety Executive -
Avoiding Danger from Buried Cables - should be
consulted before commencing excavation work.
(available from HSE)

WHEN WORKING IN THE VICINITY OF OVERHEAD LINES
THE HEALTH AND SAFETY GUIDANCE NOTE GSR SHOULD
BE CONSULTED.

(AVAILABLE FROM HSE)





A3

— EXISTING MAIN	—● WASHOUT FIRE HYDRANT	—○ COMPANY WASHOUT	—● FH TO BE CUT OUT UNLESS PURCHASED BY LOCAL AUTHORITY
- - - ABANDONED MAIN	—● FIRE HYDRANT	—○ C' WO TO BE CUT OUT UNLESS PURCHASED BY LOCAL AUTHORITY	—● C' WOFH TO BE CUT OUT UNLESS PURCHASED BY LOCAL AUTHORITY
- - - PROPOSED MAIN	—○ PROPOSED FIRE HYDRANT		



Registered Office
P.O. BOX NO. 8, West Street, Havant,
Hampshire. PO9 1LG.
Registered in England No. 2536455
Telephone: (023) 9249 9888
Fax: (023) 9245 3632
Website: www.portsmouthwater.co.uk

Reproduced by permission of Ordnance Survey on behalf of HMSO.
© Crown copyright and database right 2016. All rights reserved.
Ordnance Survey Licence Number 100018036.

The information supplied is given in good faith as a guide to locating underground apparatus. Its accuracy cannot be guaranteed, nor does it include comprehensive information about the existence or location of service pipes or cables to individual premises. The responsibility for locating and avoiding damage to apparatus on site shall be that of the person proposing to excavate in the street who shall be liable to the apparatus owner and any third party who may be affected in any way for any loss or damage caused by their failure to do so.

Drq No:
Job No:
OS Ref: SU7108SW
Scale: 1:1,180
Date: 13/09/2016



Soiltechnics
Cedar Barn
White Lodge
Walgrave
NN6 9PY

Your ref STN3739B
Our ref 224029
Date 09 September 2016
Contact searches@southernwater.co.uk
Tel 0845 272 0845
0330 303 0276
Fax 01634 844514

Attention: Rachel Brown

Dear Customer

Re: Provision of public sewer record extract

Location: 2 Fulflood Road, Havant, Hampshire, PO9 5EQ

Thank you for your order regarding the provision of extracts of our sewer and/or water main records. Please find enclosed the extracts from Southern Water's records for the above location.

We confirm payment of your fee in the sum of £49.92 and enclose a VAT receipt for your records.

Customers should be aware that there are areas within our region in which there are neither sewers nor water mains. Similarly, whilst the enclosed extract may indicate the approximate location of our apparatus in the area of interest, it should not be relied upon as showing that further infrastructure does not exist and may subsequently be found following site investigation. Actual positions of the disclosed (and any undisclosed) infrastructure should therefore be determined on site, because Southern Water does not accept any responsibility for inaccuracy or omission regarding the enclosed plan. Accordingly it should not be considered to be a definitive document.

Should you require any further assistance regarding this matter, please contact the LandSearch team.

Yours faithfully

LandSearch

VAT receipt

Ordered by:

Soiltechnics
White Lodge
Walgrave
NN6 9PY

VAT registration number: 813 0378 56
Order reference: 224029
Your reference: STN3739B

Receipt for provision of an extract from the public sewer and/or water main records.

Location	Costs
2 Fulflood Road Havant Hampshire PO9 5EQ	£41.60
Net total	£41.60
VAT	£8.32
Total	£49.92
Paid	Paid in full

Thank you for your payment:

Received on: 7 September 2016

For enquiries regarding the information provided in this receipt, please contact the LandSearch team:

Tel: 0845 270 0212
0330 303 0276 (individual consumers)

Email: searches@southernwater.co.uk

Web: www.southernwater.co.uk

LandSearch
Southern Water Services
Southern House
Capstone Road
Chatham
Kent
ME5 7QA



SEWER RECORDS PAGE 1 OF 2



O.S. REF.

SU7108SW

Drawn by: yadavs

Scale: 1:1250

Title: 224029_2 Fulford Road, Havant

Date: 09/09/2016

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy.
The actual positions should be determined on site.
WARNING: BAC pipes are constructed of Bonded Asbestos Cement.
WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.
Based upon Ordnance Survey Digital Data with the permission of the controller of H.M.S.O. Crown Copyright Reserved
Licence No. WU 28830.



Southern
Water

SEWER RECORDS PAGE 2 OF 2

Node	Cover	Invert	Size	Material	Shape	Node	Cover	Invert	Size	Material	Shape	Node	Cover	Invert	Size	Material	Shape
1250X	15.29	13.26	225	VC	CIRC	3310X				UNIK	CIRC	1408X	20.44	18.28	225	UNIK	CIRC
1251X			225	VC	CIRC	3311X				UNIK	CIRC	1409X	14.93X		450	CP	CIRC
1252X	15.13	13.63	225	VC	CIRC	3312X				UNIK	CIRC	1410X	20.53	18.28	225	CP	CIRC
1253X	15.13	13.63	225	VC	CIRC	3313X				UNIK	CIRC	1411X	15.29	13.15	225	VC	CIRC
1350X	18.93	16.43	225	VC	CIRC	3314X				UNIK	CIRC	1412X	2201X	15.99	225	VC	CIRC
1402X	20.57	17.99	225	VC	CIRC	3330X				UNIK	CIRC	1413X	2202X	15.99	225	VC	CIRC
1403X			225	UNIK	CIRC	3350X				UNIK	CIRC	1414X	2203X	15.99	225	VC	CIRC
1404X			225	VC	CIRC	3351X				UNIK	CIRC	1415X	2204X	15.99	225	VC	CIRC
1405X			225	VC	CIRC	3352X				UNIK	CIRC	1416X	2205X	15.99	225	VC	CIRC
1410X	18.28		450	CP	CIRC	3353X				UNIK	CIRC	1417X	2206X	15.99	225	VC	CIRC
1411X	20.53		450	CP	CIRC	3354X				UNIK	CIRC	1418X	2207X	15.99	225	VC	CIRC
1412X	15.29		225	VC	CIRC	3355X				UNIK	CIRC	1419X	2208X	15.99	225	VC	CIRC
1413X	15.99		225	VC	CIRC	3401X				UNIK	CIRC	1420X	2209X	15.99	225	VC	CIRC
1414X	15.99		225	VC	CIRC	3402X				UNIK	CIRC	1421X	2210X	15.99	225	VC	CIRC
1415X	15.99		225	VC	CIRC	3403X				UNIK	CIRC	1422X	2211X	15.99	225	VC	CIRC
1416X	15.99		225	VC	CIRC	3404X				UNIK	CIRC	1423X	2212X	15.99	225	VC	CIRC
1417X	15.99		225	VC	CIRC	3405X				UNIK	CIRC	1424X	2213X	15.99	225	VC	CIRC
1418X	15.99		225	VC	CIRC	3406X				UNIK	CIRC	1425X	2214X	15.99	225	VC	CIRC
1419X	15.99		225	VC	CIRC	3407X				UNIK	CIRC	1426X	2215X	15.99	225	VC	CIRC
1420X	15.99		225	VC	CIRC	3408X				UNIK	CIRC	1427X	2216X	15.99	225	VC	CIRC
1421X	15.99		225	VC	CIRC	3409X				UNIK	CIRC	1428X	2217X	15.99	225	VC	CIRC
1422X	15.99		225	VC	CIRC	3410X				UNIK	CIRC	1429X	2218X	15.99	225	VC	CIRC
1423X	15.99		225	VC	CIRC	3411X				UNIK	CIRC	1430X	2219X	15.99	225	VC	CIRC
1424X	15.99		225	VC	CIRC	3412X				UNIK	CIRC	1431X	2220X	15.99	225	VC	CIRC
1425X	15.99		225	VC	CIRC	3413X				UNIK	CIRC	1432X	2221X	15.99	225	VC	CIRC
1426X	15.99		225	VC	CIRC	3414X				UNIK	CIRC	1433X	2222X	15.99	225	VC	CIRC
1427X	15.99		225	VC	CIRC	3415X				UNIK	CIRC	1434X	2223X	15.99	225	VC	CIRC
1428X	15.99		225	VC	CIRC	3416X				UNIK	CIRC	1435X	2224X	15.99	225	VC	CIRC
1429X	15.99		225	VC	CIRC	3417X				UNIK	CIRC	1436X	2225X	15.99	225	VC	CIRC
1430X	15.99		225	VC	CIRC	3418X				UNIK	CIRC	1437X	2226X	15.99	225	VC	CIRC
1431X	15.99		225	VC	CIRC	3419X				UNIK	CIRC	1438X	2227X	15.99	225	VC	CIRC
1432X	15.99		225	VC	CIRC	3420X				UNIK	CIRC	1439X	2228X	15.99	225	VC	CIRC
1433X	15.99		225	VC	CIRC	3421X				UNIK	CIRC	1440X	2229X	15.99	225	VC	CIRC
1434X	15.99		225	VC	CIRC	3422X				UNIK	CIRC	1441X	2230X	15.99	225	VC	CIRC
1435X	15.99		225	VC	CIRC	3423X				UNIK	CIRC	1442X	2231X	15.99	225	VC	CIRC
1436X	15.99		225	VC	CIRC	3424X				UNIK	CIRC	1443X	2232X	15.99	225	VC	CIRC
1437X	15.99		225	VC	CIRC	3425X				UNIK	CIRC	1444X	2233X	15.99	225	VC	CIRC
1438X	15.99		225	VC	CIRC	3426X				UNIK	CIRC	1445X	2234X	15.99	225	VC	CIRC
1439X	15.99		225	VC	CIRC	3427X				UNIK	CIRC	1446X	2235X	15.99	225	VC	CIRC
1440X	15.99		225	VC	CIRC	3428X				UNIK	CIRC	1447X	2236X	15.99	225	VC	CIRC
1441X	15.99		225	VC	CIRC	3429X				UNIK	CIRC	1448X	2237X	15.99	225	VC	CIRC
1442X	15.99		225	VC	CIRC	3430X				UNIK	CIRC	1449X	2238X	15.99	225	VC	CIRC
1443X	15.99		225	VC	CIRC	3431X				UNIK	CIRC	1450X	2239X	15.99	225	VC	CIRC
1444X	15.99		225	VC	CIRC	3432X				UNIK	CIRC	1451X	2240X	15.99	225	VC	CIRC
1445X	15.99		225	VC	CIRC	3433X				UNIK	CIRC	1452X	2241X	15.99	225	VC	CIRC
1446X	15.99		225	VC	CIRC	3434X				UNIK	CIRC	1453X	2242X	15.99	225	VC	CIRC
1447X	15.99		225	VC	CIRC	3435X				UNIK	CIRC	1454X	2243X	15.99	225	VC	CIRC
1448X	15.99		225	VC	CIRC	3436X				UNIK	CIRC	1455X	2244X	15.99	225	VC	CIRC
1449X	15.99		225	VC	CIRC	3437X				UNIK	CIRC	1456X	2245X	15.99	225	VC	CIRC
1450X	15.99		225	VC	CIRC	3438X				UNIK	CIRC	1457X	2246X	15.99	225	VC	CIRC
1451X	15.99		225	VC	CIRC	3439X				UNIK	CIRC	1458X	2247X	15.99	225	VC	CIRC
1452X	15.99		225	VC	CIRC	3440X				UNIK	CIRC	1459X	2248X	15.99	225	VC	CIRC
1453X	15.99		225	VC	CIRC	3441X				UNIK	CIRC	1460X	2249X	15.99	225	VC	CIRC
1454X	15.99		225	VC	CIRC	3442X				UNIK	CIRC	1461X	2250X	15.99	225	VC	CIRC
1455X	15.99		225	VC	CIRC	3443X				UNIK	CIRC	1462X	2251X	15.99	225	VC	CIRC
1456X	15.99		225	VC	CIRC	3444X				UNIK	CIRC	1463X	2252X	15.99	225	VC	CIRC
1457X	15.99		225	VC	CIRC	3445X				UNIK	CIRC	1464X	2253X	15.99	225	VC	CIRC
1458X	15.99		225	VC	CIRC	3446X				UNIK	CIRC	1465X	2254X	15.99	225	VC	CIRC
1459X	15.99		225	VC	CIRC	3447X				UNIK	CIRC	1466X	2255X	15.99	225	VC	CIRC
1460X	15.99		225	VC	CIRC	3448X				UNIK	CIRC	1467X	2256X	15.99	225	VC	CIRC
1461X	15.99		225	VC	CIRC	3449X				UNIK	CIRC	1468X	2257X	15.99	225	VC	CIRC
1462X	15.99		225	VC	CIRC	3450X				UNIK	CIRC	1469X	2258X	15.99	225	VC	CIRC
1463X	15.99		225	VC	CIRC	3451X				UNIK	CIRC	1470X	2259X	15.99	225	VC	CIRC
1464X	15.99		225	VC	CIRC	3452X				UNIK	CIRC	1471X	2260X	15.99	225	VC	CIRC
1465X	15.99		225	VC	CIRC	3453X				UNIK	CIRC	1472X	2261X	15.99	225	VC	CIRC
1466X	15.99		225	VC	CIRC	3454X				UNIK	CIRC	1473X	2262X	15.99	225	VC	CIRC
1467X	15.99		225	VC	CIRC	3455X				UNIK	CIRC	1474X	2263X	15.99	225	VC	CIRC
1468X	15.99		225	VC	CIRC	3456X				UNIK	CIRC	1475X	2264X	15.99	225	VC	CIRC
1469X	15.99		225	VC	CIRC	3457X				UNIK	CIRC	1476X	2265X	15.99	225	VC	CIRC
1470X	15.99		225	VC	CIRC	3458X				UNIK	CIRC	1477X	2266X	15.99	225	VC	CIRC
1471X	15.99		225	VC	CIRC	3459X				UNIK	CIRC	1478X	2267X	15.99	225	VC	CIRC
1472X	15.99		225	VC	CIRC	3460X				UNIK	CIRC	1479X	2268X	15.99	225	VC	CIRC
1473X	15.99		225	VC	CIRC	3461X				UNIK	CIRC	1480X	2269X	15.99	225	VC	CIRC
1474X	15.99		225	VC	CIRC	3462X				UNIK	CIRC	1481X	2270X	15.99	225	VC	CIRC
1475X	15.99		225	VC	CIRC	3463X				UNIK	CIRC	1482X	2271X	15.99	225	VC	CIRC
1476X	15.99		225	VC	CIRC	3464X				UNIK	CIRC	1483X	2272X	15.99	225	VC	CIRC
1477X	15.99		225	VC	CIRC	3465X				UNIK	CIRC	1484X	2273X	15.99	225	VC	CIRC
1478X	15.99		225	VC	CIRC	3466X				UNIK	CIRC	1485X	2274X	15.99	225	VC	CIRC
1479X	15.99		225	VC	CIRC	3467X				UNIK	CIRC	1486X	2275X	15.99	225	VC	CIRC
1480X	15.99		225	VC	CIRC	3468X				UNIK	CIRC	1487X	2276X	15.99	225	VC	CIRC
1481X	15.99		225	VC	CIRC	3469X				UNIK	CIRC	1488X	2277X	15.99	225	VC	CIRC
1482X	15.99		225	VC	CIRC	3470X				UNIK	CIRC	1489X	2278X	15.99	225	VC	CIRC
1483X	15.99		225	VC	CIRC	3471X				UNIK	CIRC	1490X	2279X	15.99	225	VC	CIRC
1484X	15.99		225	VC	CIRC	3472X				UNIK	CIRC	1491X	2280X	15.99	225	VC	CIRC
1485X	15.99		225	VC	CIRC	3473X				UNIK	CIRC	1492X	2281X	15.99	225	VC	CIRC
1486X	15.99		225	VC	CIRC	3474X				UNIK	CIRC	1493X	2282X	15.99	225	VC	CIRC
1487X	15.99		225	VC	CIRC	3475X				UNIK	CIRC	1494X	2283X	15.99	225	VC	CIRC
1488X	15.99		225	VC	CIRC	3476X				UNIK	CIRC	1495X	2284X	15.99	225	VC	CIRC
1489X	15.99		225	VC	CIRC	3477X				UNIK	CIRC	1496X	2285X	15.99	225	VC	CIRC
1490X	15.99		225	VC	CIRC	3478X				UNIK	CIRC	1497X	2286X	15.99	225	VC	CIRC
1491X	15.99		225	VC	CIRC	3479X				UNIK	CIRC	1498X	2287X	15.99	225	VC	CIRC
1492X	15.99		225	VC	CIRC	3480X				UNIK	CIRC	1499X	2288X	15.99	225	VC	CIRC
1493X	15.99		225														

3201X	15.37	12.54	300	VC	CIRC	
3202X	15.8	12.73	300	VC	CIRC	
3203X	13.68	14.19	225	VC	CIRC	
3204X	15.63	14.02	150	VC	CIRC	
3250X	15.67	13.59	375	VC	CIRC	
3251X	15.63	13.82	375	CP	CIRC	
3252X	15.81	14.42	375	CP	CIRC	
3253Z	15.44	13.5	225	VC	CIRC	
3253Z	15.44	13.5	225	VC	CIRC	
3253X	15.44	13.5	225	VC	CIRC	
3253Y	15.44	13.5	225	VC	CIRC	
3253Y	17.42	15.49	150	VC	CIRC	
3301X	17.45	14.75	150	VC	CIRC	
3302X	17.85	15.07	150	VC	CIRC	
3303X	17.85	15.07	150	VC	CIRC	
3304X	17.83	14.99	150	VC	CIRC	
3306X	17.29	14.88	150	VC	CIRC	
3306X	17.43	14.58	150	VC	CIRC	
3307X	16.44	14.405	150	VC	CIRC	
3308X				UNK	CIRC	
3308X				UNK	CIRC	
3309X				UNK	CIRC	
3500X				UNK	CIRC	

LINE STYLES / COLOURS

MATERIALS

AK AluAnod

[illegible]

Drawn by: yadavsa	
Title: 224029_2 Fulford Road, Havant	
Date: 09/09/2016	

Enquirer

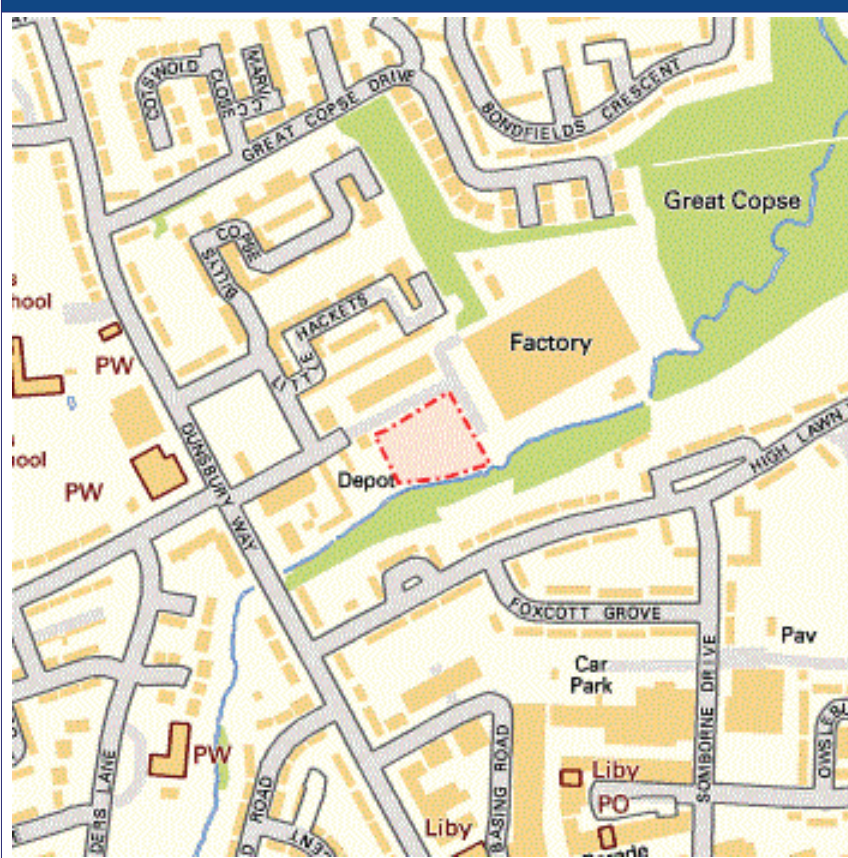
Name	Ms Sara Bertholdson	Phone	01604 781877
Company	Soiltechnics Limited	Mobile	Not Supplied
		Fax	Not Supplied
Address	Cedar Barn White Lodge Walgrave Northamptonshire NN6 9PY		
Email	sara.bertholdson@soiltechnics.net		
Notes	Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.		

Enquiry Details

Scheme/Reference	STN3739B		
Enquiry type	Initial Enquiry	Work category	Development Projects
Start date	28/09/2016	Work type	Commercial/industrial
End date	28/09/2016	Site size	4248 metres square
Searched location	XY= 471413, 108292 Easting/Northing	Work type buffer*	25 metres
Confirmed location	471432 108286		

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen

Site Map



Asset Owners

Terms and Conditions. Please note that this enquiry is subject always to our standard terms and conditions available at www.lineasearchbeforeudig.co.uk ("Terms of Use") and the disclaimer at the end of this document. Please note that in the event of any conflict or ambiguity between the terms of this Enquiry Confirmation and the Terms of Use, the Terms of Use shall take precedence.

Validity and search criteria. The results of this enquiry are based on the confirmed information you entered and are valid only as at the date of the enquiry. It is your responsibility to ensure that the Enquiry Details are correct, and LineasearchbeforeUdig accepts no responsibility for any errors or omissions in the Enquiry Details or any consequences thereof. LSBUD Members update their asset information on a regular basis so you are advised to consider this when undertaking any works. It is your responsibility to choose the period of time after which you need to resubmit any enquiry but the maximum time (after which your enquiry will no longer be dealt with by the LSBUD Helpdesk and LSBUD Members) is 28 days. If any details of the enquiry change, particularly including, but not limited to, the location of the work, then a further enquiry must be made.

Asset Owners & Responses. Please note the enquiry results include the following:

1. "LSBUD Members" who are asset owners who have registered their assets on the LSBUD service.
2. "Non LSBUD Members" are asset owners who have not registered their assets on the LSBUD service but LSBUD is aware of their existence. Please note that there could be other asset owners within your search area.

Below are three lists of asset owners:

1. **LSBUD Members who have assets registered within your search area. ("Affected")**
 - a. **These LSBUD Members will either:**
 - i. **Ask for further information ("Email Additional Info" noted in status).** The additional information includes: Site contact name and number, Location plan, Detailed plan (minimum scale 1:2500), Cross sectional drawings (if available), Work Specification.
 - ii. **Respond directly to you ("Await Response").** In this response they may either send plans directly to you or ask for further information before being able to do so, particularly if any payments or authorisations are required.
2. **LSBUD Members who do not have assets registered within your search area. ("Not Affected")**
3. **Non LSBUD Members who may have assets within your search area.** Please note that this list is not exhaustive and all details are provided as a guide only. It is your responsibility to identify and consult with all asset owners before proceeding.

National Grid. Please note that the LSBUD service only contains information on National Grid's Gas above 2 bar asset and all National Grid Electricity Transmission asset. For National Grid Gas below 2 bar asset information please go to www.beforeyoudig.nationalgrid.com

LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members

No LineasearchbeforeUdig Asset Owners within the Zone of Interest

LSBUD members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD members make regular changes to their assets.

List of not affected LSBUD members

AWE Pipeline	ESSAR	Perenco UK Limited (Purbeck Southampton Pipeline)
BOC Limited (A Member of the Linde Group)	Esso Petroleum Company Limited	Petroineos
BP Midstream Pipelines	FibreSpeed Limited	Phillips 66
BPA	Fulcrum Pipelines Limited	Premier Transmission Ltd (SNIP)
Carrington Gas Pipeline	Gamma	Redundant Pipelines - LPDA
CATS Pipeline c/o Wood Group PSN	Humbly Grove Energy	RWEnpower (Little Barford and South Haven)
Cemex	IGas Energy	SABIC UK Petrochemicals
Centrica Energy	Ineos Enterprises Limited	Scottish Power Generation
Centrica Storage Ltd	INEOS Manufacturing (Scotland and TSEP)	Seabank Power Ltd
CLH Pipeline System Ltd	Lark Energy	Shell (St Fergus to Mossmorran)
ConocoPhillips (UK) Ltd	Lightsource SPV Limited	Shell Pipelines
Coryton Energy Co Ltd (Gas Pipeline)	Mainline Pipelines Limited	Total (Finaline, Colnbrook & Colwick Pipelines)
CSP Fibre c/o Centara	Manchester Jetline Limited	Transmission Capital
Dong Energy (UK) Ltd	Manx Cable Company	Uniper UK Ltd
E.ON UK CHP Limited	Marchwood Power Ltd (Gas Pipeline)	Vattenfall
EirGrid	National Grid Gas (above 2 bar) and National Grid Electricity Transmission	Western Power Distribution
Electricity North West Limited	Northumbrian Water Group	Wingas Storage UK Ltd
ENI & Himor c/o Penspen Ltd	NPower CHP Pipelines	Zayo Group UK Ltd c/o JSM Group Ltd
ESP Utilities Group	Oikos Storage Limited	

The following non-LSBUD members may have assets in your search area. It is **YOUR RESPONSIBILITY** to contact them before proceeding. Please be aware this list is not exhaustive and it is your responsibility to identify and contact all asset owners within your search area.

Non-LSBUD members (Asset owners not registered on LSBUD)			
Asset Owner	Preferred contact method	Phone	Status
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08009173993	Not Notified
CityFibre	asset.team@cityfibre.com	033 3150 7282	Not Notified
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified
Energetics Electricity	plantenquiries@energetics-uk.com	01698404646	Not Notified
ENGIE	nrswa@cofely-gdfsuez.com	01293 549944	Not Notified
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified
Hibernia Networks	info@hibernianetworks.com	01704 322 300	Not Notified
Instalcom	plantenquiries@instalcom.co.uk	02087314613	Not Notified
Interoute	interoute.enquiries@plancast.co.uk	02070259000	Not Notified
Mobile Broadband Network Limited	mbnl.plant.enquires@turntown.com	01212 621 100	Not Notified
Portsmouth Water	m.white@portsmouthwater.co.uk	02392449082	Not Notified
Redcentric plc	plant-enquiries@redcentricplc.com	0845 200 2200	Not Notified
Scottish and Southern Energy	mapping.services@sse.com	01256337294	Not Notified
Sky UK Limited	nrswa@sky.uk	02070323234	Not Notified
Southern Gas Networks	plantlocation@sgn.co.uk	08009121722	Not Notified
Southern Water	searches@southernwater.co.uk	08452700212	Not Notified
Tata, KPN (c/- McNicholas)	plantenquiries@mcnicholas.co.uk	03300558469	Not Notified
Utility assets Ltd	assetrecords@utilityassets.co.uk		Not Notified
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified
Vtesse Networks	https://vtplant.vtesse.com	01992532100	Not Notified

Disclaimer

The results of this Enquiry have been provided for the sole use of the Enquirer and no other party. The asset information on which the Enquiry results are based has been provided by LineasearchbeforeUdig members, LineasearchbeforeUdig will provide no guarantee that such information is accurate or reliable nor does it monitor such asset information for accuracy and reliability going forward. There are also asset owners which do not participate in the enquiry service operated by LineasearchbeforeUdig, including but not exclusively those set out above. Therefore, LineasearchbeforeUdig cannot make any representation or give any guarantee or warranty as to the completeness of the information contained in the enquiry results.

LineasearchbeforeUdig and its employees, agents and consultants accept no liability (except insofar as liability under any statute that cannot be excluded) arising in respect thereof or in any other way for errors or omissions including responsibility to any person by reason of negligence. Please refer to LineasearchbeforeUdig's Terms of Use for full terms of use available at www.lineasearchbeforeudig.co.uk



Soiltechnics
Cedar Barn
White Lodge
Walgrave
Northamptonshire
NN6 9PY

Virgin Media
Plant Enquiries
Units 1-12
Mayfair Business Park
Broad Lane, Bradford
BD4 8PW

Tel: 0870 888 3116 Opt 2

Plant Enquiry Ref: VM.157025
Letter Date 09.09.2016
Your Ref: L-STN37398B-SB-002
Date: 12.09.2016

Dear Sir/Madam,

Enquiry Location: 2 fulflood Road, Leigh Park, Havant, PO9 5EO

Thank you for your enquiry regarding work at the above location.

I enclose a copy of our above referenced drawing, marked to show the approximate position of plant owned and operated by Virgin Media.

You will be aware that you have a duty to ensure that no damage results to this equipment as a result of your proposed works. Please note that this apparatus may contain Fibre Optic, Coaxial and/or 240v Power Cables and as such, special care must be taken when excavating this area.

Should you require Virgin Media apparatus to be diverted we must agree a specification of works and provide a detailed estimate of costs. The costs are £720 (Business) or £240 (Residential) Inc VAT and the charge applies to each individual scheme requested.

Both the estimate and specification will be sent to you within 25 working days of when the payment was received.

This initial payment will cover the following: -

- Detailed site visit by an experienced planning engineer.(Up to 10 hours planning time)
- Detailed specification of works.
- Detailed breakdown of costs.

Payment is required in advance for the estimated cost of detailed design work and the charge applies whether or not your works proceed. Please supply us with your payment and a copy of your plans or drawings and quote 'Our Ref' as above.

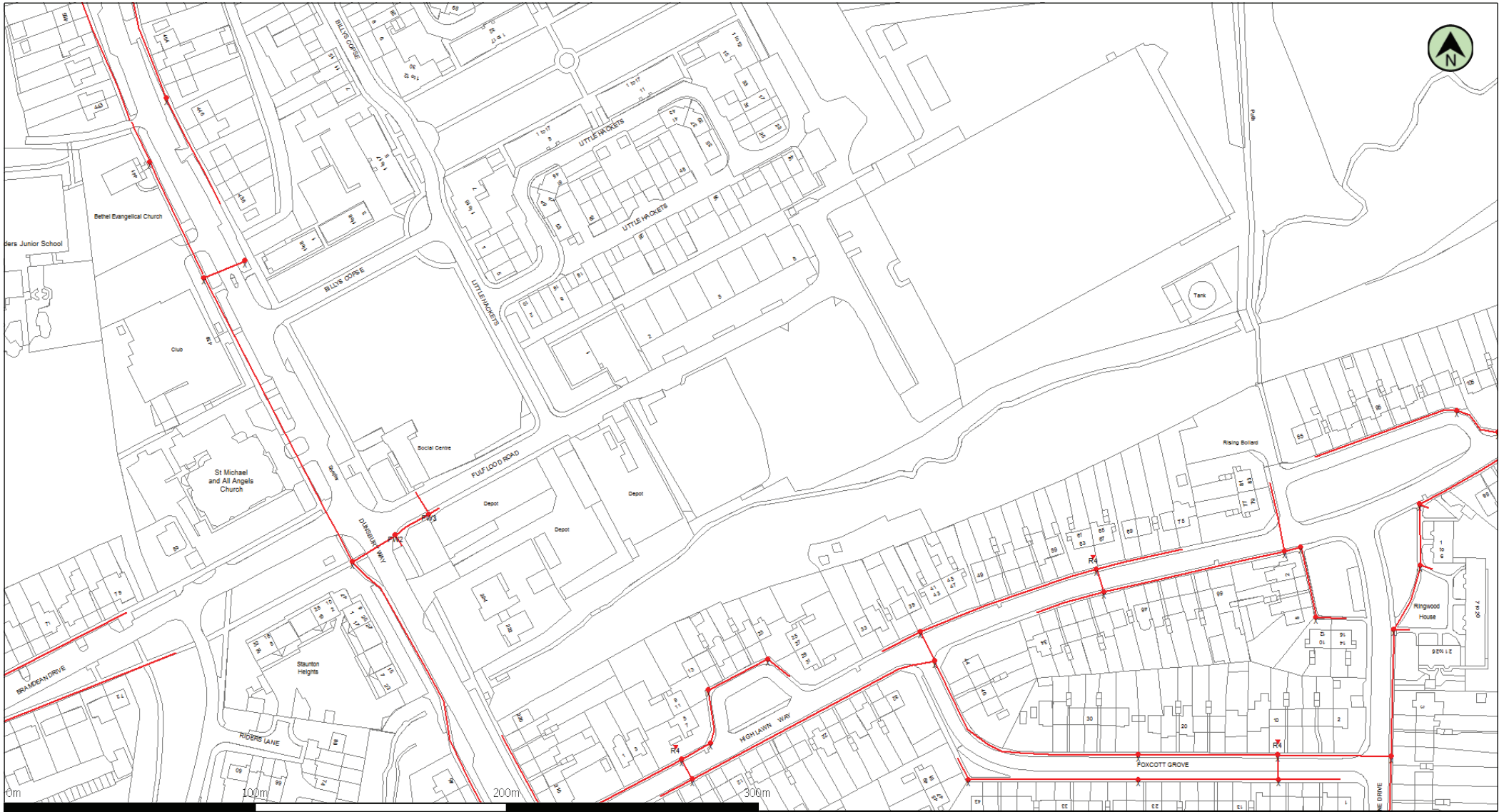
The address to send the cheque is:

Diversionary Works, Virgin Media, 1 Dove Wynd, Strathclyde Business Park Bellshill ML4 3AL

Or if you prefer to talk, please call the Diversionary Team on: 0800 408 0088 Option 1

Yours faithfully

National Plant Enquiries Team,



(c) Crown copyright and database rights 2016 Ordnance Survey 100019209

Date: 12/09/16

Scale: 1:2147

Map Centre: 471413,108292

Data updated: 03/07/16

Telecoms Plan A4

Important Information - please read The purpose of this plan is to identify Virgin Media apparatus. We have tried to make it as accurate as possible but we cannot warrant its accuracy. In addition, we caution that within Virgin Media apparatus there may be instances where mains voltage power cables have been placed inside green, rather than black ducting. Further details can be found using the 'Affected Postcodes.pdf', which can be downloaded from this website. Therefore, you must not rely solely on this plan if you are carrying out any excavation or other works in the vicinity of Virgin Media apparatus. The actual position of any underground service must be verified by cable detection equipment, etc. and established on site before any mechanical plant is used. Accordingly, unless it is due to the negligence of Virgin Media, its employees or agents, Virgin Media will not have any liability for any omissions or inaccuracies in the plan or for any loss or damage caused or arising from the use of and/or any reliance on this plan. This plan is produced by Virgin Media Limited (c) Crown copyright and database rights 2016 Ordnance Survey 100019209.

Duct, Trench



Chamber



Cabinet



shalini.akshintala@virginmedia.co.uk

