

Determination of Moisture Content and Atterberg Limits

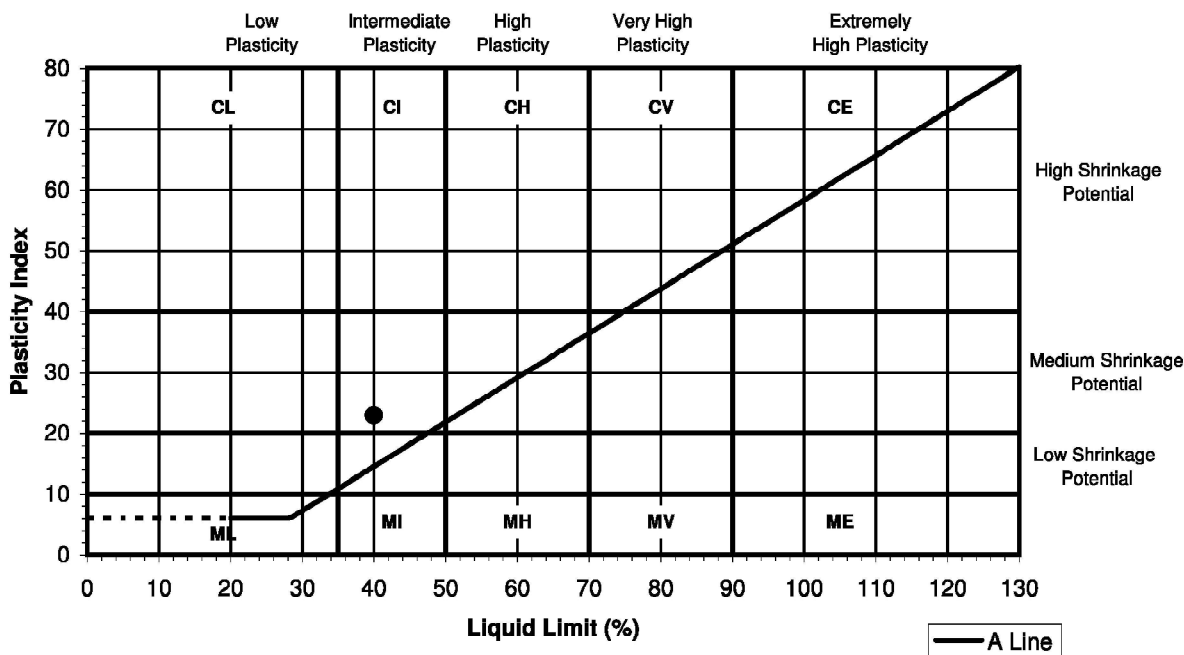
Client: Soiltechnics Limited
 Client Address: Cedar Barn,
 White Lodge
 Walgrave
 Postcode: NN6 9PY
 Contact: Andy Keeler

Report No: 51021428/16/16
 Batch Number: DAM0059571
 Client Reference: STN3505NM
 Sampled by: Client
 Date Sampled: 16.02.16
 Date Received: 21.03.16
 Tested From: 23.03.16-24.03.16
 Sample Type: Disturbed

Test Results:

Description: Brown CLAY with occasional Gravel

Laboratory Reference	Location	Depth (m)	As Received Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	% Passing 425µm
45274330	TP124	1.90	N/A	40	17	23	95



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: 04.04.16

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.: 16-04814-1

Initial Date of Issue: 02-Mar-2016

Client: Soiltechnics Limited

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

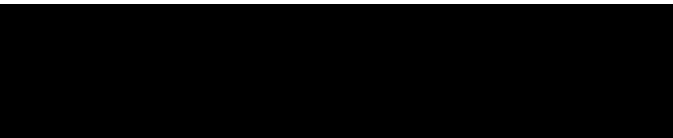
Contact(s): Rachel Brown

Project: STN3505NM - Chipping Lane

Quotation No.:		Date Received:	29-Feb-2016
Order No.:	21026	Date Instructed:	29-Feb-2016
No. of Samples:	3	Target Date:	02-Mar-2016
Turnaround (Wkdays):	5	Results Due:	04-Mar-2016

Date Approved: 02-Mar-2016

Approved By:



Details: Martin Dyer, Laboratory Manager

Project: STN3505NM - Chipping Lane

Client: Soiltechnics Limited		Chemtest Job No.:		16-04814	16-04814	16-04814
Quotation No.:		Chemtest Sample ID.:		261045	261046	261047
Order No.: 21026		Client Sample Ref.:		1P101	1P108	1P125
		Client Sample ID.:		7-001	7-003	7-005
		Sample Type:		SOIL	SOIL	SOIL
		Top Depth (m):		0.90	0.50	0.50
		Date Sampled:		16-Feb-2016	17-Feb-2016	18-Feb-2016
Determinand	Accred.	SOP	Units	LOD		
Moisture	N	2030	%	0.020	15	21
Soil Colour	N	2040		N/A	Grey	Brown
Other Material	N	2040		N/A	Stones	Stones
Soil Texture	N	2040		N/A	Clay	Clay
Organic Matter	M	2625	%	0.40	1.4	3.3
Total Organic Carbon	M	2625	%	0.20	0.81	1.9
Aliphatic TPH >C5-C8	N	2680	mg/kg	0.010	< 0.010	< 0.010
Aliphatic TPH >C8-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	30
Aliphatic TPH >C35-C44	N	2680	mg/kg	0.10	< 0.10	2.3
Total Aliphatic Hydrocarbons	N	2680	mg/kg	1.0	< 1.0	32
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	14
Aromatic TPH >C35-C44	N	2680	mg/kg	0.10	< 0.10	1.4
Total Aromatic Hydrocarbons	N	2680	mg/kg	1.0	< 1.0	15
Total Petroleum Hydrocarbons	N	2680	mg/kg	2.0	< 2.0	47
Dichlorodifluoromethane	U	2760	µg/kg	1.0	< 1.0	< 1.0
Chloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0
Vinyl Chloride	M	2760	µg/kg	1.0	< 1.0	< 1.0
Bromomethane	M	2760	µg/kg	20	< 20	< 20
Chloroethane	U	2760	µg/kg	2.0	< 2.0	< 2.0
Trichlorofluoromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0
1,1-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0
1,1-Dichloroethane	M	2760	µg/kg	1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0
Bromochloromethane	U	2760	µg/kg	5.0	< 5.0	< 5.0
Trichloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	M	2760	µg/kg	1.0	< 1.0	< 1.0
Tetrachloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0

Project: STN3505NM - Chipping Lane

Client: Soiltechnics Limited		Chemtest Job No.:			16-04814	16-04814	16-04814
Quotation No.:		Chemtest Sample ID.:			261045	261046	261047
Order No.: 21026		Client Sample Ref.:			1P101	1P108	1P125
		Client Sample ID.:			7-001	7-003	7-005
		Sample Type:			SOIL	SOIL	SOIL
		Top Depth (m):			0.90	0.50	0.50
		Date Sampled:			16-Feb-2016	17-Feb-2016	18-Feb-2016
Determinand	Accred.	SOP	Units	LOD			
1,1-Dichloropropene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0
Trichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	N	2760	µg/kg	10	< 10	< 10	< 10
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene	N	2760	µg/kg	10	< 10	< 10	< 10
1,1,2-Trichloroethane	M	2760	µg/kg	10	< 10	< 10	< 10
Tetrachloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane	U	2760	µg/kg	10	< 10	< 10	< 10
1,2-Dibromoethane	M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Styrene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	N	2760	µg/kg	50	< 50	< 50	< 50
N-Propylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	2760	µg/kg	50	< 50	< 50	< 50
1,2,4-Trichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0

Project: STN3505NM - Chipping Lane

Client: Soiltechnics Limited	Chemtest Job No.:			16-04814	16-04814	16-04814
Quotation No.:	Chemtest Sample ID.:			261045	261046	261047
Order No.: 21026	Client Sample Ref.:			1P101	1P108	1P125
	Client Sample ID.:			7-001	7-003	7-005
	Sample Type:			SOIL	SOIL	SOIL
	Top Depth (m):			0.90	0.50	0.50
	Date Sampled:			16-Feb-2016	17-Feb-2016	18-Feb-2016
Determinand	Accred.	SOP	Units	LOD		
Hexachlorobutadiene	U	2760	µg/kg	1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	U	2760	µg/kg	2.0	< 2.0	< 2.0
Carbon Disulphide	N	2760	µg/kg	50	< 50	< 50
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0
N-Nitrosodimethylamine	N	2790	mg/kg	0.50	< 0.50	< 0.50
Phenol	N	2790	mg/kg	0.50	< 0.50	< 0.50
2-Chlorophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	2790	mg/kg	0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	N	2790	mg/kg	0.50	< 0.50	< 0.50
1,4-Dichlorobenzene	N	2790	mg/kg	0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	N	2790	mg/kg	0.50	< 0.50	< 0.50
2-Methylphenol	N	2790	mg/kg	0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	2790	mg/kg	0.50	< 0.50	< 0.50
Hexachloroethane	N	2790	mg/kg	0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine	N	2790	mg/kg	0.50	< 0.50	< 0.50
4-Methylphenol	N	2790	mg/kg	0.50	< 0.50	< 0.50
Nitrobenzene	N	2790	mg/kg	0.50	< 0.50	< 0.50
Isophorone	N	2790	mg/kg	0.50	< 0.50	< 0.50
2-Nitrophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50
2,4-Dimethylphenol	N	2790	mg/kg	0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	2790	mg/kg	0.50	< 0.50	< 0.50
2,4-Dichlorophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene	N	2790	mg/kg	0.50	< 0.50	< 0.50
Naphthalene	N	2790	mg/kg	0.50	< 0.50	< 0.50
4-Chloroaniline	N	2790	mg/kg	0.50	< 0.50	< 0.50
Hexachlorobutadiene	N	2790	mg/kg	0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol	N	2790	mg/kg	0.50	< 0.50	< 0.50
2-Methylnaphthalene	N	2790	mg/kg	0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene	N	2790	mg/kg	0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50
2-Chloronaphthalene	N	2790	mg/kg	0.50	< 0.50	< 0.50
2-Nitroaniline	N	2790	mg/kg	0.50	< 0.50	< 0.50
Acenaphthylene	N	2790	mg/kg	0.50	< 0.50	< 0.50
Dimethylphthalate	N	2790	mg/kg	0.50	< 0.50	< 0.50
2,6-Dinitrotoluene	N	2790	mg/kg	0.50	< 0.50	< 0.50
Acenaphthene	N	2790	mg/kg	0.50	< 0.50	< 0.50
Dibenzofuran	N	2790	mg/kg	0.50	< 0.50	< 0.50
4-Chlorophenylphenylether	N	2790	mg/kg	0.50	< 0.50	< 0.50

Project: STN3505NM - Chipping Lane

Client: Soiltechnics Limited	Chemtest Job No.:				16-04814	16-04814	16-04814
Quotation No.:	Chemtest Sample ID.:				261045	261046	261047
Order No.: 21026	Client Sample Ref.:				1P101	1P108	1P125
	Client Sample ID.:				7-001	7-003	7-005
	Sample Type:				SOIL	SOIL	SOIL
	Top Depth (m):				0.90	0.50	0.50
	Date Sampled:				16-Feb-2016	17-Feb-2016	18-Feb-2016
Determinand	Accred.	SOP	Units	LOD			
2,4-Dinitrotoluene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Fluorene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Diethyl Phthalate	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
4-Nitroaniline	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Azobenzene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Hexachlorobenzene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Pentachlorophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Phenanthrene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Anthracene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Carbazole	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Fluoranthene	N	2790	mg/kg	0.50	< 0.50	0.55	< 0.50
Pyrene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Butylbenzyl Phthalate	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Benzo[a]anthracene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Chrysene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Benzo[b]fluoranthene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Benzo[k]fluoranthene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Benzo[a]pyrene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Dibenz[a,h]Anthracene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Naphthalene	M	2800	mg/kg	0.10	< 0.10	0.37	0.20
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	0.76	0.35
Anthracene	M	2800	mg/kg	0.10	< 0.10	0.13	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	0.22	0.78
Pyrene	M	2800	mg/kg	0.10	< 0.10	0.21	0.67
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.15
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.19
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.16
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	0.15



The right chemistry to deliver results

Project: STN3505NM - Chipping Lane

Results - Soil

Client: Soiltechnics Limited		Chemtest Job No.:		16-04814	16-04814	16-04814
Quotation No.:	Chemtest Sample ID.:	261045	261046	261047		
Order No.: 21026	Client Sample Ref.:	1P101	1P108	1P125		
	Client Sample ID.:	7-001	7-003	7-005		
	Sample Type:	SOIL	SOIL	SOIL		
	Top Depth (m):	0.90	0.50	0.50		
	Date Sampled:	16-Feb-2016	17-Feb-2016	18-Feb-2016		
Determinand	Accred.	SOP	Units	LOD		
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

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 our Coventry 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 60 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.: 16-06222-1

Initial Date of Issue: 23-Mar-2016

Client: Soiltechnics Limited

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

Contact(s): Rachel Brown

Project: STN3505NM - Chipping Lane

Quotation No.:		Date Received:	16-Mar-2016
Order No.:	21137	Date Instructed:	21-Mar-2016
No. of Samples:	29	Target Date:	23-Mar-2016
Turnaround (Wkdays):	3	Results Due:	23-Mar-2016

Date Approved: 23-Mar-2016

Approved By:

Details: Robert Monk, Technical Development
Chemist

Results - Leachate

Project: STN3505NM - Chipping Lane

Client: Soiltechnics Limited	Chemtest Job No.:				16-06222	16-06222	16-06222	16-06222
Quotation No.:	Chemtest Sample ID.:				267964	267975	267979	267990
Order No.: 21137	Client Sample Ref.:				1P102	1P110	1P114	1P125
	Client Sample ID.:				9-043	9-080	9-098	9-148
	Sample Type:				SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.20	0.10	0.10	0.50
	Date Sampled:				16-Feb-2016	17-Feb-2016	17-Feb-2016	18-Feb-2016
Determinand	Accred.	SOP	Units	LOD				
pH	U	1010		N/A	7.9	6.2	6.5	8.3
Nitrate	U	1220	mg/l	0.50	6.5	4.8	2.4	2.0
Sulphate	U	1220	mg/l	1.0	10	4.2	2.7	2.4
Cyanide (Total)	U	1300	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Cyanide (Free)	U	1300	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Cyanide (Complex)	U	1300	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Sulphide	U	1325	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Arsenic (Dissolved)	U	1450	µg/l	1.0	2.5	2.7	5.6	1.4
Boron (Dissolved)	U	1450	µg/l	20	< 20	26	< 20	< 20
Beryllium (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cadmium (Dissolved)	U	1450	µg/l	0.080	0.13	0.26	0.18	< 0.080
Chromium (Dissolved)	U	1450	µg/l	1.0	2.4	4.5	6.6	< 1.0
Copper (Dissolved)	U	1450	µg/l	1.0	6.3	13	13	5.7
Mercury (Dissolved)	U	1450	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nickel (Dissolved)	U	1450	µg/l	1.0	1.9	4.3	4.2	< 1.0
Lead (Dissolved)	U	1450	µg/l	1.0	6.8	11	10	1.2
Selenium (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (Dissolved)	U	1450	µg/l	1.0	6.4	7.6	18	2.4
Zinc (Dissolved)	U	1450	µg/l	1.0	5.3	17	18	1.9
Naphthalene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	U	1800	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	U	1800	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Phenols	U	1920	mg/l	0.030	< 0.030	< 0.030	< 0.030	< 0.030

Results - Soil

Project: STN3505NM - Chipping Lane

Client: Soiltechnics Limited	Chemtest Job No.:		16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	
Quotation No.:	Chemtest Sample ID.:		267963	267964	267965	267966	267967	267968	267969	267970	267971		
Order No.: 21137	Client Sample Ref.:		IP101	IP102	IP102	IP103	IP103	IP104	IP106	IP106	IP107		
	Client Sample ID.:		9-037	9-043	9-045	9-048	9-049	9-054	9-064	9-066	9-069		
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL		
	Top Depth (m):		0.30	0.20	1.00	0.10	0.30	0.10	0.10	1.10	0.10		
	Date Sampled:		16-Feb-2016	16-Feb-2016	16-Feb-2016	16-Feb-2016	16-Feb-2016	16-Feb-2016	16-Feb-2016	16-Feb-2016	17-Feb-2016		
Determinand	Accred.	SOP	Units	LOD									
Moisture	N	2030	%	0.020	20	32	18	31	17	31	31	16	26
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Roots	Roots	NONE	NONE	Roots	Roots	Roots	NONE	NONE
Soil Texture	N	2040		N/A	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay
pH	M	2010		N/A	8.2	7.6	7.5	7.2	8.3	6.0	5.0	8.0	6.2
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	< 0.40	0.43		< 0.40	< 0.40	< 0.40	< 0.40		< 0.40
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010			< 0.010					< 0.010	
Total Sulphur	M	2175	%	0.010			0.016					0.040	
Cyanide (Complex)	M	2300	mg/kg	0.50	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
Sulphate (Acid Soluble)	M	2430	%	0.010			< 0.010					0.016	
Arsenic	M	2450	mg/kg	1.0	15	14		11	14	13	13		11
Beryllium	U	2450	mg/kg	1.0	< 1.0	< 1.0		< 1.0	1.0	< 1.0	< 1.0		< 1.0
Cadmium	M	2450	mg/kg	0.10	0.20	0.30		0.27	0.18	0.25	0.36		0.18
Chromium	M	2450	mg/kg	1.0	23	33		30	41	29	30		27
Copper	M	2450	mg/kg	0.50	110	59		24	24	17	24		20
Mercury	M	2450	mg/kg	0.10	0.25	0.22		0.20	0.11	0.14	0.22		0.13
Nickel	M	2450	mg/kg	0.50	25	27		25	47	21	23		23
Lead	M	2450	mg/kg	0.50	71	74		56	21	42	60		38
Selenium	M	2450	mg/kg	0.20	< 0.20	0.40		0.37	< 0.20	0.35	0.52		0.33
Vanadium	U	2450	mg/kg	5.0	29	48		37	43	36	40		36
Zinc	M	2450	mg/kg	0.50	110	110		78	57	64	86		47
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
Organic Matter	M	2625	%	0.40	2.9	7.6		6.4	1.1	6.0	7.4		5.9
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Phenanthrene	M	2800	mg/kg	0.10	1.6	1.5		0.10	< 0.10	< 0.10	< 0.10		< 0.10
Anthracene	M	2800	mg/kg	0.10	0.31	0.35		< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Fluoranthene	M	2800	mg/kg	0.10	2.3	3.6		0.25	< 0.10	< 0.10	0.11		< 0.10
Pyrene	M	2800	mg/kg	0.10	2.0	3.5		0.23	< 0.10	< 0.10	0.14		< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	0.58	1.5		< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Chrysene	M	2800	mg/kg	0.10	0.70	1.9		< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	0.96	2.6		< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	0.18	0.84		< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	0.65	2.0		< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	0.39	1.4		< 0.10	< 0.10	< 0.10	< 0.10		< 0.10

Results - Soil

Project: STN3505NM - Chipping Lane

Client: Soiltechnics Limited	Chemtest Job No.:		16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222
Quotation No.:	Chemtest Sample ID.:		267963	267964	267965	267966	267967	267968	267969	267970	267971	
Order No.: 21137	Client Sample Ref.:		IP101	IP102	IP102	IP103	IP103	IP104	IP106	IP106	IP107	
	Client Sample ID.:		9-037	9-043	9-045	9-048	9-049	9-054	9-064	9-066	9-069	
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
	Top Depth (m):		0.30	0.20	1.00	0.10	0.30	0.10	0.10	1.10	0.10	
	Date Sampled:		16-Feb-2016	16-Feb-2016	16-Feb-2016	16-Feb-2016	16-Feb-2016	16-Feb-2016	16-Feb-2016	16-Feb-2016	17-Feb-2016	
Determinand	Accred.	SOP	Units	LOD								
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(g,h,i)perylene	M	2800	mg/kg	0.10	0.38	1.3		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	10	21		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Phenols	M	2920	mg/kg	0.30	< 0.30	< 0.30		< 0.30	< 0.30	< 0.30	< 0.30	< 0.30

Results - Soil

Project: STN3505NM - Chipping Lane

Client: Soiltechnics Limited	Chemtest Job No.:		16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	
Quotation No.:	Chemtest Sample ID.:		267972	267973	267974	267975	267976	267977	267978	267979	267980		
Order No.: 21137	Client Sample Ref.:		1P108	1P108	1P108	1P110	1P110	1P112	1P113	1P114	1P114		
	Client Sample ID.:		9-072	7-003	9-073	9-080	9-083	9-089	9-093	9-098	9-100		
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL		
	Top Depth (m):		0.10	0.50	1.80	0.10	1.70	0.10	0.10	0.10	1.30		
	Date Sampled:		17-Feb-2016	17-Feb-2016	17-Feb-2016	17-Feb-2016	17-Feb-2016	17-Feb-2016	17-Feb-2016	17-Feb-2016	17-Feb-2016		
Determinand	Accred.	SOP	Units	LOD									
Moisture	N	2030	%	0.020	27	18	15	30	17	28	23	34	19
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Roots	NONE	NONE	NONE	Roots	NONE	Roots	NONE	NONE
Soil Texture	N	2040		N/A	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay
pH	M	2010		N/A	7.3	8.2	8.0	5.2	8.3	5.8	5.5	5.5	8.0
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	< 0.40	< 0.40		0.85		0.71	0.42	< 0.40	
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010			< 0.010		< 0.010				< 0.010
Total Sulphur	M	2175	%	0.010			0.014		< 0.010				0.016
Cyanide (Complex)	M	2300	mg/kg	0.50	< 0.50	< 0.50		< 0.50		< 0.50	< 0.50	< 0.50	
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50	< 0.50		< 0.50		< 0.50	< 0.50	< 0.50	
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50		< 0.50		< 0.50	< 0.50	< 0.50	
Sulphate (Acid Soluble)	M	2430	%	0.010			< 0.010		< 0.010				< 0.010
Arsenic	M	2450	mg/kg	1.0	13	13		16		12	11	11	
Beryllium	U	2450	mg/kg	1.0	< 1.0	< 1.0		1.1		< 1.0	1.0	< 1.0	
Cadmium	M	2450	mg/kg	0.10	0.27	0.17		0.36		0.27	0.29	0.25	
Chromium	M	2450	mg/kg	1.0	36	26		33		29	29	29	
Copper	M	2450	mg/kg	0.50	27	29		29		21	21	23	
Mercury	M	2450	mg/kg	0.10	0.16	0.12		0.18		0.17	0.17	0.18	
Nickel	M	2450	mg/kg	0.50	33	29		29		25	25	22	
Lead	M	2450	mg/kg	0.50	52	35		80		53	47	54	
Selenium	M	2450	mg/kg	0.20	0.26	< 0.20		0.49		0.43	0.38	0.46	
Vanadium	U	2450	mg/kg	5.0	39	28		42		33	34	38	
Zinc	M	2450	mg/kg	0.50	74	63		80		63	75	74	
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50		< 0.50		< 0.50	< 0.50	< 0.50	
Organic Matter	M	2625	%	0.40	3.5	2.8		5.7		4.8	4.3	8.1	
Naphthalene	M	2800	mg/kg	0.10	< 0.10	0.17		< 0.10		< 0.10	< 0.10	< 0.10	
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10		< 0.10	< 0.10	< 0.10	
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10		< 0.10	< 0.10	< 0.10	
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10		< 0.10	< 0.10	< 0.10	
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	0.72		< 0.10		< 0.10	< 0.10	< 0.10	
Anthracene	M	2800	mg/kg	0.10	< 0.10	0.13		< 0.10		< 0.10	< 0.10	< 0.10	
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	1.9		< 0.10		< 0.10	< 0.10	0.21	
Pyrene	M	2800	mg/kg	0.10	< 0.10	1.5		< 0.10		< 0.10	< 0.10	0.23	
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	0.41		< 0.10		< 0.10	< 0.10	< 0.10	
Chrysene	M	2800	mg/kg	0.10	< 0.10	0.70		< 0.10		< 0.10	< 0.10	< 0.10	
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	0.82		< 0.10		< 0.10	< 0.10	< 0.10	
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	0.21		< 0.10		< 0.10	< 0.10	< 0.10	
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	0.49		< 0.10		< 0.10	< 0.10	< 0.10	
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	0.32		< 0.10		< 0.10	< 0.10	< 0.10	



The right chemistry to deliver results

Project: STN3505NM - Chipping Lane

Results - Soil

Client: Soiltechnics Limited	Chemtest Job No.:	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222
Quotation No.:	Chemtest Sample ID.:	267972	267973	267974	267975	267976	267977	267978	267979	267980	
Order No.: 21137	Client Sample Ref.:	IP108	IP108	IP108	IP110	IP110	IP112	IP113	IP114	IP114	
	Client Sample ID.:	9-072	7-003	9-073	9-080	9-083	9-089	9-093	9-098	9-100	
	Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
	Top Depth (m):	0.10	0.50	1.80	0.10	1.70	0.10	0.10	0.10	1.30	
	Date Sampled:	17-Feb-2016	17-Feb-2016	17-Feb-2016	17-Feb-2016	17-Feb-2016	17-Feb-2016	17-Feb-2016	17-Feb-2016	17-Feb-2016	
Determinand	Accred.	SOP	Units	LOD							
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	
Benzo(g,h,i)perylene	M	2800	mg/kg	0.10	< 0.10	0.29		< 0.10	< 0.10	< 0.10	
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	7.7		< 2.0	< 2.0	< 2.0	
Total Phenols	M	2920	mg/kg	0.30	< 0.30	< 0.30		< 0.30	< 0.30	< 0.30	

Results - Soil

Project: STN3505NM - Chipping Lane

Client: Soiltechnics Limited	Chemtest Job No.:		16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222
Quotation No.:	Chemtest Sample ID.:		267981	267982	267983	267984	267985	267986	267987	267988	267989		
Order No.: 21137	Client Sample Ref.:		IP116	IP117	IP118	IP118	IP119	IP120	IP122	IP123	IP124		
	Client Sample ID.:		9-106	9-110	9-114	9-117	9-119	9-124	9-137	9-138	9-142		
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL		
	Top Depth (m):		0.10	0.10	0.10	1.80	0.10	0.10	1.80	0.10	0.10		
	Date Sampled:		17-Feb-2016	17-Feb-2016	18-Feb-2016	18-Feb-2016	18-Feb-2016	18-Feb-2016	18-Feb-2016	18-Feb-2016	18-Feb-2016		
Determinand	Accred.	SOP	Units	LOD									
Moisture	N	2030	%	0.020	24	25	25	16	39	30	15	32	27
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Roots	Roots	Roots	Roots	Roots	Roots	NONE	Roots	Roots
Soil Texture	N	2040		N/A	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay
pH	M	2010		N/A	5.8	5.8	5.3	8.3	5.6	5.5	8.3	5.9	5.6
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	0.45	0.56	0.53		0.61	0.77		0.72	0.72
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010				< 0.010			< 0.010		
Total Sulphur	M	2175	%	0.010				0.014			0.013		
Cyanide (Complex)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50		< 0.50	< 0.50
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50		< 0.50	< 0.50
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50		< 0.50	< 0.50
Sulphate (Acid Soluble)	M	2430	%	0.010				< 0.010			< 0.010		
Arsenic	M	2450	mg/kg	1.0	12	11	14		22	14		10	10
Beryllium	U	2450	mg/kg	1.0	1.1	1.1	1.1		1.3	1.2		1.0	1.0
Cadmium	M	2450	mg/kg	0.10	0.30	0.21	0.29		0.50	0.32		0.28	0.26
Chromium	M	2450	mg/kg	1.0	35	35	37		46	36		32	32
Copper	M	2450	mg/kg	0.50	36	27	32		44	26		22	20
Mercury	M	2450	mg/kg	0.10	0.23	0.17	0.20		0.25	0.18		0.16	0.16
Nickel	M	2450	mg/kg	0.50	29	30	26		31	29		27	25
Lead	M	2450	mg/kg	0.50	65	41	61		96	57		42	42
Selenium	M	2450	mg/kg	0.20	0.34	0.32	0.41		0.67	0.38		0.37	0.39
Vanadium	U	2450	mg/kg	5.0	44	40	49		59	42		37	43
Zinc	M	2450	mg/kg	0.50	110	59	83		120	82		62	54
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50		< 0.50	< 0.50
Organic Matter	M	2625	%	0.40	4.3	5.2	6.6		10	5.6		5.7	4.3
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10		< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10		< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10		< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10		< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.75		0.11	< 0.10		< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.16		< 0.10	< 0.10		< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	1.5		0.36	< 0.10		< 0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	1.4		0.31	< 0.10		< 0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.29		< 0.10	< 0.10		< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.33		< 0.10	< 0.10		< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10		< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10		< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10		< 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		< 0.10	< 0.10		< 0.10	< 0.10



The right chemistry to deliver results

Project: STN3505NM - Chipping Lane

Results - Soil

Client: Soiltechnics Limited	Chemtest Job No.:	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222	16-06222
Quotation No.:	Chemtest Sample ID.:	267981	267982	267983	267984	267985	267986	267987	267988	267989	
Order No.: 21137	Client Sample Ref.:	IP116	IP117	IP118	IP118	IP119	IP120	IP122	IP123	IP124	
	Client Sample ID.:	9-106	9-110	9-114	9-117	9-119	9-124	9-137	9-138	9-142	
	Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
	Top Depth (m):	0.10	0.10	0.10	1.80	0.10	0.10	1.80	0.10	0.10	
	Date Sampled:	17-Feb-2016	17-Feb-2016	18-Feb-2016	18-Feb-2016	18-Feb-2016	18-Feb-2016	18-Feb-2016	18-Feb-2016	18-Feb-2016	
Determinand	Accred.	SOP	Units	LOD							
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 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	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	4.4	< 2.0	< 2.0	< 2.0	< 2.0
Total Phenols	M	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30

Project: STN3505NM - Chipping Lane

Client: Soiltechnics Limited		Chemtest Job No.:		16-06222	16-06222
Quotation No.:		Chemtest Sample ID.:		267990	267991
Order No.: 21137		Client Sample Ref.:		11*125	11*125
		Client Sample ID.:		9-148	9-149
		Sample Type:		SOIL	SOIL
		Top Depth (m):		0.50	1.20
		Date Sampled:		18-Feb-2016	18-Feb-2016
Determinand	Accred.	SOP	Units	LOD	
Moisture	N	2030	%	0.020	21
Soil Colour	N	2040		N/A	Brown
Other Material	N	2040		N/A	Roots
Soil Texture	N	2040		N/A	Clay
pH	M	2010		N/A	7.9
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	< 0.40
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	< 0.010
Total Sulphur	M	2175	%	0.010	0.022
Cyanide (Complex)	M	2300	mg/kg	0.50	< 0.50
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50
Sulphate (Acid Soluble)	M	2430	%	0.010	0.030
Arsenic	M	2450	mg/kg	1.0	11
Beryllium	U	2450	mg/kg	1.0	< 1.0
Cadmium	M	2450	mg/kg	0.10	0.18
Chromium	M	2450	mg/kg	1.0	32
Copper	M	2450	mg/kg	0.50	18
Mercury	M	2450	mg/kg	0.10	0.10
Nickel	M	2450	mg/kg	0.50	31
Lead	M	2450	mg/kg	0.50	26
Selenium	M	2450	mg/kg	0.20	0.23
Vanadium	U	2450	mg/kg	5.0	32
Zinc	M	2450	mg/kg	0.50	46
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50
Organic Matter	M	2625	%	0.40	2.8
Naphthalene	M	2800	mg/kg	0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10



The right chemistry to deliver results

Project: **STN3505NM - Chipping Lane**

Results - Soil

Client: Soiltechnics Limited	Chemtest Job No.:		16-06222	16-06222	
Quotation No.:	Chemtest Sample ID.:		267990	267991	
Order No.: 21137	Client Sample Ref.:		11-125	11-125	
	Client Sample ID.:		9-148	9-149	
	Sample Type:		SOIL	SOIL	
	Top Depth (m):		0.50	1.20	
	Date Sampled:		18-Feb-2016	18-Feb-2016	
Determinand	Accred.	SOP	Units	LOD	
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10
Benzo(g,h,i)perylene	M	2800	mg/kg	0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0
Total Phenols	M	2920	mg/kg	0.30	< 0.30

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 our Coventry 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: **Residential without plant uptake**
Receiver: **Current site user**

Contaminant	Test procedure	Summary of test data				Initial comparison	Outlier test			Normality test			UCL			
		Guideline value	No. of tests	Min.	Max.		Mean	Initial screening	Pass outlier test?	Number of outliers	Location of outlier	Concentration	Shapiro-Wilk Normality test	Probability plot test	Data normally distributed?	95% UCL of mean
	Guideline source	mg/kg		mg/kg	mg/kg	mg/kg	No. of tests above guideline value			Depth	mg/kg				mg/kg	
Arsenic	S4UL	40	21	10.0	22.0	12.9	0	Mean value below guideline	n			not normal	not normal	n	15.4	Arsenic
Beryllium	S4UL	1.7	21	1.0	1.3	1.0	0	Mean value below guideline	n			not normal	not normal	n	1.1	Beryllium
Boron	S4UL	11000	21	0.4	0.9	0.5	0	Mean value below guideline	y			not normal	not normal	n	0.7	Boron
Cadmium	S4UL	85	21	0.2	0.5	0.3	0	Mean value below guideline	n			not normal	not normal	n	0.3	Cadmium
Chromium	S4UL	910	21	23.0	46.0	32.4	0	Mean value below guideline	n			normal	normal	y	34.3	Chromium
Copper	S4UL	7100	21	17.0	110.0	31.1	0	Mean value below guideline	n			not normal	not normal	n	50.6	Copper
Cyanide (total)	ATK	34	21	0.5	0.5	0.5	0	Mean value below guideline	y			not normal	not normal	n	0.5	Cyanide (total)
Lead	ATK	383	21	21.0	96.0	53.0	0	Mean value below guideline	y			normal	normal	y	59.8	Lead
Mercury#	S4UL	1.2	21	0.1	0.3	0.2	0	Mean value below guideline	y			normal	normal	y	0.2	Mercury#
Nickel	S4UL	180	21	21.0	47.0	27.7	0	Mean value below guideline	n			not normal	not normal	n	32.9	Nickel
Selenium	S4UL	430	21	0.2	0.7	0.4	0	Mean value below guideline	n			normal	normal	y	0.4	Selenium
Vanadium	S4UL	1200	21	28.0	59.0	39.5	0	Mean value below guideline	n			normal	normal	y	42.2	Vanadium
Zinc	S4UL	40000	21	46.0	120.0	76.0	0	Mean value below guideline	y			normal	normal	y	84.1	Zinc

C4SL Category 4 Screening Level
S4UL Suitable for Use Level as published by LQM/ClEH
SGV Soil Guideline Value as published by the Environment Agency 2009
GAC Generic Assessment Criterion as published by LQM and ClEH
SSV Soil Screening Value as derived by Soiltechnics
ATK Soil Screening Value derived by Atkins
NGV No Guideline Value
BPG5 Guideline from BPG Note 5 as published by Forest Research

Assumed to be elemental mercury as initial screening value

Title	Table number
Analysis of test data in relation to concentrations of inorganic chemical contaminants.	1
Report ref: STN3505NM-G02 Revision 0	April 2016 Appendix H

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

Adopted model: **Residential without plant uptake**
Receptor: **Current site user**

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	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				mg/kg		
Acenaphthene	S4UL	210	21	0.1	0.1	0.1	0	Mean value below guideline	y				not normal	not normal	n	0.1	Acenaphthene	
Acenaphthylene	S4UL	170	21	0.1	0.1	0.1	0	Mean value below guideline	y				not normal	not normal	n	0.1	Acenaphthylene	
Anthracene	S4UL	2400	21	0.1	0.4	0.1	0	Mean value below guideline	n				not normal	not normal	n	0.2	Anthracene	
Benzo(a)anthracene	S4UL	7.2	21	0.1	1.5	0.2	0	Mean value below guideline	n				not normal	not normal	n	0.5	Benzo(a)anthracene	
Benzo(a)pyrene	S4UL	2.2	21	0.1	2.0	0.2	0	Mean value below guideline	n				not normal	not normal	n	0.6	Benzo(a)pyrene	
Benzo(b)fluoranthene	S4UL	2.6	21	0.1	2.6	0.3	0	Mean value below guideline	n				not normal	not normal	n	0.8	Benzo(b)fluoranthene	
Benzo(g,h,i)perylene	S4UL	320	21	0.1	1.3	0.2	0	Mean value below guideline	n				not normal	not normal	n	0.4	Benzo(g,h,i)perylene	
Benzo(k)fluoranthene	S4UL	77	21	0.1	0.8	0.1	0	Mean value below guideline	n				not normal	not normal	n	0.3	Benzo(k)fluoranthene	
Chrysene	S4UL	15	21	0.1	1.9	0.3	0	Mean value below guideline	n				not normal	not normal	n	0.7	Chrysene	
Dibenzo(a,h)anthracene	S4UL	0.24	21	0.1	0.1	0.1	0	Mean value below guideline	y				not normal	not normal	n	0.1	Dibenzo(a,h)anthracene	
Fluoranthene	S4UL	280	21	0.1	3.6	0.5	0	Mean value below guideline	n				not normal	not normal	n	1.5	Fluoranthene	
Fluorene	S4UL	170	21	0.1	0.1	0.1	0	Mean value below guideline	y				not normal	not normal	n	0.1	Fluorene	
Indeno(1,2,3-cd)pyrene	S4UL	27	21	0.1	1.4	0.2	0	Mean value below guideline	n				not normal	not normal	n	0.5	Indeno(1,2,3-cd)pyrene	
Naphthalene	S4UL	2.3	21	0.1	0.2	0.1	0	Mean value below guideline	n				not normal	not normal	n	0.1	Naphthalene	
Phenanthrene	S4UL	95	21	0.1	1.6	0.3	0	Mean value below guideline	n				not normal	not normal	n	0.7	Phenanthrene	
Phenols	S4UL	280	21	0.3	0.3	0.3	0	Mean value below guideline	y				not normal	not normal	n	0.3	Phenols	
Pyrene	S4UL	670	21	0.1	3.5	0.5	0	Mean value below guideline	n				not normal	not normal	n	1.3	Pyrene	

Notes

CASL Category 4 Screening Level
S4UL Suitable for Use Level as published by LQM/CIEH
SGV Soil Guideline Value as published by the Environment Agency 2009
GAC Generic Assessment Criterion as published by LQM and CIEH
SSV Soil Screening Value as derived by Soiltechnics
ATK Soil Screening Value derived by Atkins
NGV No Guideline Value

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: **Residential**
Receiver: **Proposed site user**

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					mg/kg	
Arsenic	S4UL	37	21	10.0	22.0	12.9	0	Mean value below guideline	n				not normal	not normal	n	15.4	Arsenic	
Beryllium	S4UL	1.7	21	1.0	1.3	1.0	0	Mean value below guideline	n				not normal	not normal	n	1.1	Beryllium	
Boron	S4UL	290	21	0.4	0.9	0.5	0	Mean value below guideline	y				not normal	not normal	n	0.7	Boron	
Cadmium	S4UL	11	21	0.2	0.5	0.3	0	Mean value below guideline	n				not normal	not normal	n	0.3	Cadmium	
Chromium	S4UL	910	21	23.0	46.0	32.4	0	Mean value below guideline	n				normal	normal	y	34.3	Chromium	
Copper	S4UL	2400	21	17.0	110.0	31.1	0	Mean value below guideline	n				not normal	not normal	n	50.6	Copper	
Cyanide (total)	ATK	34	21	0.5	0.5	0.5	0	Mean value below guideline	y				not normal	not normal	n	0.5	Cyanide (total)	
Lead	ATK	276	21	21.0	96.0	53.0	0	Mean value below guideline	y				normal	normal	y	59.8	Lead	
Mercury#	S4UL	1.2	21	0.1	0.3	0.2	0	Mean value below guideline	y				normal	normal	y	0.2	Mercury#	
Nickel	S4UL	180	21	21.0	47.0	27.7	0	Mean value below guideline	n				not normal	not normal	n	32.9	Nickel	
Selenium	S4UL	250	21	0.2	0.7	0.4	0	Mean value below guideline	n				normal	normal	y	0.4	Selenium	
Vanadium	S4UL	410	21	28.0	59.0	39.5	0	Mean value below guideline	n				normal	normal	y	42.7	Vanadium	
Zinc	S4UL	3700	21	46.0	120.0	76.0	0	Mean value below guideline	y				normal	normal	y	84.1	Zinc	

C4SL Category 4 Screening Level
S4UL Suitable for Use Level as published by LQM/ClEH
SGV Soil Guideline Value as published by the Environment Agency 2009
GAC Generic Assessment Criterion as published by LQM and ClEH
SSV Soil Screening Value as derived by Soiltechnics
ATK Soil Screening Value derived by Atkins
NGV No Guideline Value
BPG5 Guideline from BPG Note 5 as published by Forest Research

Assumed to be elemental mercury as initial screening value

Title	Table number
Analysis of test data in relation to concentrations of inorganic chemical contaminants.	3
Report ref: STN3505NM-G02 Revision 0	April 2016 Appendix H

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

Adopted model: **Residential**
Receptor: **Proposed site user**

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	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				mg/kg		
Acenaphthene	S4UL	3000	21	0.1	0.1	0.1	0	Mean value below guideline	y				not normal	not normal	n	0.1	Acenaphthene	
Acenaphthylene	S4UL	2900	21	0.1	0.1	0.1	0	Mean value below guideline	y				not normal	not normal	n	0.1	Acenaphthylene	
Anthracene	S4UL	31000	21	0.1	0.4	0.1	0	Mean value below guideline	n				not normal	not normal	n	0.2	Anthracene	
Benzo(a)anthracene	S4UL	11	21	0.1	1.5	0.2	0	Mean value below guideline	n				not normal	not normal	n	0.5	Benzo(a)anthracene	
Benzo(a)pyrene	S4UL	3.2	21	0.1	2.0	0.2	0	Mean value below guideline	n				not normal	not normal	n	0.6	Benzo(a)pyrene	
Benzo(b)fluoranthene	S4UL	3.9	21	0.1	2.6	0.3	0	Mean value below guideline	n				not normal	not normal	n	0.8	Benzo(b)fluoranthene	
Benzo(g,h,i)perylene	S4UL	360	21	0.1	1.3	0.2	0	Mean value below guideline	n				not normal	not normal	n	0.4	Benzo(g,h,i)perylene	
Benzo(k)fluoranthene	S4UL	110	21	0.1	0.8	0.1	0	Mean value below guideline	n				not normal	not normal	n	0.3	Benzo(k)fluoranthene	
Chrysene	S4UL	30	21	0.1	1.9	0.3	0	Mean value below guideline	n				not normal	not normal	n	0.7	Chrysene	
Dibenzo(a,h)anthracene	S4UL	0.31	21	0.1	0.1	0.1	0	Mean value below guideline	y				not normal	not normal	n	0.1	Dibenzo(a,h)anthracene	
Fluoranthene	S4UL	1500	21	0.1	3.6	0.5	0	Mean value below guideline	n				not normal	not normal	n	1.5	Fluoranthene	
Fluorene	S4UL	2800	21	0.1	0.1	0.1	0	Mean value below guideline	y				not normal	not normal	n	0.1	Fluorene	
Indeno(1,2,3-cd)pyrene	S4UL	45	21	0.1	1.4	0.2	0	Mean value below guideline	n				not normal	not normal	n	0.5	Indeno(1,2,3-cd)pyrene	
Naphthalene	S4UL	2.3	21	0.1	0.2	0.1	0	Mean value below guideline	n				not normal	not normal	n	0.1	Naphthalene	
Phenanthrene	S4UL	1300	21	0.1	1.6	0.3	0	Mean value below guideline	n				not normal	not normal	n	0.7	Phenanthrene	
Phenols	S4UL	750	21	0.3	0.3	0.3	0	Mean value below guideline	y				not normal	not normal	n	0.3	Phenols	
Pyrene	S4UL	3700	21	0.1	3.5	0.5	0	Mean value below guideline	n				not normal	not normal	n	1.3	Pyrene	

Notes

CASL Category 4 Screening Level
S4UL Suitable for Use Level as published by LQM/CIEH
SGV Soil Guideline Value as published by the Environment Agency 2009
GAC Generic Assessment Criterion as published by LQM and CIEH
SSV Soil Screening Value as derived by Soiltechnics
ATK Soil Screening Value derived by Atkins
NGV No Guideline Value
BPG5 Guideline from BPG Note 5 as published by Forest Research
Assumed to be elemental mercury as initial screening value

Title	Table number
Analysis of test data in relation to concentrations of organic chemical contaminants.	4

Report ref: STNG505NM-G02
Revision 0

April 2016
Appendix H

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

Adopted Model: **Industrial/Commercial**
Receptor: **Construction operative**

Contaminant	Test procedure	Summary of test data				Initial comparison	Outlier test			Normality test			UCL			
		Guideline value	No. of tests	Min.	Max.		Mean	Initial screening	Pass outlier test?	Number of outliers	Location of outlier	Concentration	Shapiro-Wilk Normality test	Probability plot test	Data normally distributed?	95% UCL of mean
	Guideline source	mg/kg		mg/kg	mg/kg	mg/kg	No. of tests above guideline value			Depth	mg/kg				mg/kg	
Arsenic	SGV	640	21	10.0	22.0	12.9	0	Mean value below guideline	n			not normal	not normal	n	15.4	Arsenic
Beryllium	GAC	470	21	1.0	1.3	1.0	0	Mean value below guideline	n			not normal	not normal	n	1.1	Beryllium
Boron	GAC	192000	21	0.4	0.9	0.5	0	Mean value below guideline	y			not normal	not normal	n	0.7	Boron
Cadmium	SGV	230	21	0.2	0.5	0.3	0	Mean value below guideline	n			not normal	not normal	n	0.3	Cadmium
Chromium	GAC	30400	21	23.0	46.0	32.4	0	Mean value below guideline	n			normal	normal	y	34.3	Chromium
Copper	GAC	71700	21	17.0	110.0	31.1	0	Mean value below guideline	n			not normal	not normal	n	50.6	Copper
Cyanide (total)	ATK	34	21	0.5	0.5	0.5	0	Mean value below guideline	y			not normal	not normal	n	0.5	Cyanide (total)
Lead	ATK	6490	21	21.0	96.0	53.0	0	Mean value below guideline	y			normal	normal	y	59.8	Lead
Mercury#	SGV	26	21	0.1	0.3	0.2	0	Mean value below guideline	y			normal	normal	y	0.2	Mercury#
Nickel	SGV	1800	21	21.0	47.0	27.7	0	Mean value below guideline	n			not normal	not normal	n	32.9	Nickel
Selenium	SGV	13000	21	0.2	0.7	0.4	0	Mean value below guideline	n			normal	normal	y	0.4	Selenium
Vanadium	GAC	3160	21	28.0	59.0	39.5	0	Mean value below guideline	n			normal	normal	y	42.7	Vanadium
Zinc	GAC	665000	21	46.0	120.0	76.0	0	Mean value below guideline	y			normal	normal	y	84.1	Zinc

CASL Category 4 Screening Level
 S4UL Suitable for Use Level as published by LQM/CIEH
 SGV Soil Guideline Value as published by the Environment Agency 2009
 GAC Generic Assessment Criterion as published by LQM and CIEH
 SSV Soil Screening Value as derived by soiltechnics
 ATK Soil Screening Value derived by Atkins
 NGV No Guideline Value
 BPGs Guideline from BPG Note 5 as published by Forest Research

Assumed to be elemental mercury as initial screening value

Title	Table number
Analysis of test data in relation to concentrations of inorganic chemical contaminants.	5
Report ref: STN3505NM-G02 Revision 0	April 2016 Appendix H

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

Adopted model: **Industrial/Commercial**
Receptor: **Construction operative and vegetation**

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	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				mg/kg		
Acenaphthene	S4UL	3000	21	0.1	0.1	0.1	0	Mean value below guideline	y				not normal	not normal	n	0.1	Acenaphthene	
Acenaphthylene	S4UL	2900	21	0.1	0.1	0.1	0	Mean value below guideline	y				not normal	not normal	n	0.1	Acenaphthylene	
Anthracene	S4UL	31000	21	0.1	0.4	0.1	0	Mean value below guideline	n				not normal	not normal	n	0.2	Anthracene	
Benzo(a)anthracene	S4UL	11	21	0.1	1.5	0.2	0	Mean value below guideline	n				not normal	not normal	n	0.5	Benzo(a)anthracene	
Benzo(a)pyrene	S4UL	3.2	21	0.1	2.0	0.2	0	Mean value below guideline	n				not normal	not normal	n	0.6	Benzo(a)pyrene	
Benzo(b)fluoranthene	S4UL	3.9	21	0.1	2.6	0.3	0	Mean value below guideline	n				not normal	not normal	n	0.8	Benzo(b)fluoranthene	
Benzo(g,h,i)perylene	S4UL	360	21	0.1	1.3	0.2	0	Mean value below guideline	n				not normal	not normal	n	0.4	Benzo(g,h,i)perylene	
Benzo(k)fluoranthene	S4UL	110	21	0.1	0.8	0.1	0	Mean value below guideline	n				not normal	not normal	n	0.3	Benzo(k)fluoranthene	
Chrysene	S4UL	30	21	0.1	1.9	0.3	0	Mean value below guideline	n				not normal	not normal	n	0.7	Chrysene	
Dibenzo(a,h)anthracene	S4UL	0.31	21	0.1	0.1	0.1	0	Mean value below guideline	y				not normal	not normal	n	0.1	Dibenzo(a,h)anthracene	
Fluoranthene	S4UL	1500	21	0.1	3.6	0.5	0	Mean value below guideline	n				not normal	not normal	n	1.5	Fluoranthene	
Fluorene	S4UL	2800	21	0.1	0.1	0.1	0	Mean value below guideline	y				not normal	not normal	n	0.1	Fluorene	
Indeno(1,2,3-cd)pyrene	S4UL	45	21	0.1	1.4	0.2	0	Mean value below guideline	n				not normal	not normal	n	0.5	Indeno(1,2,3-cd)pyrene	
Naphthalene	S4UL	2.3	21	0.1	0.2	0.1	0	Mean value below guideline	n				not normal	not normal	n	0.1	Naphthalene	
Phenanthrene	S4UL	1300	21	0.1	1.6	0.3	0	Mean value below guideline	n				not normal	not normal	n	0.7	Phenanthrene	
Phenols	S4UL	750	21	0.3	0.3	0.3	0	Mean value below guideline	y				not normal	not normal	n	0.3	Phenols	
Pyrene	S4UL	3700	21	0.1	3.5	0.5	0	Mean value below guideline	n				not normal	not normal	n	1.3	Pyrene	

Notes

CASL	Category 4 Screening Level
S4UL	Suitable for Use Level as published by LQM/CIEH
SGV	Soil Guideline Value as published by the Environment Agency 2009
GAC	Generic Assessment Criterion as published by LQM and CIEH
SSV	Soil Screening Value as derived by Soiltechnics
ATK	Soil Screening Value derived by Atkins
NGV	No Guideline Value
BPG5	Guideline from BPG Note 5 as published by Forest Research

Title	Table number
Analysis of test data in relation to concentrations of organic chemical contaminants.	6

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					mg/kg	
Arsenic	S4UL	640	21	10.0	22.0	12.9	0	Mean value below guideline	n				not normal	not normal	n	15.4	Arsenic	
Beryllium	S4UL	12	21	1.0	1.3	1.0	0	Mean value below guideline	n				not normal	not normal	n	1.1	Beryllium	
Boron	S4UL	240000	21	0.4	0.9	0.5	0	Mean value below guideline	y				not normal	not normal	n	0.7	Boron	
Cadmium	S4UL	190	21	0.2	0.5	0.3	0	Mean value below guideline	n				not normal	not normal	n	0.3	Cadmium	
Chromium	S4UL	8600	21	23.0	46.0	32.4	0	Mean value below guideline	n				normal	normal	y	34.3	Chromium	
Copper	BPG5	130	21	17.0	110.0	31.1	0	Mean value below guideline	n				not normal	not normal	n	50.6	Copper	
Cyanide (total)	ATK	34	21	0.5	0.5	0.5	0	Mean value below guideline	y				not normal	not normal	n	0.5	Cyanide (total)	
Lead	ATK	6490	21	21.0	96.0	53.0	0	Mean value below guideline	y				normal	normal	y	59.8	Lead	
Mercury#	S4UL	58	21	0.1	0.3	0.2	0	Mean value below guideline	y				normal	normal	y	0.2	Mercury#	
Nickel	S4UL	980	21	21.0	47.0	27.7	0	Mean value below guideline	n				not normal	not normal	n	32.9	Nickel	
Selenium	S4UL	12000	21	0.2	0.7	0.4	0	Mean value below guideline	n				normal	normal	y	0.4	Selenium	
Vanadium	S4UL	9000	21	28.0	59.0	39.5	0	Mean value below guideline	n				normal	normal	y	42.2	Vanadium	
Zinc	BPG5	300	21	46.0	120.0	76.0	0	Mean value below guideline	y				normal	normal	y	84.1	Zinc	

CASL Category 4 Screening Level
S4UL Suitable for Use Level as published by LQM/CIEH
SGV Soil Guideline Value as published by the Environment Agency 2009
GAC Generic Assessment Criterion as published by LQM and CIEH
SSV Soil Screening Value as derived by Soiltechnics
ATK Soil Screening Value derived by Atkins
NGV No Guideline Value
BPG5 Guideline from BPG Note 5 as published by Forest Research

Assumed to be elemental mercury as initial screening value

Title	Table number
Analysis of test data in relation to concentrations of inorganic chemical contaminants.	7
Report ref: STN3505NM-G02 Revision 0	April 2016 Appendix H

Summary of petroleum hydrocarbon test results

BTEX (Red highlights indicate exceedance of guideline value)

Indicator	unit	S4UL	Concentration		
			TP101 0.90	TP108 0.50	TP125 0.50
Benzene	mg/kg	0.33	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	610	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	350	< 0.001	< 0.001	< 0.001
o-Xylene	mg/kg	250	< 0.001	< 0.001	< 0.001
m,p-Xylene	mg/kg	230	< 0.001	< 0.001	< 0.001

Hydrocarbon banding (Red highlights indicate exceedance of GAC value)

Fraction	unit	S4UL	Concentration		
			TP101 0.90	TP108 0.50	TP125 0.50
Aliphatic					
EC 5 - 6	mg/kg	30	< 0.010	< 0.010	< 0.010
EC >6 - 8	mg/kg	73	< 0.010	< 0.010	< 0.010
EC >8 - 10	mg/kg	19	< 0.10	< 0.10	< 0.10
EC >10 - 12	mg/kg	93	< 0.10	< 0.10	< 0.10
EC >12 - 16	mg/kg	740	< 0.10	< 0.10	< 0.10
EC >16 - 35	mg/kg	45000	< 0.10	< 0.10	30
EC >35 - 44	mg/kg	45000	< 0.10	< 0.10	2.3
Aromatic					
EC 5 - 7 (benzene)	mg/kg	65	< 0.010	< 0.010	< 0.010
EC >7 - 8 (toluene)	mg/kg	120	< 0.010	< 0.010	< 0.010
EC >8 - 10	mg/kg	27	< 0.10	< 0.10	< 0.10
EC >10 - 12	mg/kg	69	< 0.10	< 0.10	< 0.10
EC >12 - 16	mg/kg	140	< 0.10	< 0.10	< 0.10
EC >16 - 21	mg/kg	250	< 0.10	< 0.10	< 0.10
EC >21 - 35	mg/kg	890	< 0.10	< 0.10	14
EC >35 - 44	mg/kg	890	< 0.10	< 0.10	1.4

Notes

S4UL Suitable for Use Level as published by LQM/CIEH

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

Table number
8

Summary of leachate test results

Receptor	Groundwater		(Based on information presented on the Drinking Water Inspectorate website)				
Water type	Freshwater						
Fish type	Cyprinid						
Water hardness	50-100	mg/l					
Contaminant	Guideline value (µg/l)	Guideline source	Location Depth (m)	TP102 0.20	TP110 0.10	TP114 0.10	TP125 0.50
Inorganics (µg/l)							
Arsenic	50	EQS (f)		2.5	2.7	5.6	1.4
Boron	2000	EQS (f)		< 20	26.0	< 20	< 20
Cadmium	5	EQS (f)		0.1	0.3	0.2	< 0.080
Chromium	175	EQS (f)		2.4	4.5	6.6	< 1.0
Copper	6	EQS (f)		6.3	13.0	13.0	5.7
Lead	125	EQS (f)		6.8	11.0	10.0	1.2
Mercury	1	EQS (f)		< 0.50	< 0.50	< 0.50	< 0.50
Nickel	100	EQS (f)		1.9	4.3	4.2	< 1.0
Selenium ¹	10	UKDWS		< 1.0	< 1.0	< 1.0	< 1.0
Vanadium ²	20	EQS (f)		6.4	7.6	18.0	2.4
Zinc	175	EQS (f)		5.3	17.0	18.0	1.9
Free Cyanide ¹	50	UKDWS		< 50	< 50	< 50	< 50
Nitrate as N	50000	UKDWS		6500	4800	2400	2000
Sulphate as SO4	400000	EQS(f)		10000	4200	2700	2400
PAH (µg/l)							
Benzo(a)pyrene ^{1,4}	0.01	UKDWS		< 0.10	< 0.10	< 0.10	< 0.10
Naphthalene ²	10	EQS (f)		< 0.10	< 0.10	< 0.10	< 0.10
Sum of 4 PAH ¹	0.1	UKDWS		<0.1*	<0.1*	<0.1*	<0.1*

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

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
9

Initial Conceptual Model

Current site use commercial/industrial
Proposed site use residential

Source	Pathway										Receptor	Risk assessment to CIRIA C552		
	Humans											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	Vegetation Root uptake, deposition to shoots and foliage contact	Water Percolation of water through contaminated soils	Near-surface water run-off through contaminated soils	Saturation of contaminated soils by flood waters				
Soils														
Made Ground - Inorganic and organic contaminants	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Current site users	Adult	Medium	Moderate
	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Medium	Moderate
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Medium	Moderate
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Mild	Low/moderate
	-	-	-	-	-	-	-	Unlikely	Likely	Unlikely	Water (current and proposed)	-	Mild	Low/moderate

Final Conceptual Model

Current site use commercial/industrial
Proposed site use residential

Source	Pathway										Receptor	Risk assessment to CIRIA C552		
	Humans											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	Vegetation Root uptake, deposition to shoots and foliage contact	Water Percolation of water through contaminated soils	Near-surface water run-off through contaminated soils	Saturation of contaminated soils by flood waters				
Soils														
No measured exceedances of inorganic or organic contaminants	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Current site users	Adult	Minor	Low
	Likely	Likely	Likely	Likely	Likely	Likely	-	-	-	-	Proposed site users	Child	Minor	Low
	Likely	Likely	Unlikely	Likely	Likely	Likely	-	-	-	-	Construction operatives	Adult	Minor	Low
	-	-	-	-	-	-	Likely	-	-	-	Vegetation (current and proposed)	-	Minor	Low
	-	-	-	-	-	-	-	Unlikely	Likely	Unlikely	Water (current and proposed)	-	Minor	Low
Leachate														
Elevated leachable concentrations of copper in Topsoil	-	-	-	-	-	-	-	Unlikely	Likely	Unlikely	Water (current and proposed)	-	Mild	Low-moderate

Title	Table number
Conceptual Site Model	1
Report ref: STN3509NMA002 Revision D	April 2016 Appendix I

soiltechnics

environmental and geotechnical consultants

Proposed residential development
Land east of Chipping Lane
Longridge, Preston

Ground Investigation Report
(Phase 3)

Ivy Mill Business Centre, Crown Street, Failsworth, Manchester M35 9BG

t: 0161 9470270

e: mail@soiltechnics.net

w: www.soiltechnics.net

**Proposed residential development
Phase 3
Land East of Chipping Lane
Longridge
Preston
PR3 2NA**

GROUND INVESTIGATION REPORT

Soiltechnics Ltd. Ivy Mill Business Centre, Crown Street, Failsworth, Manchester, M35 9BG
Tel: (0161) 9470270 E-mail: mail@soiltechnics.net

Report originators

Prepared
by



Tomasz Opara B.Sc., M.Sc.

tomasz.opara@soiltechnics.net

Assistant geo-environmental Engineer, Soiltechnics
Limited

Supervised/
Reviewed
by



Sam Dean B.Sc. (Hons), FGS., MEnvSc.

sam.dean@soiltechnics.net

Director, Soiltechnics Limited



Aerial photograph of site



Approximate Phase 3 site boundaries edged in pink

Report status and format

Report section	Principal coverage	Report status	
		Revision	Comments
1	Executive summary		
2	Introduction		
3	Desk study information		
4	Chemical contamination		
5	Gaseous contamination		
6	Future investigations		
7	Drawings		

List of drawings

Drawing	Principal coverage	Status	
		Revision	Comments
01	Site location plan		
02	Plan showing existing site features and location and extent of development phases		

List of appendices

Appendix	Content
A	Definitions of geo-environmental terms used in this report
B	Copies of Statutory Undertakers replies
C	Copy of Phase 1 Desk Study report undertaken by Curtins Consulting Ltd
D	Illustrative masterplan showing indicative development layout
E	Copy of correspondence received from Environmental Health
F	Conceptual site model

1 Executive summary

We recommend the following executive summary is not read in isolation to the main report which follows.

Topic		Summary	Abnormals		
Site conditions		The site comprised three open grassed fields separated by mature hedgerows and sporadic trees, positioned on the north-western outskirts of Longridge, Preston. It is understood that the land is currently used by livestock for grazing. Higgin Brook is also recorded along part of the south-western boundary of the site.			
Proposals		We understand the scheme in its entirety will consist of redevelopment as areas of Public Open Space and recreational grounds.			
Investigations		Limited at this stage to collection, presentation and review of desk study information.			
History of the site		Historically the site has remained undeveloped farm land.			
Ground conditions	Soils (geological sequence)	Strata.	Typical Soil type	Approximate thickness	
		Alluvium (NW of site only)	Clays and silts	<3m	
		Devensian Till	Clay	>5m	
		Pendleside Sandstone Member	Sandstone with mudstone and siltstones	Up to 50m	
		Bowland Shale Formation	Mudstone, siltstone with sandstones	Up to 200m	
Groundwater and Geohydrology	Strata.	Aquifer designation	Likely permeability	Groundwater	
		Alluvium	Secondary A	Low-moderate	Possibly in basal deposits
		Devensian Till	Unproductive strata (r)	Low	Unlikely
		Pendleside Sandstone Member	Secondary A aquifer (r)	Low to moderate	Possibly at depth
		Bowland Shale Formation	Secondary A and secondary undifferentiated aquifers (r)	Low to moderate	Possibly at depth
		Site not recorded in a source protection zone (SPZ)			
Land stability		Site levels gently fall to the north-west and thus not considered to be at risk of instability. Site not affected by opencast workings or past mine workings			
Soil classification		N/A			
Possible foundation solution		N/A			
Soakaway feasibility		N/A			
Contamination	Chemical	Risks considered low on site and based on adjacent land uses.			
	Gas	Alluvium present in the north-western part of the site may contain organic matter which would provide a source of gasses. Given the nature of the development, site considered at low risk.			
Future investigations		Site considered to pose a low risk of causing harm to identified receptors. Intrusive investigations not considered necessary. As a precaution hardness of water in Higgin Brook should be determined, to enable a more detailed risk assessment to be completed in relation to water receptors			
Statement with respect to NPPF paragraphs 120 and 121		Site not considered to present unacceptable risks from pollution and land instability. Remediation to render the site fit for purpose with respect to chemical/gaseous contamination considered unlikely.			

2 Introduction

2.1	Objectives
2.2	Client instructions and confidentiality
2.3	Site location and scheme proposals
2.4	Report format and investigation standards
2.5	Status of this report
2.6	Report distribution

2.1 Objectives

- 2.1.1 This report describes a ground investigation carried out for the Phase 3 area of a proposed residential development located on land east of Chipping Lane, Longridge, Preston PR3 2NA.
- 2.1.2 The Phase 3 development of the Chipping Lane site incorporates areas of Public Open Space (POS) and recreational grounds. This report addresses issues relating to the health of identified human receptors and risks to controlled waters from ground conditions at the site.
- 2.1.3 A Phase 1 Desk Study Assessment has been previously undertaken for the site by Curtins Consulting Ltd (ref EB1355/GL/3692 Revision A dated April 2014). A copy of their report is presented in Appendix L. We understand that we have the benefit of using such information and have provided a summary of the data in Section 3 of this report. This will also form a basis for our interpretative chemical and gaseous contamination assessments presented in Sections 4 and 5 respectively.
- 2.1.4 The investigation has also been produced to support a planning application for the site (ref 3/2014/0764) by satisfying National Planning Policies Framework sections 120 and 121.

2.2 Client instructions and confidentiality

- 2.2.1 This report was prepared in June 2016 acting on instructions received from our client Barratt Homes (Manchester).
- 2.2.2 This report has been prepared for the sole benefit of our above named instructing client, but this report, and its contents, remains the property of Soiltechnics Limited until payment in full of our invoices in connection with production of this report.
- 2.2.3 Our original investigation proposals were outlined in our correspondence to Barratt Homes of 20th January 2016. The investigation generally followed our original investigation proposals. The investigation process was also determined to maintain as far as possible the original investigation budget costs.

2.3 Site location and scheme proposals

- 2.3.1 The National Grid reference for the site is 360447, 437970. A plan showing the location of the site is presented on Drawing 01, with the extent of the development phases presented on Drawing 02.
- 2.3.2 We understand the scheme in its entirety will comprise the construction of up to 363 dwellings within what is termed Phases 1 and 2 (refer to Drawing 02 for details), with associated landscaping, gardens, hardstanding and access roads. This report refers to the Phase 3 area in which areas of POS and recreational grounds are proposed in the northern and eastern areas of the development site.
- 2.3.3 We have received layout drawings of the proposed scheme with the indicative layout presented in Appendix D.

2.4 Report format and investigation standards

- 2.4.1 Sections 2 to 3 of this report describe the factual aspects of the investigation with Section 4 providing a risk assessment of likely chemical contamination with section 5 describing a similar risk assessment in relation to gaseous contamination. Section 6 outlines a strategy for any future investigations required to progress the scheme to detailed design and construction.
- 2.4.2 This report describes both contamination and geotechnical aspects of the site. The desk study process followed the principles of BS10175: 2011 '*Investigation of potentially Contaminated Sites – Code of Practice*' and limited to a preliminary investigation as described in this document.
- 2.4.3 The extent and result of the preliminary investigation (desk study) undertaken by Curtins Consulting Ltd, in addition to site reconnaissance undertaken by Soiltechnics Ltd, is reported in Section 3.

2.5 Status of this report

- 2.5.1 This report is final based on our current instructions.
- 2.5.2 This investigation has been carried out and reported based on our understanding of best practice. Improved practices, technology, new information and changes in legislation may necessitate an alteration to the report in whole or part after publication. Hence, should the development commence after expiry of one year from the publication date of this report then we would recommend the report be referred back to Soiltechnics for reassessment. Equally, if the nature of the development changes, Soiltechnics should be advised and a reassessment carried out if considered appropriate.

2.6 Report distribution

2.6.1 This report has been prepared to assist in the design and planning process of the development and normally will require distribution to the following parties, although this list may not be exhaustive:

Table summarising parties likely to require information contained in this report

Party	Reason
Client	For information/reference and cost planning.
Developer/Contractor/project manager	To ensure procedures are implemented, programmed and costed.
Planning department	Potentially to discharge planning conditions.
Environment Agency	If ground controlled waters are affected and obtain approvals to any remediation strategies.
Independent inspectors such as Building Control	To ensure procedures are implemented and compliance with building regulations.
Project design team	To progress the design.
Principal Designer (PD)	To advise in construction risk identification and management under the Construction (Design and Management) Regulations.

Table 2.6

3 Desk study information and site observations

3.1	General
3.2	Description of the site
3.3	Injurious and invasive weeds and asbestos
3.4	History of the site
3.5	Geology and geohydrology of the area
3.6	Landfill and infilled ground
3.7	Radon
3.8	Flood risk
3.9	Enquiries with Statutory Undertakers
3.10	Enquiries with Local Authority Building Control and Environmental Health Officers

3.1 General

3.1.1 A Phase 1 Detailed Desk Top Study has been previously undertaken for the site by Curtins Consulting Ltd (reference EB1355/GL/3692, revision A, issue 01, dated 14th April 2014). A copy of their report is presented in Appendix C. We understand that we have the benefit of using such information and have provided a summary of the data in following paragraphs, together with our own site observations. It should be noted that we have tailored the information to suite the current site boundary for the Phase 3 development area, which is shown in a slightly different position in the Curtins report.

3.2 Description of the site

3.2.1 The site is positioned on the north-western outskirts of Longridge, Preston, at an elevation of between approximately 101m and 122m AOD and with the topography of the site falling in a north-westerly direction. The site comprised of three open grassed fields separated by hedgerows and trees between approximately 2m and 15m in height. Localised ponding of surface water was evident, with two small ponds present along the eastern boundary of the most north-westerly located parcel of land. Higgin Brook is also recorded along part of the south-western boundary of this parcel of land, flowing in a north-westerly direction and culverted beyond the location of the adjacent cricket pavilion.

3.2.2 The site was bound to the north and east by further open grassed fields. Chipping Lane, further fields and a cricket pitch were located to the west. The grassed fields which form the Phase 1 and Phase 2 development areas are present to the south, with residential housing and Willows Farm present to the south-east.

3.2.3 A plan showing existing site features and location of exploratory points is presented as Drawing 02.

3.3 Injurious and invasive weeds and asbestos

3.3.1 Injurious and invasive weeds

3.3.1.1 The following weeds are controlled under the Weeds Act 1959:

- Common ragwort
- Spear thistle
- Creeping (or field) thistle
- Broad-leaved dock
- Curled dock

3.3.1.2 Whilst it is not an offence to have the above weeds growing on your land, you must:

- Stop them spreading to agricultural land, particularly grazing areas or land used for forage, like silage and hay
- Choose the most appropriate control method for the your site
- Not plant them in the wild

3.3.1.3 Should you allow the spread of these weeds to another parties land, Natural England could serve you with an Enforcement Notice. You can also be prosecuted if you allow animals to suffer by eating these weeds.

3.3.1.4 In addition to the above, you must not plant in the wild or cause certain invasive and non-native plants to grow in the wild as outlined in the Wildlife and Countryside Act 1981. It is an offence under section 14(2) of the act to '*plant or otherwise cause to grow in the wild*' any plants listed in schedule 9, part II. This can include moving contaminated soil or plant cuttings. The offence carries a fine or custodial sentence of up to two years. The most commonly found invasive, non-native plants include:

- Japanese knotweed
- Giant hogweed
- Himalayan balsam
- Rhododendron ponticum
- New Zealand pigmyweed

3.3.1.5 You are not legally obliged to remove these plants or to control them. However, if you allow Japanese knotweed to spread to another party's land, you could be prosecuted for causing a private nuisance.

3.3.1.6 The presence of such weeds on site may have considerable effects on the cost/timescale in developing the site. Japanese knotweed can cause significant damage to buildings, roads and pavements following development, if untreated prior to development.

3.3.1.7 Our investigations exclude surveys to identify the presence of injurious and invasive weeds. We did not observe any obvious evidence the above species; however, we recommend specialists in the identification and procedures to deal with injurious and invasive weeds are appointed prior to commencement of any works on site.

3.3.2 Asbestos

3.3.2.1 Our investigations exclude surveys to identify the presence or absence of asbestos on site. It should be noted, however, that where intrusive investigations were undertaken we did not observe any obvious evidence of potential asbestos containing materials. This information does not constitute a site-specific risk assessment and we recommend specialists in the identification and control/disposal of asbestos are appointed prior to commencement of any works on site.

3.3.2.2 The presence of asbestos on site may have considerable effects on the cost/timescale in developing the site. There is good guidance in relation to asbestos available on the Health and Safety Executive (HSE) website.

3.4 History of the site

3.4.1 The recent pertinent history of the site, updated from the Curtins summary to reflect the current site boundary, is presented in the following table:

Summary description of site history		
Date	On site	Off site
1847	Open fields including a number of small ponds and marshy areas.	Surrounding land predominantly agricultural. Quarrying works recorded between 500m and 1000m east of the site.
1893 to 1914	No significant change	Pitt Street Mills (Corn & Bone) and a smithy are some 300m to the south. An iron and brass foundry present 350m to the south-west of the site. Victoria Mill and gasometer present 100m to south-eastern boundary. Tan Yard 500m to the south-east.
1932 to 1956	No significant change	The Pitt Street Mills (Corn & Bone) and smithy buildings recorded as a Bobbin works. Tank recorded at Willow Farm to the south-east of the site.
1961 to 1967	No significant change	The Bobbin works is no longer recorded and the site has been redeveloped as Ashley Dairy. Some residential development has also occurred to the south and west.
1968 to 1975	No significant change	The iron and brass foundry was labelled as a works. Significant development is occurring to the south of the site (Longridge).
1975 to 1996	No significant change	No significant changes
2001 to 2013	No significant change	Ashley Dairy has been redeveloped as a superstore.

Table 3.4.1